

LEARNING A NEW APPROACH TO TEACH
IN A TRADITIONAL CONTEXT:
A CASE OF THAI PRIMARY SCHOOL TEACHERS
MAKING FUNDAMENTAL CHANGES IN THEIR PRACTICE

By

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ABSTRACT

LEARNING A NEW APPROACH TO TEACH IN A TRADITIONAL CONTEXT: A CASE OF THAI PRIMARY SCHOOL TEACHERS MAKING FUNDAMENTAL CHANGES IN THEIR PRACTICE

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This study examined a unique professional development model and its contribution to teachers' practice. The study also sought to understand the process of teacher learning as teachers made fundamental changes in their teaching. The new model of professional development was implemented in the context of the Social Forestry, Education and Participation (SFEP) project. The study examined the contributions of different components of the professional development intervention and the process of change that teachers went through as they tried to transform their teaching.

The kinds of changes advocated by the SFEP project represent a radical departure from traditional Thai teaching which is teacher-centered, textbook based and test-driven. To help teachers move from these practices to more student-centered, community-based and inquiry-oriented teaching, the project designed a new kind of professional development program. This program combined a "teacher-as-learner" workshop with classroom support by supervisors and regular teacher meetings.

The study found that the three components provided different learning opportunities for teachers. The intensive workshop provided a chance for teachers to experience the same kinds of learning opportunities which they would later provide for their students. Supervisory follow-up support played a different but equally important role in teachers' learning and change. Supervisors helped teachers clarify their role in guiding student learning. They served as a mirror, helping teachers see more clearly what was going on and to think about what they needed to do to improve the quality of student learning. The teacher meetings provided collegial support for

teachers to share and solve problems together. They enabled teachers to use their colleagues as resources in refining their practice.

Teacher change is an ongoing process that consumes time and involves learning. In-depth case studies of two teachers provided insights about the content and process of teacher learning. Both teachers had to change their beliefs and their practices. In the first stage teachers transferred activities from the workshop into the classroom without rethinking their role. In the second stage, teachers learned to pay close attention to students as a basis for figuring out appropriate ways to help them learn.

The study has implications for policy makers and staff developers. To make such fundamental changes in teaching and learning, the professional development intervention provided to teachers has to fit with the goals of the reform initiative. The supervisor's role needs to change to be able to provide appropriate help to teachers while they experiment with new teaching in their classrooms. An alternative to supervisors (or in conjunction with a role change) could be the development of "mentor teachers" to provide supportive assistance to targeted teachers. Expansion of a project like this requires creating an infrastructure of support and guidance to help new teachers. Finally project teachers need help to deepen their understanding of subject matter and pedagogical knowledge. They need to learn how to help other teachers make basic changes in their teaching.

DEDICATION

To the Teachers, Supervisors and Ministry Colleagues
In the Social Forestry, Education and Participation Project

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TABLE OF CONTENTS

LIST OF TABLES	xi
LIST OF FIGURES	xii
CHAPTER 1	
Setting the Context for this Study	1
My Own Learning Experience	1
Learning for Understanding	2
New Ideas about Teacher Learning and Supervision	3
The Social Forestry, Education and Participation Project (SFEP)	9
The Project, the Objectives and the New Form of Learning	9
What Would it Take for Teachers to Pull off a New Kind of Learning?	12
Environmental Education in Thai Schools	12
Staff Development in Thailand	14
Research Questions	16
CHAPTER 2	
Methodology	17
The Setting, Participants and Context	17
Participants	18
Sources and Kinds of Data	20
Data Analysis	22
Framework for Analyzing Teaching and Learning	23
Analysis of the Professional Development Program	30
CHAPTER 3	
Introduction	33
Staff Development in Thailand and the Need for a New Model	33
Why do We Need a New Model of Staff Development	33
The New Staff Development Model	35
The Fourteen Day Workshop	39
Workshop Design and Preparation	39
Structure of the Workshop	47
What the Workshop was Like and How Teachers Responded	50
Segment One: Community Field Study	50
Segment Two: Deepening Teacher Understanding of	
Subject Matter Knowledge	53
Segment Three: Implications for Teaching	58
CHAPTER 4	
The Follow-up Activities	66
Follow-Up Activities Program	66
Learning In and From Practice	70
Learning to Help Students Conduct Fieldwork	73
Making Field study a Learning Experience for All Students	73
Helping Students Ask Clear Questions	78

Further Consultations on Student Questions	81
Helping Students Analyze Their Data	86
Using All Group Members' Data to Write a Story	86
Giving More Effective Feedback	88
Planning for Future Lessons	91
The Role of the Supervisor	98
What Teachers Said They Learned	100
Changing Views Toward Supervisors and Colleagues	102
The "What" and "How" of Teacher Learning	105
Learning From the Supervisor	105
Learning From Colleagues	106
 CHAPTER 5	
Case of Mr. Pornchai: The Story of a Committed Traditional Teacher Who Changes His Teaching in Fundamental Ways and Learns How to Learn In and From His Teaching	110
Introduction	110
Base-line Teaching	110
Mr. Pornchai's First Steps in Implementing a New Approach	117
Mr. Pornchai's Teachings Following the Workshop	117
Analysis of Mr. Pornchai's Planning and Teaching	123
Initial Changes in Mr. Pornchai's Practice	129
Assessment of Changes in Mr. Pornchai's Teaching	132
Mr. Pornchai's Continuing Efforts to Change his Teaching Practice	133
Changes in Curriculum and Resources for Learning	135
More Changes in Teacher's Role	138
Changes in Student Assessment	142
 CHAPTER 6	
Case of Ms. Busaba	145
Introduction	145
Part I Base-line Teaching: Becoming a Teacher	146
Understanding Ms. Busaba, Her Teaching, and Her Ideas About Teaching and Supervision Prior to Participation in the Workshop	146
Background Information About Ms. Busaba as a Teacher	146
Ms. Busaba's Ideas About Teaching and Supervision	147
Example of Ms. Busaba's Initial Teaching	148
Analysis of the Lessons	153
Part II Ms. Busaba's First Steps in Implementing a New Approach To Environmental Education	157
Learning about "Our Community" Unit	157
Description of Ms. Busaba's Teaching Following the Workshop	157
Analysis of Ms. Busaba's Planning and Teaching	173
Initial Changes in Ms. Busaba's Practice	187
Assessment of Change in Ms. Busaba's Teaching	192
Part III Ms. Busaba's Continuing Efforts to Change Her Teaching	194
Summary of Ms. Busaba's Teaching Terms Two-Five	195
Activities During 1994 Academic Year (May 1994-- March 1995), Second and Third Pilot Terms	195

Activities During 1995 Academic Year (May 1995-- March 1996), Fourth and Fifth Pilot Terms.....	198
Analysis of Ms. Busaba's Continuing Changes.....	204
Changes in Curriculum and Lesson Planning.....	204
Changes in Learning Tasks.....	207
Changes in the Teacher's Role.....	209
Changes in the Students' Role.....	211
Changes in Learning Resources.....	215
Changing Assessment.....	215
Next Step for Future Development.....	217
 CHAPTER 7	
Findings and Implications.....	221
Overview.....	221
Findings.....	222
Learning Opportunities for Teachers Making Fundamental Changes In Their Teaching.....	222
The Value of a "Teacher-as-Learner" Workshop.....	222
The Value of Supervisory Support and Guidance.....	225
The Value of Teacher Meetings.....	227
What Did I Learn About the Nature of Teacher Learning and Teacher Change.....	229
Changing Practices and Beliefs.....	229
What was Hard for Teachers in Making Fundamental Changes.....	233
Implications.....	236
Needed Changes in the Thai Staff Development System.....	237
Changing the Role of Supervisors and Other Possible Support Staff.....	239
Some Ideas about Expansion.....	242
Deepening Changes in Teachers' Practice.....	243
 BIBLIOGRAPHY.....	245

LIST OF TABLES

Table 2.1: General Information on Five Teachers.....	20
Table 2.2: Main Source of Data for Analyzing Two In-depth Cases.....	21
Table 2.3: An Example of Analysis of Observation Data.....	30
Table 3.1: Structure of the New Staff Development Model.....	38
Table 3.2: Fourteen-day Workshop Structure.....	48
Table 6.1: Ms. Busaba's Continuing Change of Learning Tasks According to the 7-Step Model.....	208

LIST OF FIGURES

Figure 3.1: The Kite Model.....	44
Figure 3.2: A Teaching-Learning Model.....	46
Figure 3.3: Relationship Between Materials in the Handbook-Guide And Teachers' Subject Matter and Pedagogical Knowledge.....	47
Figure 3.4: An Example of Participants' Group Project.....	55
Figure 5.1: Alternative solutions to reforestation to resolve water shortage.....	140

Chapter 1

Setting the Context for this Study

This chapter explores two central contexts for this study. One context is my own experience as a learner where I encountered new ideas about teaching and teacher learning. The second context is the Social Forestry, Education and Participation (SFEP) project which became the avenue for carrying out my research. Both contexts came together in this study. I used my own learning experience to help me design a new kind of professional development to help teachers teach environmental education in a new way. The study was designed to find out what would happen when teachers who were used to teaching in more teacher-centered way had a chance to have a different kind of staff development.

My Own Learning Experience

This section describes the learning experience that I encountered while studying at Michigan State University. My own Learning experience includes learning for understanding and learning new ideas about learning to teach, teacher as learner, and guided practice as a new form of supervision. In describing these new experiences I begin with a brief description of my work for the Ministry of Education (MOE) in Thailand and my prior thinking about teaching and learning and about teacher development. Then I describe what and how I learned the new ideas and experiences that challenged my own thoughts about my work as supervisor.

In Thailand, I experienced a traditional approach to teaching and learning where the teacher is the center for learning and students receive information assigned by the teacher. My culture values knowledge, authority and respect. Learning means receiving and memorizing information and getting a good score on tests.

I always thought of myself as an advocate for a new way of teaching and learning. I was always looking for better approaches that would make learning more exciting and enjoyable for students. For Example, I was in charge of a five-year innovative primary education improvement

project to establish resource centers in every school cluster throughout Thailand. Resource centers were established because teachers complained that they could not change their teaching without equipment and materials. The Office of the National Primary Education Commission (ONPEC) could not afford to provide all schools with adequate sets of materials. So resource centers were established at the cluster level to circulate equipment and materials among all schools in the same cluster. By providing equipment such as slide projectors and materials and letting teachers take turns using this equipment in their classroom, we believed our project would contribute to more exciting classrooms and more enjoyable student learning.

While coordinating this project, I was selected to be a supervisor in the Ministry in Bangkok. Thinking that my knowledge might not enough for this new role, I decided to continue formal study at Michigan State University (MSU).

Learning for Understanding

As a doctoral student in teacher preparation and staff development, I struggled, especially during my first year. The approach to teaching and learning was new and difficult compared to what I had experienced from my studies at all previous levels, including my masters degree at MSU between 1979-1980. Class sizes were large (25-40), instruction was mostly lecture, and exams came at the end of term. Discussions about how to apply theory to one's own practice were general. Students described how they could use particular ideas in their own context rather than examining why and how a new idea might be used in a particular context, and what it might mean to apply the idea into such a context. To handle such learning, all I had to do was read, summarize content and memorize in order to answer exam questions.

In my doctoral program, things were different. Each class had 10-20 students and most classes used a seminar approach. The professor gave us a packet of readings. As usual, I read the materials, summarized the main ideas and came prepared to answer the professor's questions or talk about the main ideas in each article. The professor would start by talking about a particular

issue, such as tracking in U.S. high schools. He or she would then ask us what we thought about this issue and how we would respond to what the authors said, I would sit there like a rock. I did not know how to talk in this way. If the professor had asked me what the main ideas were, I probably could have told him or her from my short summary notes. The kind of learning I faced during my first year and in subsequent years was far from what I understood learning to be. It was not memorizing details or synthesizing content. It was not answering questions directly from the reading. Rather I had to make sense of what was said, think about why the material was presented in that way, what the author's underlying idea or argument was, and what the relationship was between several ideas and the specific issue that we were discussing. It took a lot of critical, analytical thinking to do this kind of learning. Little by little I became a learner not just a student. Reflecting on this experience, I saw myself for the very first time constructing my own understandings and I realized what it meant to teach and learn for understanding. Looking back on my cluster resource center project, I realized by bringing in new equipment and materials that I had only made superficial changes while still retaining a traditional form of passive learning.

New Ideas about Teacher Learning and Supervision

I came back to MSU to learn new ideas about how to help teachers improve their practice. My interests included new ideas about teaching and learning, new ideas and strategies about teacher development, and new forms of supervision. As a doctoral student, I was introduced to the ideas of "learning to teach", "teacher as learner", and "guided practice." The terms affected me and my way of thinking about teachers and their development. Initially I assumed that learning takes place only in schools, colleges, universities, or in-service centers. I was used to "one" way of learning to teach in a college program where you are a student teacher or in-service centers after you became a teacher. These new ideas challenged my thinking.

"Learning to teach". Jackson (1968) talked about how teachers taught the same way they did thirty years ago. Amazingly, American teachers had the same problem as our teachers. Why

did this problem exist in such a wealthy country with so much money to support schools? Lortie (1975) provided an insight with his concept “apprenticeship of observation.” The two authors helped me begin to see how prior experience in school and higher institutions of education continues to influence teachers’ beliefs and practice. This experience as a learner plays an important role in shaping a teacher’s teaching as well as influencing a way of learning to teach. Feiman-Nemser (1983) expanded my understanding about different phases of learning to teach: formal schooling as the pertaining phase, teachers’ college as the pre-service phase, first year of teaching as the induction phase, and in-service programs as the in-service phase. Teacher socialization represented another aspect of learning to teach. I also realized that the induction period is a crucial time to help new teachers learn to relate theory to practice, something I had never thought of before. Learning to teach was different from learning to work in other careers. There a person starts to learn how to do such work when he or she attends a college or a university and then learns more in the workplace. In learning to teach, a person learns from the moment he or she attends school. I became clearer about what learning to teach entails and what it means for staff developers who seek to improve teacher practice and try to understand how teachers learn to teach.

“Teacher as Learner”. Duckworth’s book, The Having of Wonderful Ideas, focuses on the learning experiences of teachers. As she puts it, “Teachers themselves must learn in the way that the children in their classes will be learning.” The author’s statement not only confirmed for me the importance of teachers’ learning experience but started me thinking about staff development for teachers. In her book, Duckworth described a project in which teachers studied the phases of the moon by observing the moon and writing a journal about what they saw and what they thought. This moon study helped me see clearly how the teachers felt and how their learning unfolded. Later on through reading and discussion, I realized there were other teacher educators and teacher developers who valued a “teacher as learner” approach to staff

development, (Anders and Richardson, 1994; Dyasi, 1992; Little, 1984; McLaughlin' 1990). This new idea about teacher as learner inspired me to begin imagining my own in-service program for Thai teachers.

Seeing these ideas in action. During the summer of 1991, I visited the Workshop Center located at the City College of New York to observe an in-service program for primary school teachers that focused on science teaching. It was a four-week program with thirty participants and six staff members. Participants spent morning sessions learning new concepts, sharing and discussing in groups, and meeting with advisors. In the afternoon, participants focused on planning and investigating their own project. I spent two weeks (weeks 2 and 3) observing the design of learning activities, teachers' reactions to their own learning, and the role the workshop staff played in helping teachers learn. At the workshop, I saw in practice what I had learned about "teachers as learners". During the first week, no one wanted to talk to me because they were so busy, confused, and uncertain about conducting their own investigation. Not until the following week did I have a chance to interview several participants. All reported that being able to do their own investigation helped them understand what it takes to be a learner and how to go about learning.

Now I know what to do with all the animal stuff and other science materials we have in my classroom. My kids will have a lot of things to learn from this. I am looking forward to going back to my school and having students do their own investigation. (Interview with Oneda, 7/16/91)

Through their own learning experiences, participants felt that they now understood the curiosity of their own students and how to go about helping them. Two teachers put it this way:

You know watching what was going on in my own investigation, a lot of questions came up. Now I understand why my kids kept asking me so many questions. Those poor kids, I always shut them up. I did not realize that they really didn't understand and just wanted to find out something. I will pay more attention to my students' questions this time. (Interview with Cynthia, 7/16/91)

I learned a lot in this program. I learned how to ask questions. In our society, we don't ask questions. We are very shy. In school we did whatever the teacher told us. My daughter asked me once: "When there are clouds in the sky, how come we do not see the

rainbow?” I had no answer to give so I told her to keep quiet. Here I am sitting in the workshop asking myself and my friends a lot of questions. Learning how to ask questions to get answers you need and thinking of this by yourself is a big experience for me. (Interview with Madhu 7/15/91)

All participants said that having done their own investigation helped them discover by themselves what this kind of learning was like. Reflecting on their own experiences, the participants felt that they now understood their own students better and were better able to help them in their learning process. Having opportunities to observe and talk with participants during these two weeks, I gained more insight into the “teacher as learner” approach to staff development and its effects on teachers’ thinking and practice.

Besides observing participants working on their own investigations, I also observed how the staff planned and organized the workshop. Staff came a week in advance to plan and prepare the schedule and workshop activities. During the program, they met every day to summarize and update the next day’s plan. Among the six staff, one took the role of program coordinator while others took the roles of advisor and facilitator. Each staff person was responsible for advising six participants during the whole session. Observing staff meetings, I was impressed by the way each staff person paid careful attention to their advisees’ learning. Each of them shared their observations from particular activities and discussed how such activities might work better in the future. They used their notes from last year to improve the present program.

Dr. Hubert Dyasi, the director of the Workshop Center, helped me understand his approach to strengthening the capacity of workshop center staff. In this program, the director played a supportive role by participating in planning and daily meeting, by giving advice, and by letting the team make its own decisions. Moreover, his close relationship with his staff and his devotion to improving teacher learning inspired staff commitment.

The learning experience from the workshop helped me put the jigsaw puzzle together in my own mind in a clearer way. I learned what the participants were learning, how the learning was taking place, why the learning process was organized that way, and what the role of a staff

developer was in supporting such learning.

Looking back on the staff development component of the innovative cluster resource center project, I realized that I had missed the essential point. I concentrated on the use of equipment and materials in teaching. Thus in my staff development program I had put a lot of effort into helping teachers develop examples of audio visual aids. I avoided the essence of how learning takes place and in so doing I reinforced the dominant traditional approach to teaching and learning.

I began to picture what I wanted to do for my own research. What would happen in a culture that valued textbook knowledge and teachers' authority if I created a "teacher as learner" workshop for Thai teachers? What could teachers get from this kind of experience?

Guided Practice as a new form of supervision. My vision of a staff development model was quite clear as a result of my conversations and observation at the New York City College "teacher as learner" workshop. When I took a course on "guided practice" that focused on guiding teachers learning in the context of their practice, I was introduced to a form of learning to teach in the context of teaching. I learned about different approaches to supervisory work. I began to see the difference between inspection, monitoring and evaluation which are the main functions of Thai supervisors, and helping teachers learn in the context of their teaching, which is the function of an advisor. I came to realize the importance of teachers learning in and from their practice with the help of a supervisor to support and guide them. I began to think about what it meant for supervisors to support teachers who are inventing a new approach to teaching. I was drawn to the advisor model which emphasizes working directly with teachers in a supportive way by basing discussion on the particulars of practice. Looking back on my visit to the Workshop Center, I recalled my discussions with Lillian Weber, the founder of the Workshop Center who distinguished between the role of the supervisor and advisor. At the time, I did not fully understand what she meant when she said:

This question of supervision and advising is a mixture. In supervision, you comment on teachers work, provide help, and the two of you evaluate the work. In advising, you might help them get started, but basically it's their start and you appreciate it and help them go deeper. (Conversation with Lillian Weber, 7/16/91)

Not until I had an opportunity to read and discuss more about guided practice was I able to visualize what Weber meant. I began to realize the essence of learning "in and from practice". Learning to teach not only takes place in formal education and in-service programs, but in the classroom as well. Realizing the essence of learning in and from practice, I began to envision follow-up activities that could support a form of teacher development that would take place in a context of teacher experimentation and change.

These ideas came together for me and led to a new way of thinking about teacher development. Teachers need to be treated and viewed as learners. For teacher to change their practice, they must participate in a process of learning. This process requires teachers to understand new ideas in the same way that they will subsequently teach them to their students. It requires experimentation with ideas in their own classroom with help from a guide or advisor. Change involves more than substituting one set of materials for another while still keeping the same approach to teaching and learning. The classroom setting is more than a place for teaching. It is also for learning in and about teaching.

My own learning took place in an incremental way. It did not happen all at once. It took me three years to make sense of these new ideas through reading, seeing them in action, and interaction with people who were experiencing them. It took me at least three years to learn how to learn for understanding. My own learning for understanding would not have come this far if I had not been in a "teaching for understanding" environment. While it is important for learners to learn to teach in the context of their practice, it is equally important for learners (both teachers and students) to have opportunities to learn for understanding.

One of my objectives in coming to MSU was to learn how to help teachers improve their teaching. My own experience as a learner helped me understand how to become a more active

learner using a teaching for understanding approach. It helped me gain insights into how active learning for understanding contributed to my own intellectual development. I now saw the power of learning for understanding. I understood what it meant to construct your own meaning which is an important kind of learning for students as well as teachers. I imagined teachers experiencing the same kind of learning that they would give their students. I also imagined new types of follow-up activities in which supervisors would work with teachers in their classrooms. This led me to ask a series of questions. How could I help my teachers provide these new kinds of learning experiences to Thai youngsters? What would it take for traditional Thai teachers to make radical and fundamental changes in their practice? Could a workshop like the one I visited transform their ideas and ways of working? Could Thai supervisors learn to work in new ways and to think about how to support teachers in new ways? What kind of support system would be required?

My dream came true when MOE and MSU agreed to organize a project on improving environmental education in Thai schools. This project depended on helping teachers make fundamental changes in their teaching practice toward teaching for understanding. To help teachers make these basic changes would require a new form of staff development. I was very excited to be asked to join the project as a staff developer. This was an opportunity to test my ideas about teachers as learners and the advisory work, my role would be to help design a new staff development intervention and study its effects on a limited number of teachers.

The study I designed was a small part of a larger MOE-MSU project. To provide a context for the interventions I helped design and study, I turn now to describe in the overall project. Then I discuss the prevailing approach to staff development in Thailand. Finally I conclude the chapter with my specific research questions.

The Social Forestry, Education and Participation Project (SFEP)

The Project, the Objectives and the New Form of Learning

The SFEP project focused on problems of environment degradation which not only affect

Thailand but are evident throughout the world. Deforestation, air and water pollution, greenhouse effects and global warming, acid rain and soil erosion represent some of the more serious issues. There have been many efforts to find effective strategies to solve these environmental problems. What makes them so difficult to address is that all are rooted in people-environment interactions or relationships (Ryba, 1994). One important strategy is to focus on education and schooling as a means to help both youth and adults understand the causes and the effects of the environmental problems. In this way perhaps environmental problems can be approached through understanding, compromise and collaboration.

During 1990s, the Thai MOE wanted to develop a new curriculum to improve environmental education. A team of four policy makers from MOE traveled to the U.S. to study appropriate teaching and learning models for environmental education. The team found that MSU's approach which integrates science and social studies by focusing on local environmental problems seemed most relevant to Thailand's needs. The visit led to the SFEP project.

By conducting local case studies on social forestry issue, schools would assist communities in understanding the causes of local environmental degradation and collaborate in providing sustainable alternatives to local natural resource problems. These strategies included, among others, tree planting activities, monitoring wildfire burning, and regenerating community forests. This initiative sought to do more than just promote curriculum innovation. In the long run, it sought to contribute to the efforts underway throughout Thailand to build local community capacity to improve natural resource management. It involved communities in the activities of schooling in particularly important ways – by improving the curriculum and by delivering instruction about locally relevant issues.

In order to make such collaborative learning happen, MOE expected schools to make major changes in three areas: 1) the way students currently learn, away from a focus on factual learning to a more active construction of knowledge and understanding 2) the current traditional

kind of teaching, away from a focus on textbook learning toward teaching for understanding and a focus on real life problems 3) the relationship between school and community toward a two-way communication that allows both institutions to be resources for the learning of students and community members.

In the new learning approach to environmental education, the SFEP project developed a seven step model of learning activities to be accomplished over a two-year cycle:

1. Students collect information in and about the village to identify environmental issues related to forest management and deforestation and report findings to community members.
2. They select issue with community members and study that issue in depth.
3. They report findings to community members and encourage them to think about possible alternative strategies to address the problem they studied.
4. They study alternatives with community members and jointly select a possible solution to ensure that it fits with community interest.
5. Students develop a plan for the project with community members.
6. They implement the project with community members.
7. They evaluate the project and make changes to improve the project, again in collaboration with community members.

The above activities were designed to provide a valuable problem-solving process for fifth and sixth grade students. Across the two years, students would have the opportunity to think about real life issue and to implement a project to address a problem in their own community with community members. It was hoped that by the end of sixth grade students would have developed valuable problem-solving knowledge and skills and improved their ability to direct their own learning.

The new approach to teaching and learning provided by the SFEP project sought to expand the learning process from focusing mainly on acquisition of information to integration and making sense of information, and then applying new understandings to real life (Gallagher, 1992). To carry out the seven step model, students not only mastered facts, but they also

generated, explored, conjectured, reasoned, formulated, and solved problems. These processes are all important features of learning for understanding (McLaughlin & Talbert, 1993), which is very different from the current way of student learning in Thai schools that focuses mostly on receiving information and memorization to answer direct questions on a test. It is also very different from current practice in Thai primary schools where the dominant mode of teaching relies on teacher-centered instruction and textbook learning.

What Would it Take for Teachers to Pull off a New Kind of Learning?

Teaching for understanding requires teachers to move away from being a knowledge transmitter to participating in constructing knowledge with students (McLaughlin & Talbert, 1993). This new view of teaching and learning encourages teachers to create meaningful learning activities and select resources and materials that will move students beyond acquisition of facts to sense making in the subject areas and to apply knowledge to the real world. I hypothesized that helping teachers make these changes would require (1) a teacher as learner workshop experience and (2) classroom follow-up support.

The new approach to teaching and learning in environmental education also represented an enormous challenge for what Thai students and teachers do. To appreciate just how big the changes were, it is important to understand how environmental education is taught and what staff development is like in Thailand.

Environmental Education in Thai Schools

In primary schools, curriculum experiences for learners occur in five areas: (1) Tool Subjects, (Thai language and mathematics); (2) Life Experience, (solving social and daily life problems with an emphasis on scientific process skills for better living); (3) Character Development, (developing desirable habits, values, attitudes and behaviors, which will lead to desirable character development); (4) Work-oriented experiences, (general and practical work experiences and basic knowledge and career preparation); (5) Special Experiences, (activities

based on learners' interests)

In this curriculum, the topic of environment falls under the Life Experience area in a unit called "Our Surroundings." The objectives of this unit are: to enable learners to gain knowledge and understanding about the environment; to develop skills in analyzing relationships between the environment and human beings; to classify causes, factors affecting the environment, proper and improper utilization, management and development of the environment and guidelines for practice; to recognize the necessity to love and appreciate nature; and to continue to enhance the environment and participate in resource conservation and environment protection. On the surface it seems that much of what the SFEP project sought to accomplish already existed in these curricular objectives. If these curricular objectives were realized in practice, then students would understand the causes and the effects of environmental problems in relation to human life. They would develop critical and analytical thinking skills about the causes and the effects of the problems and creative thinking skills in planning for alternative solutions. They would also have the opportunity to participate in solving environmental issue in their own community. Since the Ministry's curriculum already articulated goals in environmental education similar to those of the SFEP project, at least in Unit Three of the Life Experience subject area, why was there is a need for such a project?

In general, at the school level, teachers and principals use textbooks and the teacher's manual. Unit Three in the textbook, however, focuses on providing factual information on specific natural environments such as rocks, soils, forests, water and air. The textbook focuses on learning "about" the environment with factual information from the textbook as the main source of knowledge. The teacher's manual, however, suggests group work activities involving finding information by answering questions posed by the teacher and possibly by collecting some information in the community. Still most information was to come from textbooks or other supplementary books. If teachers were to involve the community, such involvement would take

the form of listening to community members who would provide information about a specific topic. Students were supposed to learn each topic separately and prepare themselves to answer separate test questions. The way students learned about the environment in the area of Life Experience did not differ from the ways in which students learned about other subjects. All were delivered in a teacher-centered mode.

This dominant form of traditional teaching persists because Thai teachers have generally encountered only one kind of teaching: teacher-centered instruction. Moreover, they are surrounded by the same teacher-centered culture of teaching. Even though MOE regularly provides in-service workshops, such workshops are generally organized in a teacher-centered style of instruction with lectures. It is difficult for teachers to try to teach in ways that they have never seen or experienced before. To help teachers make these big changes would require a powerful staff development intervention, quite different from the typical approach in Thailand.

Staff Development in Thailand

In Thailand as well as in many other countries (Skyles, Wheeler and Floden, 1997; Little, 1993), staff development to help teachers implement new ideas about teaching and learning usually takes the form of a short workshop consisting of a lecture/presentation, followed by a few exercises. This happens for several reasons: a limited budget, a large amount of information to cover, and the relative convenience of doing staff development in this way. While teachers may leave the workshop with some ideas about the kind of teaching they are supposed to practice, they still have to figure out on their own how to implement it with their students.

The most common form of staff development in Thailand has five characteristics (Sookpokakit, 1991). A teaching strategy is introduced to a group of teachers. Typically staff development sessions are held in a room with an overhead projector and use a lecture or a series of lectures. Teachers listen to the lecture, watch some demonstrations, and work in groups to plan ways to implement the teaching strategy in their own classroom. The staff developer's role is to

present and demonstrate, while the participant's role is to listen and later apply what was learned.

This kind of staff development is not likely to help teachers make the fundamental changes needed to teach environmental education in new ways. In other words, the current staff development model does not fit in with the environmental education reform. The project needed a powerful staff development model that would take teachers seriously as learners and help them transform their teaching in fundamental ways. The opportunity to help design a staff development for the SFEP project allowed me to build on and explore ideas about teacher learning and changes that I had studied in my doctoral program. I wanted to see what would happen if Thai teachers experienced a new kind of staff development aimed at helping them change their approach to teaching environmental education. Could we design a staff development intervention that could help teachers make these big changes? Could we design a workshop component that provided teachers the same kinds of experiences that we wanted them to organize for their students? Could we include a follow-up component to help teachers try new things in practice and work on problem that arose? What would teachers learn from these experiences? How would they respond?

Research Questions

My study was designed to answer to the following questions.

1. How could a new model of professional development/intervention contribute to teachers' learning and help them change their practice in fundamental ways?
 - Would a "teacher as learner" workshop help teachers visualize a new approach of teaching and learning?
 - What kind of supervisory support and guidance would help teachers learn to change their teaching in the context of their practice?
 - What role should supervisors play in helping teachers learn to change and improve their teaching?
2. What kind of learning or change process would the teachers go through?
 - What changes do teachers need to make in order to implement this new kind of teaching?
 - How did the process of change take place?
 - What contributed to teacher learning?
 - What difficulties did teachers encounter in trying to change their practice?

Chapter 2

Methodology

This study explores the learning opportunities provided by a new model of professional development (also called staff development) and its contributions to teachers' practice. In addition, it attempts to understand the process of teacher learning as teachers make fundamental changes in their teaching. As a Ministry of Education supervisor from Thailand whose job focuses on teacher development and the quality of student learning, I was particularly interested in ways of helping teachers improve their practice to improve student learning. I was looking for an approach to professional development that would help teachers make fundamental changes in their teaching, and I was interested in learning more about the role supervisors can play in supporting such change.

This is a study of a unique professional development program and how it contributes to teacher learning and change. In this study, I examine a two-part program consisting of an intensive workshop and subsequent follow-up activities, and the ways in which these activities influenced the beliefs and practices of two participating teachers.

The Setting, Participants and Context

The project selected six typical rural primary schools and two secondary schools from two provinces, Wieng Tewee and Sarm Kasat, in the northern part of Thailand as the targets for the intervention. There were two categories of participants in the SFEP project: a school level team called Team B and an outside support team called Team A. The school team consisted of thirty-six participants from primary and secondary schools. At the primary level, all fifth and sixth grade teachers participated in the project. Most primary schools had only one class for each grade except for two schools in Sarm Kasat province that had two classes each for fifth and sixth grade. Four teachers from each secondary school participated in the project: two in social studies in grades seven and eight, and two in science in these same grades. The project also involved the

principal from primary schools and the principal, the assistant principal, and the head of academic section from secondary schools who participated as a school team. Such involvement, it was hoped would lead to understanding the new approach and the provision of appropriate help to teachers in an on-going way.

The other category of participants was an outside support group (Team A). This group consisted of primary and secondary education supervisors from all levels: Ministry, regional (secondary), province and district (primary), key subject teachers (secondary), and academic cluster teachers (primary). This group was to help organize an initial intensive workshop and to coordinate the follow-up activities in the school setting.

The main activities of SFEP project focused on teacher development with associated data collection. They consisted of baseline data collection about teaching (observation and interviews), an initial “teacher as learner” workshop, data collection by fieldworkers on teaching and learning (observations, interviews, focus group interviews) for five pilot terms, fieldworkers’ observations of teacher meetings and end-of-term workshop, and a final conference after the pilot project ended to disseminate findings.

Participants

My study had three types of participants. The first group involved all thirty six participants from the school team who attended the initial intensive workshop. For this group I studied their oral and written responses about what they thought they learned in the workshop.

The second group was the teachers whom I worked with during the follow-up process. These teachers came from three primary schools in Sarm Kasat province. These schools all belong to the same school cluster which means they were near each other geographically. I started with six teachers, two from each school. I chose this number for the following reasons. First, I wanted to work with two teachers from each school so I could encourage them to work together. Second, I wanted to learn from teachers across a grade (at least the teachers across the

schools) so I would have more examples of how they learned to make a changes in their practice because of help from my supervision. Third, I wanted to be able to provide help to all three schools in this province to encourage teachers to start their own learning community. Across these three schools, I planned to work with two fifth grade teachers in one school, two sixth grade teachers in another school, and one teacher from each grade in the third school. Each of these three schools each had its own unique features. The small school with only one teacher for each grade was chosen so I could work with teachers at both grade levels. In the second school, the only female teacher in this project taught sixth grade, so I also chose another sixth grade teacher. The third school had the oldest teacher in the project teaching fifth grade, so I chose two fifth grade teachers from that school. After the first pilot term, one fifth grade teacher from the third school was moved out of the project to teach in the secondary level so I had to reduce my subjects to five teachers, one female and four male teachers. Two teach in fifth grade and three others teach in sixth grade.

The main participants in my study included two teachers whom I studied in-depth as they made continuing changes over the five terms of the pilot project. These two teachers taught in grade six and were selected from the five teachers I worked with during the first pilot term. I chose to study sixth grade teachers because sixth grade students needed to carry out more activities using the new approach so I felt I could learn more about how teachers made changes as they organized more complicated learning activities. I chose two teachers so I could compare and contrast the similarities and the differences between them during the process of making changes. Among the five teachers, three taught sixth grade. I chose the only female teacher, Ms. Busaba, because she was already active and was appointed as an outstanding teacher. I wanted to learn how someone who thought that she was already doing good work might incorporate a new approach. The second teacher I chose for in-depth study was a sixth grade teacher from the smallest school. This teacher, Mr. Pornchai, was typical of many primary school teachers who

focus on textbook learning and are strongly committed to teaching. With these two different teachers, I hoped to learn how they carried out the new teaching approach in their own classes, what kind of changes they made throughout the life of the project, what difficulties they encountered and how the project assisted their learning. Table 2.1 below shows the general information of these five teachers. The star (*) indicates the teachers in my in-depth studies. The names of the teachers have been changed.

Table 2.1: General Information on Five Teachers

Name	Grade Teaching	Age	Year of Teaching	Education Background
Teacher One (Mr. Pachern)	5 th	37	12	Higher Certificate form Teacher College
Teacher Two (Mr. Sattra)	5 th	46	25	B.Law
Teacher Three (Mr. Bumroong)	6 th	38	16	B.Ed
Teacher Four * (Mr. Pornchai)	6 th	36	13	B.Ed
Teacher Five * (Ms. Busaba)	6 th	36	16	B.Ed

Note: Data as of 1993

Sources and Kinds of Data

The study draws on three sources of data. Full-time fieldworkers collected several kinds of information. Observation of lessons (including visits to villages) and subsequent debriefing of project teachers occurred at the beginning of the pilot and periodically across all five pilot terms. In-depth exit interviews were conducted for all teachers at the end of each pilot term to learn what they thought about this kind of teaching and student learning, and what factors contributed to changes in their teaching. At the end of the pilot phase of the project, final interviews were carried out with all participants.

During the first pilot term, I played multiple roles as project coordinator, supervisor, and researcher. I worked closely with the fieldworkers responsible for collecting data on my five

teachers for the project during the baseline and the first pilot term. After that, four fieldworkers associated with the project continued collecting data on these teachers. I used the data collected by the four fieldworkers for my in-depth case studies of two teachers. Table 2.2 shows the main sources of data used to analyze the two in-depth cases of teachers.

I collected a second data source during my supervisory work with the five teachers during the first pilot term. I recorded the conversations between myself and each teacher, transcribed these, and analyzed each to understand what and how this way of supervisory work helped teachers change their practice. I took notes every time I met with teachers, principals, and supervisors during the workshop, during teacher meetings, and during school visits. For each entry, I described who the participants were, what the agenda was, how the meeting went, and what I thought about that particular meeting.

Table 2.2: Main Source of Data for Analyzing Two In-depth Cases

Duration	Type of Data	Number/Set of Data	
		Ms. Busaba	Mr. Pornchai
Base line	Pre-Interview	1	1
	Classroom Observation and Debriefing	2*	2*
	Exit Interview	0	0
Term # 1	Classroom Observation and Debriefing	4*	3*
	Exit Interview	1*	1*
Term # 2	Classroom Observation and Debriefing	4	5
	Exit Interview	1	1
Term # 3	Classroom Observation and Debriefing	4	4
	Exit Interview	1	1
Term # 4	Classroom Observation and Debriefing	6	8
	Exit Interview	1	1
Term # 5	Classroom Observation and Debriefing	4	7
	Exit Interview	1	1
Final Interview	Final Interview # 1	1	1
	Final Interview # 2	1*	1*

* Data collected by Benjalug Namfa

The other data collected by four fieldworkers associated with the project

Teachers and other participants of the project generated a third data source. During the initial workshop, all participants were asked periodically to write about their experiences and

what they liked/disliked about the workshop. These data helped me understand how teachers felt about the workshop as they were going through it. During the first pilot, as they taught using this new approach, teachers wrote at the end of each lesson what they thought about the lesson, what they thought students learned, what they saw as a problem, and how they planned to improve during the next lesson. I used this information to understand how teachers adapted their workshop experience to organize similar kinds of learning activities for their own students. These data also helped me plan my supervisory work with teachers. During teacher meetings and at the end-of-term seminars and school visits by the project leadership team, teachers were asked to write about what they had done in their teaching, what they thought were problems or obstacles with this kind of teaching, and what help they wanted from the project to solve those problems. Finally, at the dissemination conference after the pilot phase ended, teachers wrote their own personal accounts that were shared at this conference. From this collection of writing I drew on the information by the two teachers in my case studies in attempting to understand their teaching and their thinking over the life of the project.

Data Analysis

The main analysis I did focus on what teachers' practice was like before the initial "teacher as learner" workshop and how their practice changed over time. Additional analyses focused on the professional development model, especially on the workshop and follow-up activities that I conceptualized, my description of what happened during those activities and reflections shared by teachers about those experiences.

The analysis of teachers' practice focus on two in-depth case studies of changed practice. In this analysis, I drew primarily on my observations and interviews during the baseline and the first pilot term and by fieldworkers in subsequent terms. I developed a framework based on the categories of changes which the professional development program was trying to promote through the workshop and follow-up activities. The framework described six areas of possible

change in teachers' practice. For each area I generated a set of questions.

Framework for Analyzing Teaching and Learning

The kind of teaching and learning to be implemented under the SFEP project focuses on how students can integrate content in social and natural science to understand the causes of environmental problems in their own village. By studying local cases of the effects of deforestation, students are to help villagers think about alternative solutions for local environmental problems. To achieve the objectives of the project, students need practice in critical thinking, making sense of information, and applying what is learned to a real life situation.

Efforts to change from a more traditional form of teaching and learning to this newer form can be studied by examining six categories: curriculum and lesson planning, learning tasks, teacher's role, students' role, resources for learning and assessment. For each category I briefly describe current practice and hoped for changes.

Curriculum and lesson planning. The SFEP project promotes the use of an integrated curriculum in teaching the Life Experience subject area using the local community as a major source for learning. Typically primary school teachers are given a well constructed lesson plan in a teacher's manual that specifies: content, activities, materials, and assessment strategies. Teachers are expected to teach according to what is said in the teacher's manual and do this lesson by lesson. The SFEP project goes beyond this kind of learning to have students study real world environmental issue in their own community. What students then learn needs to be connected back to central concepts in the Life Experience curriculum. This requires careful planning where teachers make sense of what can be learned through field visits instead of just relying on already prepared lesson plans. To be able to teach according to the project's objectives, the teachers have to provide activities for students to learn about their own community in the area that will help them to understand the environmental situation. Therefore, in terms of planning, the

teachers can use the teacher's manual and plan their own lessons based on the information students need to have, the capacity of students to get good data, and the connection to areas that need to be learned from the textbook and the Life Experience curriculum.

<u>Current Practice</u>	<u>Hoped for Changes</u>
<ul style="list-style-type: none"> • Each topic taught separately as presented in the text book • Teachers follow teacher's manual lesson by lesson • No opportunity for teachers to plan and develop lesson together 	<ul style="list-style-type: none"> • Integrate content that can be learned in community into a new unit • Connect field study to the content in textbook • Teachers working together to develop Integrated unit lesson plans • Teachers planning their own lessons that fit with content

To understand teacher planning, I used the following questions.

1. What sources does the teacher use to plan the lesson? A teacher's manual? A published lesson plan? A combination of those two materials? Or other sources?
2. How do teachers use these sources in planning? Do they follow all the steps? Make any adjustments? Others?
3. Is there evidence that teachers' plans were influenced by the workshop, by the experience of teaching, by other teachers, by supervision and follow-up activities?
4. Was there evidence that the teacher made a connection between the content learned and a real life situation? In what ways?
5. Was there any evidence that the teacher connected the information that students gathered from the field to the curriculum? In what ways?

Learning tasks. The tasks include all assignments required for students to do during the lesson. The Life Experience curriculum encourages teachers to provide students the opportunity to construct their own ideas by doing investigations or inquiries. Generally, what teachers assign students to do includes: finding information from the book to answer questions posed by the teacher, reading material quietly or out loud with the whole class, conducting investigations by following instructions, and taking a test at the end of the unit. The SFEP project tries to promote learning activities that give students opportunities to think analytically, to argue and reason, to make sense of data, to write about findings, and present results to community members.

Current Practice

Traditional tasks & activities focus on knowledge recall such as

- Finding information from the book to answer the questions posed by the teacher;
- Doing seatwork (alone) in class;
- Conducting investigations by following instructions (individually or sometimes in group);
- Reading material quietly or out loud with the whole class;
- Taking a test at the end of the unit; and
- Doing homework individually for a specific assignment.

Hoped for Changes

Tasks focus on knowledge integration and knowledge application by having students

- Develop questions to get information from the community;
- Decide where to go, whom to ask to find information then go to that place with the group;
- Conduct a group investigation or study in-depth of the environmental problem;
- Make sense of the data gathered through group discussion;
- Present the results of group work to community member; and
- Do homework as an on-going part of a project

In analyzing teachers' learning activities, I used the following questions.

1. What was the assignment for students in this lesson?
2. What kind of intellectual work did the task involve?
3. How was the task presented to the students? What expectations did the teacher have? What were the students' reactions?
4. What kind of social skills did the task involve? How was this described to students?
5. Did the task draw on students' prior knowledge and skills?

Teacher's role. The SFEP project seeks to move teachers away from the role of giving directions and information to students to the role of supporting or enabling students to construct their own learning or understanding. In this way, the teacher can provide more opportunities for students to experience learning by themselves.

Current Practice

- Teacher as knowledge teller, classroom controller, sole evaluator
- Teacher presents information to students according to the curriculum guide
- Teacher explains content to students
- Teacher asks straightforward questions
- Teacher gives assignments
- Teacher monitor student work in the classroom
- Teacher evaluates student understanding through traditional measures such as quizzes, tests, etc.

Hoped for Changes

- Teacher as supporter, helper, guider, stimulator for participation, coach and co-evaluator
- Teacher helps students integrate concepts by applying what they are learning. Teacher then decides when to present information, when to clarify an issue, and when to modify a concept. These decisions are informed and influenced by student actions.
- Teacher provides the opportunity for students to discover the content through experimentation or application
- Teacher poses questions that challenge student thinking. Teacher listens carefully to student ideas.
- Teacher allows assignments to grow out of the project being worked on and students have some input.
- Teacher encourages students to monitor each other work, often in groups. Teacher monitors student participation in discussion and decides when and how to encourage each student to participate. Teacher monitors student progress both in-class and outside the classroom, as students do projects.
- Teacher and students evaluate understanding through projects and representation using different formats.

The following questions were asked about the teacher's role.

1. What did the teacher do in introducing the lesson?
2. How the teacher helps students understand the lesson?
3. Did the teacher give students chances to discuss issues with him or her or with other group members?
4. Did the teacher encourage students to think by themselves? How?
5. Did the teacher comment on student work? In what way?
6. Was there evidence that the teacher allowed students to participate in decision making? How?
7. Did the teacher go into the field with students? What did the teacher do?

Students' role. If students are going to construct their own learning with support from the teacher, then their role needs to change from just receiving information, answering recall questions posed by a teacher, and taking a test at the end of each unit or term. It has to shift to more active participation in designing their study, carrying out the study, and summarizing the results themselves.

<u>Current Practice</u>	<u>Hoped for Changes</u>
Student as passive participant who is used to listening and following instruction:	Student as an active participant who is willing to share ideas and explore an investigation for more understanding:
<ul style="list-style-type: none"> • Student listens to the teacher explain the content based on the curriculum guide; • Student answers direct questions posed by teacher; • Student does the assignment such as an exercise at the end of lesson; and • Student prepares for testing. 	<ul style="list-style-type: none"> • Student learns content from many sources, including the case study; • Student uses own experiences to develop answers to open-ended questions; • Student decides how to work on a project: what the questions would be, where to get information, and how to present the group's work; and • Student presents project results.

In looking at the students' role I used the following questions.

1. What did the students do in this lesson?
2. Did the students have the opportunity to talk or discuss in class? In what way? Was there evidence that students thought independently?
3. Was there evidence that students constructed their own understanding? How?
4. Did the students mostly work in groups or alone? What kind of responsibility did the students have in presenting their finding?

Learning resources. One of the main reasons that led to the revision of the former curriculum was the lack of connection between content learned in school and the real life of students. This was because the school used the textbook as the only source of learning and this content is too broad and too general. The community did not have any role in student learning. The role that most communities played in school was to respond in cash or a kind according to school requests. To connect what was learned in school to real life, students needed to study

actual events, issues or problems in their own communities. One valuable source of learning about the community is the community itself, its people, places, culture, history, and artifacts.

The SFEP project emphasizes that students need to learn and understand an environmental issue in their own community. This focus encourages the community to play a new role as a source of learning, information provider about history and events, local knowledge instructor about trees, herbs and the effect of environmental problems, and occupational trainer in making baskets, brooms, and other local occupations.

Current Practice

- Learning materials such as textbooks, maps, charts

Hoped for Changes

- Learning materials also include people and place in the community as well as some student developed materials for a project.

The questions asked about resources for learning included:

1. Did the community become a source for learning in this lesson?
If so, how and in what way?
2. How were community resources for student learning selected? Was there evidence that community members helped teachers identify a community learning resource?
3. Were there other resources for learning besides the community? What were they?
How they were used?

Assessment. Assessment deals with the ways in which teachers evaluate student work, learning, and understanding. The new approach to teaching and learning emphasizes a learning process in which students, in groups, construct knowledge largely by themselves. Thus, the traditional way of assessing student learning at the end of each unit and each term is not an appropriate tool for such case study learning. More relevant instruments and strategies for this kind of learning should emphasize both the process and the outcome of learning as a continual development of students.

<u>Current Practice</u>	<u>Hoped for Changes</u>
Evaluation focuses on individual student outcomes	Evaluation focuses on outcomes and process learning
<ul style="list-style-type: none"> Exercises worksheets and tests are the main tools of assessment. 	<ul style="list-style-type: none"> Group presentations (group grade); Individual reflective papers or written products (individual grade); and Student developments in process learning (How they ask questions, discuss answers, and evaluate results) are all sources of assessment data.

The questions about student assessment include:

1. What kind of assessment strategy did the teacher use in this lesson (observation, test, writing, presentation, other)? How did the teacher use this assessment tool?
2. What was the focus of student assessments? Content or process learning?
3. Did the teacher involve students in making decisions about assessment?
4. Did the teacher use group work or group reports for student assessment?
5. Was there evidence that the teacher used observation of student performance as an assessment (e.g. working in groups, the process of interviewing, presenting to community)?
6. Was there evidence that the teacher made changes in their teaching regarding what he or she saw happening to students during the lesson?

To analyze data on teachers' changing practice, I examined the observations and debriefing data for each term to look for evidence of changes based on the six categories of change described above. I analyzed each observation and conceptualized what had happened in term of the six categories. Then I synthesized all the observations and debriefings for each term to get a picture of what really happened to the focal teachers each term. I also studied teacher comments about each lesson for evidence of change. This was integrated with observational and debriefing data. I used data the exit interview at the end of each term to help me understand what teachers thought about their changing practice and what reasons or contributions accounted for the change. In terms of crosschecking analysis, I used data from what teachers did in their teaching with what they said about that lesson at the end of their teaching together with their assessments of that particular lesson. The exit interviews were used to compare between each

term to see changes in practice and thinking. Table 2.3 below shows a sample of my analysis of Mr. Pornchai's teaching from one observation in the first pilot term.

Analysis of the Professional Development Program

Data about the workshop comes from participant writing at the beginning, during, and the end of the workshop. Another kind of data comes from observations by facilitators who shared these in staff meetings every evening. A third category comes from my own notes taken during the workshop. Most written data by the teachers and other participants are short answers which proved difficult to analyze in-depth. Therefore in writing about the workshop, I mainly analyze underlying assumptions of the professional development program. Then I describe the core components and learning activities of the workshop on each segment. Finally I explain what participants were supposed to learn and how each component seemed to contribute to their learning supported by the participant responses.

Table 2.3: An Example of Analysis of Observation Data

Category	Term One: Observation 1 (November 30 th , 1993. 10:00-12:00 am.)
Description of Lesson	A continuing activity of field study about village history. In this lesson, the students reported on new questions to ask villagers, set the rules, and then went into community to interview for 1.15 hours. When they finished, they came back to class to work in groups to share and make sense of information. This last activity was to be done as homework.
Curriculum and Planning	Curriculum focused on real life of the village. Teacher used the plan made during the workshop. He made some changes when he found that students needed more time to practice collecting data.
Learning Tasks	The students were assigned to : <ul style="list-style-type: none"> • Examine the new questions to improve them before using with the villagers • Divide responsibilities for each member of the group and set rules for working in the village • Interview the villagers and take notes.
Teacher's Role	<ul style="list-style-type: none"> • Introduce the lesson by asking students to tell about the last visit to the village. • Help students re-examine the new questions by having each group share their questions and get feedback.

Table 2.3 (cont'd)

Category	Term One: Observation 1 (November 30 th , 1993. 10:00-12:00 am.)
	<ul style="list-style-type: none"> • Strengthen group work by having each group divide tasks and set up rules themselves. • Supervise students in the field by going with them to observe and help. • Adjusting activity due to student work.
Students' Role	<ul style="list-style-type: none"> • Report to the class about the last visit. • Share with the class on new questions. • Listen to other groups' report and prepare to make comments in a discussion. • Brainstorm how to divide a task and set rules. • Help each other in groups ask questions and take notes of the interview. • Reflect and share what was learned in the field.
Learning Resources	<ul style="list-style-type: none"> • Students develop new questions from different groups. • Villagers provide information about the history of the village.
Assessment	<ul style="list-style-type: none"> • Listen to student reports to know how much students learned. • Observe students working in the field and take notes to give feedback. • Talk to villagers about how students did in the field.

In analyzing the follow-up activities, I examine conversations between myself and the teachers whom I worked with to describe and identify different forms of supervisory work aimed at helping teachers make changes during the first pilot term. Then I analyzed my role as a supervisor by examining what I did with teachers using the six categories of changes to explain how the new role of supervisor fit with and promoted the new approach to teaching. Finally I examined what the teachers said about these follow-up activities, mainly supervisory work and teacher meetings from the exit interview of each term and the two final interviews that I and other fieldworkers did in terms of what they thought they learned? How did they go about learning? What did they learn from different follow-up activities? How did their views about supervisors and colleagues change as a result of these interactions? This analysis helped me understand how supervision needs to change and why teachers need opportunities to learn with and from each other. This enabled me to explain what teachers were supposed to learn from each of the follow-

up activities: one-on-one supervision and teacher meetings, and how each activity contributed to their learning.

In presenting my study, I devote two chapters to the intervention itself. One chapter examines the “teacher as learner” workshop. Another looks at follow-up support and guidance activities. These chapters on the professional development program are followed by case studies of two participating teachers. Here I look in-depth at how their teaching and their beliefs changed. I concluded with a final chapter in which I summarize my findings and offer recommendations to professional development providers and policy makers.

Chapter 3

Introduction

In this chapter, I describe and analyze the model used in the project to provide initial staff development to teachers. It is called a “teacher as learner” workshop. I also discuss teachers’ reactions to this workshop. The chapter is organized in three parts. It begins with background information about the typical kind of staff development workshops provided for Thai teachers’ and need for a new model of staff development. Then I discuss a new model of staff development, focusing on the underlying ideas and structure. The heart of the chapter is a description of the 14-day workshop, including the design of and preparation for the workshop and its implementation. In the last part, I analyze participants’ responses to this new in-service model during and after the workshop.

The thesis of this chapter is that to teach students new ideas, teacher themselves need to understand ideas from the learner’s point of view. To do this, teachers need to pass through an experience of learning new ideas to be able to understand how their students will learn what kinds of problems students may face. This will enable teachers to provide more appropriate assistance for their students during the teaching and learning process.

Staff Development in Thailand and the Need for a New Model

Why do We Need a New Model of Staff Development?

In Thailand as well as in many other countries (Skyes, Wheeler and Floden, 1997), staff development to help teachers implement new ideas about teaching and learning usually takes the form of a short workshop which consists of a lecture/ presentation followed by a few exercises. There are several reasons of this: a limited budget, a large amount of information to be given, and the relative convenience of doing staff development in this way. While teachers may leave the workshop with some ideas about the kind of teaching expected, they still have to figure out on their own how to do this teaching with their students. As a supervisor in Thailand, I often heard

teachers telling me when I visited them at school, that they thought they understood the example presented in the workshop but when they attempted to apply it in the context of their classroom, they were confused.

The knowledge that teachers get from such workshops focuses on what a particular kind of teaching is like. These workshop do not provide teachers an understanding of what it is like to learn by this kind of teaching. In other words, these workshops focus on telling teachers what should be done in the classroom without helping them understand what it means to be a learner of this approach. Thus, teachers are asked to organize learning activities which they themselves have never experienced before. In other words, the pedagogy of teacher development in the workshop does not reflect the pedagogy that teachers are expected to use

The kind of teaching and learning to be implemented under the SFEP project focuses on how students can use what they know about their own village to understand environmental issues and to be able to help villagers think about alternative solutions to their environmental problems. Students learn to do a case study about a forest-related problem in the village, to make sense about why the life of the village has been this way and to apply new concepts and knowledge in thinking about ways to help their village solve the existing problem. To achieve the objectives of the project, students practice critical thinking by interpreting and analyzing information, and applying what is learned to a real life situation. To help teachers implement this kind of teaching and learning in their classrooms, staff development needs to help teachers experience the activities and tasks that students later will do and then provide support during classroom implementation. In other words, to help teachers make changes in their practice, we must change the way we encourage and support change.

The SFEP project proposed to use a different approach to staff development as a key strategy in helping teachers make change in their practice. In recognition of the essential importance of the learner's experience in learning to teach, the project designed a new kind of

staff development based on a “teacher as learner” approach. The project recognized that teachers could be change agents, if they were supported through a new kind of staff development.

The New Staff Development Model

The new staff development model consisted of two parts: the fourteen-day “teacher as learner” workshop and the follow-up support and guidance activities. This model will be described in terms of underlying ideas and structure.

Underlying ideas/assumptions about the “teacher as learner” approach

The project believed that teachers must be learners to be able to improve or make changes in their practice. Five kinds of learning experiences were emphasized:

- a. Teachers need to have the same kind of learning experiences they will later provide for students.
- b. Teachers need to learn subject matter related to forests and deforestation in a more integrated and meaningful way.
- c. Teachers need to see themselves as learners in and from their own practice.
- d. Teachers need the opportunity to learn with and from colleagues.
- e. Teachers need to become reflective practitioners, thinking through their experience and making sense of it.

The first assumption focuses on the importance of teachers’ learning experiences. By learning experiences, I mean teachers experiencing the same kind of learning which they will later provide to their students. This is because the same kind of learning experience will help teachers understand what and how it is like to learn with this approach. If the teachers had this learning experience, then it is likely that they would be able to organize similar learning activities for their own students. Most of the workshops provided to Thai teachers feature passive learning on the part of teachers who are then supposed to know how to organize an active learning activity in their own teaching. By doing that, staff developers unintentionally reproduce the same pattern of learning by listening, following orders, and memorizing content. To help project teachers make changes in their practice in the direction of more student-centered teaching, this new model of

staff development engaged teachers in their own learning as a basis for reconstructing their teaching. In the fourteen-day workshop, teachers carried out a community study. They also learned new concepts in meaningful and integrated ways. It was hoped that these learning experiences would help teachers visualize more clearly and effectively how their students would learn.

The second assumption focuses on subject matter learning that teachers in the SFEP project need to provide more flexible learning activities that fit with students and the forestry issues in their community. Teachers with richer knowledge of subject matter would have the substantive control of a subject needed to develop learning activities that require integrating content and real world situations. Teaching environmental education for understanding by using a case study approach that focuses on a real forestry problem in the community requires teachers to have a deeper understanding of forestry, scientific and social science concepts. This enables them to design activities and support students by posing questions, challenging students' thinking, and leading them to examine ideas and relationships. The process of deepening one's understanding of subject matter also needs to nurture interconnections and multiple forms of representation (Ball, 1998).

The third assumption emphasizes learning from one's own practice. Once teachers and new knowledge and new images of teaching from the fourteen-day workshop, their task was to transform their knowledge, images and experience into new learning opportunities for their own students, and then adjust their teaching based on their students' responses. It is crucial that teachers be able to see themselves as capable of learning from their own teaching by looking at student learning in a more critical and analytical way. By seeing the strengths and weaknesses of their own practice, teachers could figure out necessary changes. The teachers need to learn from their own practice. This is because they have new students each year and the world is changing as years go by. The ability to learn from practice would help teachers continue to be students of

their own learning. The one-on-one supervisory work in the follow-up activities was designed to promote and encourage project teachers to study and improve their practice.

The fourth assumption gave attention to learning through interacting with colleagues. This learning focuses more on the real teaching that teachers would get besides learning from their own teaching. It gave teachers opportunities to see how others implemented the same kind of teaching and to compare this with their own to stimulate further improvement. While focusing on the value of collegial learning, the project aimed to reduce the loneliness and isolation of teachers. By providing the opportunity for teachers to share, discuss and help each other solve problems, it was hoped that they would see the value of working and learning together with their colleagues. Through teacher meetings, the project encouraged teachers to form relationships and new patterns of communication with their colleagues. This in turn would hopefully lead to the development of the professional learning community.

The fifth assumption focused on teachers as reflective practitioners learning by looking back on and thinking through their experience, making sense of it and coming up with their own understanding. Learning through reflection is a powerful learning process that can help teachers construct their own learning in a more effective way.

Implementing this new kind of teaching and learning requires that teachers have learning experiences in the same way that they will later use with their students. These learning experiences consisted of conducting field study in the community and learning new content in a more integrated way by applying it to a real world situation. In the implementation of their teaching, teachers need to study their own practice by watching their students learn. Then they need to share and consult with colleagues on specific problems in an on-going way. Through the process of such learning, teachers reflect and construct their own understandings. These learning experiences can not take place in a single workshop. Teacher development is a long term, continuing process. To help teachers implement effectively this new kind of teaching and

learning, we designed a new staff development model that focused on the underlying assumptions described above.

Structure of the model: The staff development model used in the SFEP project had two components: a fourteen-day intensive, participatory workshop at the beginning of the project and follow-up support activities. (See Table 3.1)

Table 3.1: Structure of the New Staff Development Model

Components	Activities	Place and Duration	Underlying Assumptions of the Teacher as Learner
Initial Workshop	Workshop Field study of village using theoretical model to explain the written case	Conference facility with access to a village with forests 14 days	Learning the same knowledge and skills that students will learn (#1,2) Field Study New Concepts Learning through reflection (#5)
Follow-up Support activities	One-on-one Supervision Post-observation conferences with supervisors	Classroom: Weekly, Monthly	Learning in and from one's own practice (#3) Learning through reflective conversation with supervisor (#5)
	Teacher Meetings	School: Weekly, Monthly Sharing experiences solving problem planning lessons	Learning with and from colleagues (#4) Learning through reflection (#5)
	End of term seminar and additional workshops on specific content needed	Conference facility with access to a village with forests End of term and/or at particular times	Learning with and from colleagues (#4) Learning through reflection (#5) Learning new concepts in more meaningful ways (#2)

The first component emphasizes initial learning in the context of the fourteen-day workshop while the second component focuses on continued learning in the context of practice. The initial fourteen-day provided teachers with first hand learning experiences. These learning experiences included a field community study and learning new concepts in a more meaningful and integrated way. It was hoped that the learning experience from the fourteen-day workshop would help teachers visualize what they were supposed to try to do in their classroom with their

students.

The activities of the workshop also helped teachers develop their interpersonal and communication skills by emphasizing more group work. These activities also prepared teachers to start working with their colleagues so that they could share ideas during the teachers' meeting that took place after the workshop. The workshop tried to promote reflection by asking teachers to write about their experiences and their learning.

The second component of the new staff development model, the follow-up supportive activities, focused on learning to teach in practice. Once teachers were back in their schools and trying to transform their new knowledge and experience into their own teaching, follow-up activities helped them develop their practice.

The follow-up support activities consisted of one-on-one supervision, teacher meetings, and a seminar at the end of each term. Each follow-up activity promoted a particular learning experience. To help teachers see themselves as learners in and from their own practice, the project used one-on-one supervisory work. This involved classroom observation followed by discussion between the supervisor and the observed teacher. This new form of supervisory work was designed to help teachers develop the ability to study their practice and their students' learning in order to make appropriate changes.

The teacher meetings and end-of-term seminar supported the underlying assumption that teachers need the opportunity to learn with and from their colleagues. The seminar and some additional workshop programs also helped teachers learn new content.

The chapter focuses on the fourteen-day workshop. The next chapter discusses the ongoing follow-up support activities.

The Fourteen Day Workshop

Workshop Design and Preparation

To help teachers and principals understand what this kind of teaching is like, we designed

a 14-day “learning by doing” workshop. The main objectives were to: 1) provide a learner’s experience to the teachers 2) model the teaching that should be done in schools 3) introduce new concepts that could help teachers understand and think about environmental problems and alternative solutions and 4) create a collegial learning community.

The 14-day workshop introduced teachers to the new approach to teaching and learning promoted by the SFEP project. In this new approach to teaching, students carry out a field study to identify environmental problems related to trees or deforestation in that village. They study in-depth the causes and the effects of deforestation in the community and suggest possible sustainable alternatives. They involve villagers in selecting, planning and implementing a solution. Through these activities, students learn new content and concepts that connect to real life in a more meaningful way. To organize these learning activities effectively, teachers need certain kinds of knowledge and experiences. In thinking about the curriculum for the workshop, we paid a lot of attention to the content and skills that teachers need to learn and the pedagogy of helping them learn.

1. Teachers need to learn how to do a community study.
2. Teachers need to learn how to use the Kite Model for analyzing data in order to understand an environmental problem in a more holistic way. Project staff developed the Kite Model and developed a written case of a village to practice categorizing, analyzing, and assessing the data using the proposed framework.
3. Teachers need to learn scientific processes and concepts related to forestry to better understand the environment and environmental problems.
4. Teachers need to learn social science concepts about human society to understand the relationship between humans and environmental problems.
5. Teachers need to learn the concept of “social forestry” to help them understand how to create sustainable alternative solutions to problems of deforestation.
6. Teachers need to understand the kind of teaching and learning that promotes active learners so they can design and organize learning activities that move students away from factual acquisition to the integration and application of newly acquired information.

7. Teachers need to be able to analyze and develop the curriculum in a more integrated way.

This content outline includes both subject matter knowledge and pedagogical understanding. Teachers need to understand the content described above, but they need to understand it in a different way to see how ideas fit together and where this content fits in the Life Experience curriculum.

In thinking about how to promote teacher learning, the project team came up with the idea of developing a Handbook-Guide with written materials that could help teachers make sense of the experience that they were going to have, deepen their subject matter knowledge, and improve their pedagogical understanding. This Handbook-Guide was different from other traditional teachers' guides because it did not provide complete lesson plans for teachers to follow. Rather, the Handbook-Guide was a collection of materials used during the workshop. Along with the teachers' notes, participants could design how he or she would like to sequence the materials for their individual use. Teachers could take the Handbook-Guide home and use it as a reference material and as a reminder of the content they had learned.

The pedagogy of the workshop not only provided first-hand learning experiences for participants, it modeled the new teaching and the kinds of changes that we wanted teachers to make in their practice. The workshop modeled six categories of change that teachers would have to make: curriculum and lesson planning, learning tasks, teacher's role, students' role, resources for learning and assessment.

Curriculum and lesson planning. Generally, primary school teachers are given well constructed lesson plans in a teachers' manual that lays out content, activity, materials, and assessment. The way this has been done is that teachers teach by following what is said in the teachers' manual lesson by lesson. In environmental education, the content is integrated and focuses on real life learning. The purpose of having participants do a field study during the workshop and learn new concepts in a more meaningful and integrated way is to model

this new approach.

Learning tasks. Generally teachers assign students to find information from the textbook to answer questions posed by the teacher. They have students read material quietly or out loud with the whole class, follow instructions, and then take a test at the end of a unit. The SFEP project tried to promote learning activities that would encourage students to think analytically, to make sense of data and to write about their new ideas and understandings. Promoting this kind of learning required students to perform tasks that involve a lot of thinking, reasoning, reflecting, and sense making. Moreover, it also depended on group work around a long term project. In designing tasks for participants, we intentionally included such opportunities.

Teacher's role. The SFEP project aimed to move teachers away from the role of giving directions and information to students toward the role of supporting or enabling students to construct their own knowledge or understanding. In this way, teachers would provide opportunities for students to experience learning by themselves. Therefore in the workshop, the team functioned as facilitators rather than telling participants the answers.

Students' role. In this learning, students function as active learners constructing their own understandings. The workshop provided the opportunity for teachers to experience this role by having them plan and carry out investigations in the village and come up with findings and conclusions.

Resources for learning. The fourteen-day workshop provided a variety of learning resources for participants. The main resources were the village and the forest, followed by written material. The written material was carefully designed to encourage deeper understanding.

Assessment. In this new approach to learning, the traditional ways of assessing student learning were not appropriate. Instead we used reflective writing to capture participants' learning.

The Handbook-Guide in this workshop represented resource for learning. It contained six topics/sets of materials on pedagogical and subject matter knowledge. Below is a brief

description of each topic or set in the Handbook-Guide.

I. How to do a community study.

This material explained the progress of doing a community study and discussed how to generate questions, identify informants, plan a visit, interview people, take notes on interview data, interpret data, and observe bio-physical data. It also suggested ways to prepare and help students do a community study. This material was given to the participants after they had done their own community study.

II. A written hypothetical case of village called “Ban Pa Tueng”.

This written case was designed to help teachers learn to use the Kite Model to analyze data to understand past ways of life in the village, how the situation of the village changed as time went by, what the causes and the effects of deforestation were for the people in that village, and what kind of solutions villagers could use to solve their problems.

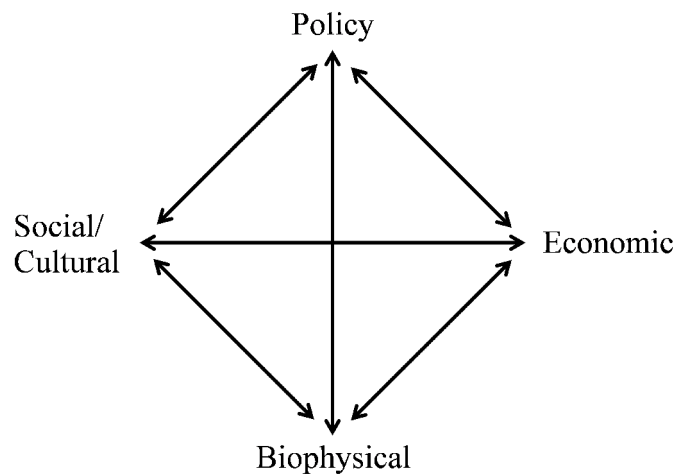
The case of Ban Pa Tueng is divided into three parts. Part One tells the history of the village since its founding, how villagers lived their lives and the situation of the forest and other natural resources. Part Two describes the life of the village twenty years later after more people moved in and the logging company came to cut the trees. The story shows how village lives were changed and a lot of trees in the forest were cut. Part Three presents the present situation of the village with most of the trees gone and the village facing problems of drought and flooding. Villagers began to lose their land. Some of them had to leave their homes to work in the cities while some became day workers on what was once their own land. The story shows how villagers faced up to these problems and the kinds of responses they devised. We used this written case study during the workshop as the basis for an analysis exercise using the Kite Model framework. Another objective of using this

written case was to provide teachers with a sample of a well-written case study so teachers could see what kind of information needed to be in their study.

III. A description of the Kite Model.

The project used this model to help teachers understand the interaction between/among factors (biophysical, social, economic, and political) that cause environmental problems. The Kite Model examines the development process by linking society with the environment. This model views society as an intervening variable between nature and resources, resources being those elements of nature that society appropriates for its use. Four key categories make up the model: three are primary components of society (policy structure, the economy and social/cultural characteristics) and the fourth represents the biophysical environment (See Figure 3.1).

Figure 3.1: The Kite Model



The framework emphasizes the interaction between societies, reflected by the economic, social and policy processes, and the physical environment. These interactions occur on different scales (global, national, local) overtime and space, and their outcomes are determined through the exercise of power.

The Kite Model provides a basis for problem identification and analysis, a way of

thinking about the interaction between society and environment over space and through time. The Kite Model gives teachers a structure for understanding that environmental issues encompass more than scientific concepts. The model helps teachers integrate concepts across different disciplines in the curriculum (Campbell and Olson, 1991).

IV. A series of subject matter concepts.

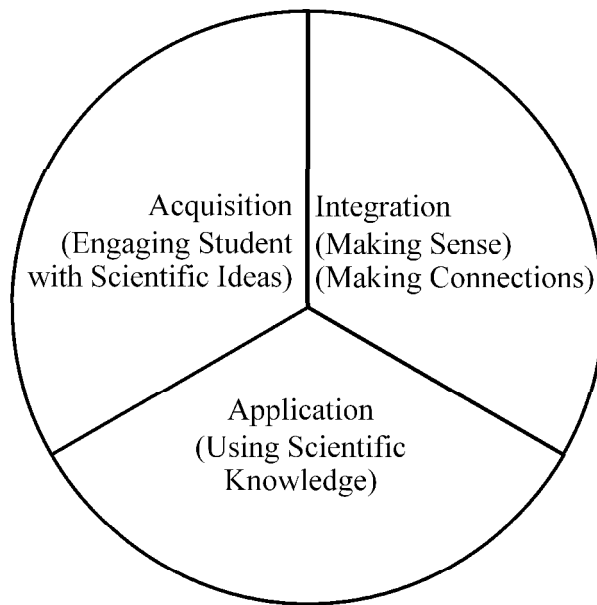
These included the scientific process, concepts related to forest and social forestry, and social science concepts about human society. The scientific process, and concepts related to forests included: the life cycle of trees in the forest, forest ecology, the impact of trees on the environment, the effects of environment on trees, and the concepts of forest succession. The social forestry concepts combined scientific concepts of taking care of trees and types of social forestry activities with social science concepts of human society. It was believed that all these concepts would help teachers begin to develop a deeper understanding of the relationship among humans and environment, of environmental problems related to trees and forests, and of possible alternative solutions to these problems.

V. A description of teaching and learning model.

This model would help teachers understand how to design learning tasks and activities to move students away from factual acquisition to integration and application of newly acquired information. In this model, learning requires not only the acquisition of information, but also the integration of new information with what is already known. It also requires the application of knowledge to the world outside the classroom (Gallagher, 1992). As noted earlier, the dominant mode of instruction in Thailand is teacher-centered: the teacher does most of the talking, while students do most of the listening. As passive recipients, students

are expected to absorb knowledge given to them by the teacher. This project seeks to involve students more in the learning process by emphasizing the integration and application phases of learning, specifically through a local case study. Figure 3.2 illustrates this approach to teaching and learning.

Figure 3.2: A Teaching-Learning Model

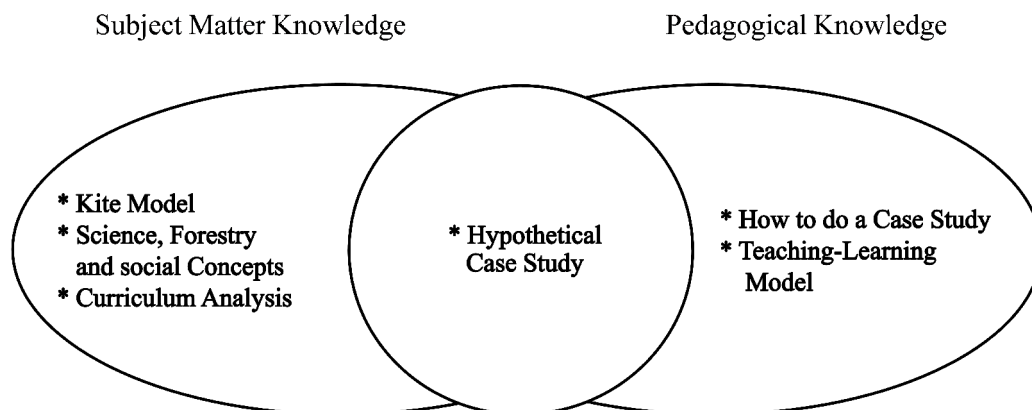


VI. An example of curriculum integration and analysis.

This would help teachers see the connection between content already present in the curriculum and content that students should be able to learn from visits to their community.

These six sets of materials, it was hope, would help teachers deepen their subject matter knowledge and their understanding of pedagogy.

Figure 3.3: Relationship Between Materials in the Handbook-Guide and Teachers' Subject Matter and Pedagogical Knowledge



One belief in terms of this model is the importance of reflecting on and making sense of experience. Another belief is that writing from one's understanding means that a person has to look back on his/her experience analytically and construct an understanding which can then be expressed through writing. Doing this, we believed, would help participants start new habits of reflection and writing that are essential to promoting continued change. In addition participant writing is used as the main instrument for a formative evaluation strategy during the workshop.

Structure of the Workshop

When we originally proposed a fourteen day workshop, the teachers thought we were crazy since regular staff development programs usually last from 2-5 days. Teachers could not imagine what they would be doing for that long period. When the project team visited schools, most participants initially expressed concern about the length of the workshop. They wondered why this workshop had to take longer than other ones they were used to. One teacher from Choomchone Patana school said to me "Two weeks! You gotta be kidding! How could I leave home that long?" Others expressed similar concern such as " Why does it have to be this long?" When they were told about the kind of content and activities to be provide through this workshop, they still felt it could be done in one week instead of two. For

example, teachers from Pana Nakorn school told me that “We attended a very intensive workshop about two years ago. It lasted seven days. In that workshop, we worked days and nights to cover all the things we need to know. Don’t you think one week is enough for this coming workshop?”

This 14-day workshop was divided into three segments: a community field study, learning new concepts as a way to deepen understanding of subject matter knowledge, and application of new experience to teaching and learning in the regular classroom. Table 3.2 shows the overview structure of the workshop, its segments, duration, and focus.

Table 3.2: Fourteen-day Workshop Structure

Segment	Duration	Focus
1	Day 1-4	Community Field Study
2	Day 5-8	Deepening Teacher Understanding of Subject Matter Knowledge and Analytical Skills
Day Nine: A Break		
3	Day 10-14	Implications for Teaching

Segment One, the community field study, was designed to provide participants with firsthand experience of a learner doing a field study about the community in a real village. The segment lasted four days. During this time, the participants were introduced to the ideas of doing community study. Then they visited a village to gather data. After that they wrote a full story about that village and presented findings to the whole group.

The second segment emphasized learning new concepts and analytical skills to deepen understanding of subject matter knowledge. This new knowledge and experience helped teachers understand the causes and the effects of environmental problems related to tree management and deforestation. The Kite Model was introduced to participants as an analytical framework and the written case of ban Pa-Tueng was used. During this time, participants learned new scientific concepts related to trees and forests, the concepts of social forestry, and various social science concepts about human society.

By the end of Segment Two, it was hoped that participants would have a beginning understanding of how to do a community study, how to analyze community data to understand the causes of the environmental problems and how these problems affect people in the community and larger society. The first two segments, in particular, placed a great emphasis on the learner's first-hand experience and the idea that participants needed to construct their own understanding.

In the third segment, participants were asked to reflect on their learning experiences so they could organize similar learning model of the project and were involved in a discussion of curriculum integration and curriculum analysis. The main assignment of this segment was to have participants in the same geographical area and the same school level (primary and secondary level) work together to develop a unit to take students to study in their community, and to plan lessons for that unit. By the end of the workshop, we hoped that participants would be ready to start making changes in their teaching of environmental education.

The SFEP project recognized the need for ongoing support activities to help teachers change their practice. The project team identified a group of people who would work with and help teachers while they were teaching in schools. This support group, called Team A, included MOE supervisors for primary schools, regional supervisors and teacher coordinators for secondary schools, provincial and district supervisors for primary schools, and academic cluster teachers from primary schools. The support group was involved in planning and organizing the workshop and supportive activities. To help this group learn to understand the teaching and learning approach, we (the project team) also held a 14-day workshop with two objectives:

1. To provide the same learning experience for Team A members that they would in turn provide for the teachers they would later work with;

2. To pilot the workshop's design and the activities before providing this experience for project teachers.

After Team A participants passed through all these experiences, they were asked to suggest how these should be done with the teachers and how they could be involved in organizing the teachers' workshop. These participants then worked together to come up with a plan which they presented before they left the workshop.

What the Workshop was Like and How Teachers Responded

The workshop we held in a small, homey and fully-equipped hotel to encourage a close relationship with and among the participants. The organizers consisted of two MOE members from the overall project team and twelve members of Team A who took responsibility for coordinating the sessions and facilitating the group work. The task of group facilitator was to see that group work was productive and to provide helps as needed, to stimulate active group work, and to observe what was going on in the groups and with individual members.

Thirty-six participants attended the workshop including 6 primary school principals, 16 primary school teachers, 2 secondary school principals, 2 assistant principals, and 10 secondary school teachers. We included the principals and assistant principals so they would understand the new teaching and learning approach, work with their teachers from the beginning and then continued to support them when they returned to their schools.

Below I discuss what and how participants learned in this workshop and how they assessed their own learning.

Segment One: Community Field Study

This four-day segment began with a presentation and discussion on how to do a community field study. Participants were introduced to Rapid Rural Assessment (RRA) ideas and techniques as a way to help them design the village study which they would be doing over the next two days. Then all 36 participants were divided into seven groups, 5-6 members

each, to work on a community study assignment. Each group consisted of a principal, secondary school teachers, and primary school teachers. The idea for mixing participants from different levels was to let them get to know and learn to work with others from different backgrounds and different schools. Each group was asked to plan an approach to study a village to find out about what problems existed related to tree and forest management. To do that, each group needed to know the history of the village and its present way of life. They also had to know about the forest and how it had changed over time. To find out this information, each group had to develop questions to use in interviewing villagers the next day.

During Days Two and Three, participants in each group went to their assigned village to gather data. During their visit to the village, each group interviewed villagers, toured the village, and visited the village headman's office or house. At the end of the day, each group spent time making sense of the data they had gathered and developing plans for reporting their first and second findings to the whole group in the evening. The report was to include what they wanted to learn in the village, how they went about doing it, what they found out about that village in terms of its past and present situation, and what problems related to trees and forests existed in the village. Each group considered how to get missing data on the next day. The session coordinator and group facilitators provided help and stimulated the group's efforts.

Participants spent the evening of Day Three and the next day making sense of information gathered, writing up a report, planning a full presentation, and making transparencies and other materials for the presentation. On Day Four, each group presented their work and summarized the community study process. At the end of the segment, participants were asked to write about the following: What did you learn in these four days, and how did you learn it? and How would you apply this learning experience in your

classroom?

Participants' Response to the First Segment. Participants writing gave short direct answers. In answering the question "What did you learn?" participants wrote the following: "I learned how to study the village;" "I learned the process of community study;" and "I learned to use RRA technique to study the village." Some participants elaborated a bit: "I learned about the village, when it was established and its development until the present." "I learned about problems in the village, something about the causes and their effects, and some alternatives that might help solve the problems they face."

Participant responses to the question "How did you learn about it?" were similar in tone: "I learned by going into the village." "I learned by interviewing villagers." Some participants provided more elaboration. "I learned from listening to the speaker and by going into the village." and "I learned by going into the village by myself."

In answering questions like "How can you apply this experience to your classroom?" the responses had more variety. "I will use this experience to help organize students to study in their village." "I know more how to take students to learn in the village." "I will make changes in what I used to do when I take students to learn in the village." "I will apply this knowledge and experience to teach my students." and "This experience will help me plan and organize a better learning activity for my students to study in their village."

Most participants responded to these questions in positive ways. They valued the study of a real situation. They thought they knew more about the community than before. They understood more about what caused the problems in the village. They gained more understanding about how to do a community study. More than, that during our informal interactions, many participants expressed their excitement of having a chance to find this information out by themselves.

Segment Two: Deepening Teacher Understanding of Subject Matter Knowledge

This segment helped participants deepen their understanding of the scientific process and concepts, as well as social science concepts related to forests and social forestry. It was essential that participants learn how to use the Kite Model as an analytical framework to understand the causes and effects of environmental issues related to trees and forests. It was crucial that participants become aware that problems related to forests are not caused by one factor but by the interaction among several human and biophysical factors. These understandings would help participants develop a possible sustainable project appropriate for that community. These learning experiences would help teachers see other ways of learning new content and concepts in relation to real world problems, which could make for more meaningful learning.

In this four day segment, participants began to learn how to analyze data, how to use the Kite Model to understand the environmental aspects of a problem, how to think differently about science, forestry, and social science concepts, and how to apply new experiences to think about solutions to environmental problems.

The first two days were spent using the Kite Model to analyze case of Ban Pa-Tueng village. The plan was to encourage participants to use their own understanding to analyze data by giving them categories but not introducing the Kite Model at the beginning. Participants were divided into five new groups in order to learn how to work with other participants and to experience a different size of group work. In the morning session of Day Five, participants read part one of the Ban Pa-Tueng village case. The assignment was as follows:

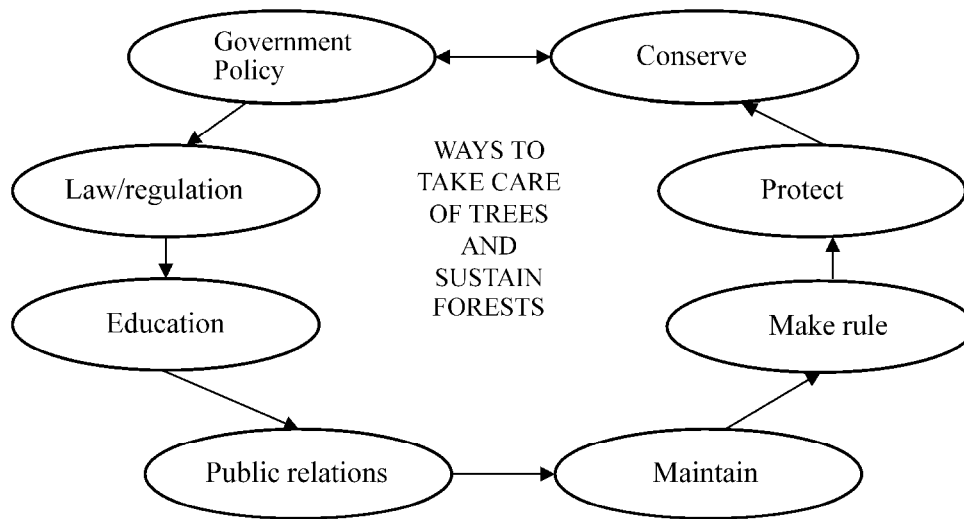
1. Organize the data into 4 categories consisting of a situation of the bio-physical environment, characteristics of social life (culture; beliefs; and education), the economic situation, and the policy structure.
2. Examine the relationship between and among categories and create a diagram to present to the whole group.

During the afternoon session the same tasks were used with Part Two of the Ban Pa-Tueng village case. A similar activity followed with Part Three. However the depth of data analysis became progressively greater as the story unfolded. Each group produced three diagrams containing data from each part of the written case.

In the afternoon sessions, on the sixth day, the Kite Model was formally introduced to participants by one of MOE's project team members. We put this session at the very end for two reasons. First, we wanted to encourage participants to think independently and use their own knowledge and experience in analyzing data. Second, we wanted to show that the presentation or the delivery of content does not have to always be at the very beginning. By presenting the Kite Model at the end we hoped that participants would see how the categories they had been using fit together into a framework for integrating content across science and social studies.

Day Seven focused on scientific concepts of forestry and social forestry. In the morning, each group was asked to use individual member knowledge and experiences about forests to work on two assignments. The first assignment focused on writing a group report on the benefit of trees and forests to humans and the environment. The second assignment asked for ways to take care of trees. In this activity, a "participatory method" was applied. Each member of the group received 10 small pieces of paper to write his/her thoughts about what should be done to take care of trees in order to sustain the life of the forest (one idea per piece). Group members then tossed their ideas into the middle of the group's table. Group members then helped each other read all the ideas and categorize similar ideas into the same groups/categories and give names to those categories. After that, the members looked at the relationship of each category to other categories and created a diagram representing the group's ideas. Figure 3.4 is an example of one group's diagram.

Figure 3.4: An Example of Participants' Group Project



In the afternoon of Day Seven, participants met with the Director of the Regional Community Forestry Training Center (RECOFTC) from Bangkok who introduced them to the scientific processes and concepts related to forestry. This speaker is the forester who has a keen mind and is dedicated to conserving forest in a sustainable way. His training center is a leading force in the region in using social forestry concepts to solve deforestation problems. The speaker began by talking about forests in Thailand, especially in the northern part familiar to all participants. While telling about forest types and the kind of trees in the northern forest, he integrated photosynthesis concepts and water cycle concepts to help participants see the relationship among trees in the forest, humans and other parts of the natural environment. The speaker introduced the concept of bio-diversity in Thai forests and let participants see how useful and important the concept of bio-diversity is in relation to their forests. Then he turned to discuss the effects of deforestation. This time he integrated the concepts of nutrient cycle and soil erosion. The speaker used the situation of forests in Northern Thailand in his explanation as well as other kinds of forests in Thailand and in other countries. The way the speaker explained the details of the forest led participants to become aware of how important

forests are to humans and the environment, how critical the deforestation problem in Thailand had become, and how necessary it was to do something to conserve the forests. In the last part of the session, the speaker introduced the concepts of social forestry as a new way to solve problems stemming from deforestation and as a way to sustain forests.

The way the speaker described the real situation of the forests and integrated new concepts throughout the session represented a new and more meaningful way to learn content. It provided participants the chance to see that the use of a lecture could result in different learning. The lecture content could provide meaningful learning if it was connected with real life or real problems in an integrated way. This session deeply touched participants' feelings, thoughts and understanding as reflected in compliments to the speaker at the end of the session. Participants said they learned a lot about forests that they had never known before. They promised to do their best to protect and conserve the forest. They talked about how they would pass this knowledge on to their students and to community people. After the session, the speaker had dinner with participants before leaving for Bangkok. During this time many participants came to talk informally with the speaker, expressing how much they liked his session. In the evening, participants were asked to use the new information from the afternoon session to review and make changes in their earlier work about the utility of trees and their suggestions on how to care for trees and sustain the forest. More discussion occurred about how education could contribute to sustaining forest and how the deforestation problem could be solved in a more sustainable way.

Day Eight of the workshop focused on helping participants understand more about social concepts. In the morning session, participants were given a paper on "social concepts" which they were to use in discussing the case of Ban Pa-Tueng village. Each group was to study the paper, using Ban Pa-Tueng village to discuss and explain the

components of human society using the following topics:

1. Interdependence of human society in economy, social life, administrative structure, and nature.
2. Conflict: What kind of conflict? Between which groups? How conflict comes about (e.g., what causes it and how it develops.)
3. Power and resistance: Who are the powerful persons in the community? What kind of resistance exists toward powerful persons or groups? How does it take place? and What is the result?
4. The use of natural resources: What opportunities exist to access natural resources? Who are the users? What caused these different opportunities to access natural resources?

Participants spent the whole morning session discussing and presenting the fruits of their group work. In the afternoon, participants applied all their knowledge and understandings from earlier sessions to develop the fourth part of the Ban Pa-Tueng village case study, focusing on the future and alternative solutions to the problems that the village faced. The assignment required participants to review their earlier analyses of Ban Pa-Tueng, their suggestions on how to take care of forests and sustain the forest, and their analysis of social concepts as applied to this village and come up with alternative solutions. The task required a lot of thinking, reflection and contribution from all members of the group.

Participants' Response to Segment Two. At the end of the second segment, participants again wrote about what they had learned. They commented on how the Kite Model opened their eyes to the fact that one factor can affect other factors and cause problems. The Kite Model gave them a systematic way to think about this interactive process. It helped them understand better why the community they had studied had particular problems. In the forestry session, the speaker's description of science and forestry helped them to look at trees in new ways. They had not thought that trees were very important. Now they knew why trees and forests need to be protected. They were eager to share their thinking with the students.

Participants made the following statements about their learning: “I learned about the Kite Model, the importance of trees and forests, and how to sustain the trees in the forest.” “I learned how to analyze data by using the Kite Model and learned more about the forests.” “I learned to understand the causes and effects of the deforestation problem and learned to use the Kite Model to analyze data.” “I learned about Kite Model, the usefulness of trees and forests, and social concepts of community.”

In responding to the question “how did you learn about it?” participants mostly said: “I learned from the speaker, materials, and through group work.” No one mentioned about learning through constructing their own understanding, but during the group work, they described how much their brains had been used by telling me and their group facilitators: “I felt my head getting very big now,” “My head is getting very heavy,” “I had never thought this hard before,” and “I need more tiger balm.” (Tiger balm is applied to one’s temple to ease a headache).

All participants responded to the question “How would you apply this learning experience in your classroom?” by saying that they would help their students learn to understand about the trees and forests in the same way as they had.

Segment Three: Implications for Teaching

This segment focused on the application of knowledge and experience from the earlier two segments to classroom teaching and learning. During this five day period, participants worked in groups with colleagues from their schools and school clusters. The plan was for each group to work and plan together in order to form a learning community.

In the first morning session, participants in each group reflected on the experience of doing a community field study, using the Kite Model to analyze environmental problems, and other new knowledge about science, forestry, and other social concepts. Then each group was asked to think about the learning process that they would organize for students in their

classroom for the coming semester and to present these plans to the whole group. In their presentation, each group discussed similarities and differences in their own learning experiences and in the ones they were planning for their students. All presentations resulted in similar activities:

Example of a group work by primary school teachers on how to help students do field study:

1. Data gathering
 - Divide students into groups
 - Develop questions
 - Go to the village to interview villagers (several times)
2. Data analysis
 - Categorize data gathered from the field
 - Examine relationship among categories to see the problems
 - Prioritize problems
3. Solving the problems: - Study ways to solve the problems.

Groups at the secondary level had similar process of doing the field study. The only difference between these two levels was the knowledge base before doing a field study.

While the group from primary education focused on having students design their own learning, the secondary group emphasized helping students learn key concepts such as RRA, the Kite Model, and social forestry, science, and social science concepts before letting them go into the village. All group again presented similar ideas about the differences and similarities of their own activities and students' such as "The procure and process of doing field work will be pretty much the same. The differences will have to do with the level of complexity that fits with student age and capacity."

After each group had a chance to present and listen to the work of other groups, they were asked to rethink and make changes, if needed, on the process they would use for student learning, the activities they would use for each step in their revised learning process and then

to present their plans again to the whole group.

In the afternoon session, a member of team A introduced participants to the project's teaching and learning model called the Mercedes model. Participants were asked to compare the field study and other learning experiences of the workshop with the Mercedes model and think how their learning experiences fit this model. At this time, it was hoped that participants would gain more understanding about how learning had occurred within the three parts cycle of the Mercedes model. Then they engaged in a concept mapping activity as a way to practice analyzing the learning process of this model. The organizer put up a large poster about the river that passed through the field. The picture demonstrated the water stream that affected the river bank and caused soil erosion. Then participants, in groups, were asked to perform two tasks: 1) explain what happened in the picture through a concept map and 2) to explain this activity in term of the Mercedes model. Groups presented their ideas that evening.

On Day Eleven, participants spent the morning session analyzing a case of teaching. The organizing team had prepared an example of a conventionally committed teacher teaching seventh grade students about "Our community." The case described a teacher who spent time preparing a task card for students and finding books for students to look up answers during the lesson. The case began with the teacher giving students, in groups, a task card that asked students to find information from the books to answer the following questions: 1) What is the community like? 2) What kind of administrative structure exists in this community? 3) What are the local traditions or culture of this community? The teacher gave students 30 minutes to look for the answers in book that she gave to them. After that each group reported their findings. The case also described how the teacher monitored the students, work by suggesting some other books in the library for students to look for more information.

Participants, in response to this case, were asked to work in their groups on questions 1-4, and write individually on question 5 as follows:

1. What kind of knowledge did the students get from this activity?
2. What role does the teacher play in this lesson?
3. What roles do students play in this lesson?
4. How would you characterize this kind of teaching?
5. What do you think about this teaching? Do you think it needs to change? If so, what kind of changes would you suggest to this teacher?

Each participant was encouraged to respond to question 5 from his/her own real life position. For example, a teacher might make suggestions to the teacher as a friend or the principal as the leader of his/her staff. In their presentations at the end, all groups thought that students in this case received knowledge from textbooks. The role that the teacher played was giving orders to students to find information from the book and the students' role was to look for information from the book, copy it and report to the class. In response to question five, most participants suggested the field study in the nearby community as a place for learning about "Our Community" and more attention to group work in the learning process. The assignments from Day ten and this assignment provided participants the opportunity to look back on their workshop learning experience and their own teaching experience. It was hoped that these reflections would prepare approach in their own classrooms.

In the afternoon session, participants in each group were asked to think about how to apply the new case study teaching and learning approach and to outline a plan for a period of one semester. Participants presented their work that evening. During their planning time, group facilitators provided material about curriculum integration and curriculum analysis to each group to study before they developed and outline. The facilitators also provided support. One thing that the group facilitators were not allowed to do was to give answers. By the end of the evening session, each group had a draft outline for teaching a community case study in

the next semester.

Days Twelve and Thirteen were used to elaborate the outline, develop a new unit, and plan lessons for the new unit. The group facilitators stayed with specific groups. The workshop coordinators circulated to observe the group work and sometimes join in a group's discussion. Each group focused on the task and helped each other come up with ideas. Sometimes group members walked around to visit and listen to others' ideas. The principals also worked side by side with their teachers, helping them think about the new unit and the learning activity. One afternoon, principals met to talk about how they could help teachers start the new teaching approach and support them during their teaching. Each group presented their work in the afternoon session of day Thirteen. At the end, each participant received the final reflective writing assignment asking them to share their feelings and give feedback in response to the following questions:

- What did you learn from the workshop?
- What kind of change happened to you? Why? What caused the change?
- What did you like and dislike about the workshop?

On day Fourteen, the last day of the workshop, participants met to summarize the workshop experience. The group facilitator collected the reflective writing from participants. Following the summary, the Director of the Provincial Primary Education Office led the closing ceremony. All participants and organizers had lunch together before travelling back home.

Participants' response to segment three. The last segment seemed to many of the participants to be the most difficult one. The secondary participants spent a lot of time thinking about how to integrate science and social studies subjects in order to do a case study. In their presentation of their plans, secondary participants seemed to agree that the social studies teachers should coordinate the activities and the science teachers should integrate the

science lesson into community visits. The primary school participants spent more time thinking about how to integrate various units of the Life Experience curriculum into the community study. They came up with the idea of developing of a new unit “Our Community” and then sequencing the content in the unit to be learned. Primary school participants felt that they needed more time in the workshop. It turned out that fourteen days of the workshop was now too short for them as they said to me: “Why don’t you expand the workshop for another two days?”

Participants wrote about what they had learned starting from the beginning to the last segment of the workshop. Besides learning about how to do a community study, the Kite Model, and new concepts on science, forestry, and social concepts, participants now included learning about how to do concept mapping, the new teaching and learning model, and how to analyze the content the curriculum. They emphasized that group work was a way to learn in the third segment.

Through their oral comments on the last day of the workshop, most participants saw this workshop as the best they ever had been to. They thought they learned a lot in many different ways: from the real situation in the community, from sharing experiences among group members, etc. All of them said that they appreciated the warm climate of the workshop and that all supervisors seemed to care about them. They thought that they felt more committed to the project than before.

Participants all left the workshop with a good feeling and a better understanding of the project and the approach to teaching and learning that they were being asked to implement in their classrooms.

Within a fourteen-day period, project teachers had been provided new learning opportunities. First, they learned to conduct their own field study in a real community. Their expressions during and at the end of the session revealed their excitement of having a chance

to do their own learning in a new way. Besides a field trip it was the first time for many teachers to see how real life learning could be conducted. It gave teachers ideas about how to use the community as a resource for learning.

The second segment expanded teachers' views about content learning. Teachers used a written case to exercise their analytical thinking skills. Using the Kite Model to frame their analysis of the case, it also provided opportunities for teachers to see how individual content could be integrated in relation to a real problem. This experience also provided teachers a chance to learn content in a real context. Presentation of the Kite Model at the end of the session and the lecture on forestry concepts that concentrated on the real situation introduced teachers to a different way of learning content in a more meaningful way. The participants said as described at the end of segment two: "I learned to look at trees in new ways. I have never thought that trees were very important. Now I understand why we need to protect trees and forests. I will teach my students to realize this too." This statement demonstrated that, in addition to learning new content this way, these experiences also increased their awareness and commitment to solving the problem of deforestation.

Segment three encouraged participants to reflect on their own learning experience in order to organize similar learning activities for their students. Presenting the Mercedes model helped teachers look deeper into the learning cycle to understand that learning did not occur only through receiving information. There were more processes that students needed to work on to construct and come up with their own learning. Also there were learning activities that teachers could organize to support this learning. Throughout the last segment, teachers were provided the opportunities to work with their colleagues to start their own network or working group when they were back to school.

The design of the new staff development model emphasized the teacher as a learner, and the importance of long-term and continuing change in teacher practice. The participants'

reaction in their writings were too short to precisely reveal their learning. However, their comments reflected some of their views on what they had been doing for most of their lives. Moreover, short answers could also reflect an unclear view of the person as well. Generally, one could look at the fourteen-day workshop as a successful case in helping teachers learn in a new way with new understanding of content and the learning process.

The next step was for teachers to organize similar learning experiences for students in their own schools. The fourteen-day workshop did its best to provide teachers a first-hand learning experience using the same approach that teachers would later be expected to provide their students. It modeled the new way of teaching content knowledge and provided the opportunity for teachers to begin working together.

The next chapter presents how teachers used this learning experience to teach their students during the first pilot term implementation. This includes the kind of problems teachers faced and how teachers were helped to solve those problems.

Chapter 4

The Follow-up Activities

The Follow-up Activities Program

The follow-up activities originated from a concern that providing only an intensive workshop would not be enough to help teachers learn to implement a challenging new approach to teaching and learning. As a supervisor, when I visited schools and met with teachers, I often heard them give reasons why they could not apply what they have learned in workshops about teaching and learning activities in their own classrooms:

Teacher One: “I tried it, but I don’t think it worked for my students.”

Teacher Two: “I thought I understood the procedure but when I organized it for my students, I got stuck.”

Teacher Three: “The example of teaching used in the workshop was so clear to me at the time, but when I tried it in my classroom, it did not turn out the same way and I don’t know why”

After leaving a workshop, many Thai teachers actually try to implement new teaching and learning activities in their classroom, but within a short period of time, they return to strategies that they used before. The reasons for discontinuing the new activities may vary, but all reflect the isolation and self-dependence facing teacher as they try to make changes in their practice. Moreover, the comments suggest limits to the traditional approach to in-service training that presents information to teachers about new activities (using examples and sometimes practices) and then expects teachers, when they go back to their schools, to follow these steps.

Generally in Thailand teachers attend workshops and pay careful attention to all the activities recommended in the workshop or in the teachers’ guide distributed during the workshop. Once in a while, supervisors come to schools to check on implementation. The “follow-up” team will walk by classrooms to see if teachers have set up their classes according to the teachers’ guide, or if students are working on the new set of materials that came with that particular curriculum. Supervisors generally bring along a questionnaire or a checklist to be filled

out by teachers. If any questions are raised during this visit about why teachers did not organize the suggested activities, the lack of materials and shortage of time are the common answers. No one really tries to find the real cause that prevented teachers from making major changes in their teaching. No one pays attention to what teachers are learning in and from their practice.

Many curriculum reformers claim that school learning is too remote from “real life.” Many teaching strategies and learning materials have been produced to promote real life learning. However, none of the materials and supplies takes into account the need for teachers to experience “real life learning” in their own classroom setting, which means learning from their own practice and learning with and from their colleagues.

In learning to change their practice, teachers need someone to talk with, to ask questions of, to share experiences with, and to get feedback from. The SFEP project took these concerns seriously by designing follow-up activities to help teachers learn things they could not learn from the workshop or from reading the teachers’ manuals. The follow-up activities emphasized two contexts for teacher learning (1) learning through one’s own practice, and (2) learning with and from colleagues. The project designed three activities to support these kinds of learning: (1) one-on-one supervision; (2) weekly or monthly teacher meetings; and (3) an end of each term seminar.

One-on-one supervision. One-on-one supervision was designed to help teachers learn from their own practice. It was also hoped that, by using a different approach to supervisory work, the project could help teachers change their practice more effectively. Instead of the usual inspection approach, the project encouraged supervisors to focus on teachers’ teaching as a way to help them learn to assess their own work. Supervisors were to observe a teacher teaching and then hold a conference with the teacher about that lesson. During the conference, supervisors were supposed to ask questions that would help teachers critically review their teaching to clarify why they did certain activities, for what purpose, and what they thought the effects were on students learning. Supervisors were to understand and recognize that both they and the teachers

were learners. Supervisors would learn from the teachers trying to enact the new approach, while teachers would learn how to reflect on their own teaching through their interaction with supervisors. Asking such questions would help teachers clarify the reasons for particular teaching strategies and compare their purposes with what really happened in that lesson according to student learning. In addition, the supervisors were supposed to encourage teachers to think of ways to overcome particular problems they encountered. This one-on-one supervision would allow the supervisor to see the relationship between theoretical content knowledge and practical knowledge. Such learning experiences, it was hoped, would help supervisors design more appropriate supportive activities for teachers under their responsibility. The conference would give teachers a chance to reflect on their own teaching, discuss their concerns, and ask for clarification.

I supervised five teachers and also helped other supervisors work with the rest of the project's primary school teachers. One-on-one supervisory work was most active during the first pilot term. It varied from term to term during the rest of the project, in part because of the heavy workload of the supervisors. This circumstance led to a series of dilemmas and questions about supervisory work.

Teacher meetings. This activity was designed to encourage teachers to learn with and from colleagues. In Thailand, public primary schools are located throughout the country. Having teachers come to district offices for help or support is difficult. Having district supervisors visit schools and work intensively with teachers regularly is impossible because of the number of supervisors and the workload that they carry. Therefore, encouraging teachers to share and learn from each other is a promising way to promote teacher learning in their own setting. Hence, the SFEP project designed teacher meetings to create and foster collegial learning among teachers.

During the first pilot term, project teachers in the same geographical area attended meetings regularly every week to share what they had done in their classrooms and to plan next

activities. By having teachers share their experiences with the new teaching and learning approach, the project hoped that teachers would begin to learn how to use reflection and feedback to see the strengths and weaknesses of their own teachings, and how to help each other with problems that arose in practice. The hope was that sharing experiences would create the conditions for an ongoing professional learning community.

Seminar at the end of each term. The SFEP project did not provide teachers with finished lesson plans. Rather it encouraged them to develop their own lesson plans to fit their students and community circumstances. The project organized end-of-term seminars for project teachers to share experiences and to develop lesson plans for the following term. These seminars generally took place before the start of the next semester. This activity enabled teachers to learn with and from a boarder group of colleagues. It had the following objectives:

- 1) To promote sharing among teachers from the same and different sites and levels. Those at the same level would have a chance to learn from teachers in other provinces. Primary school teachers would have a chance to visualize what their students would be doing at the secondary level. Secondary teachers would have a chance to understand what kinds of experiences students would have before attending secondary school. These experiences would help all teachers design and organize more appropriate learning activities for their students.
- 2) To clarify confusing concepts as well as to learn new concepts that would help teachers organize more effective student learning activities.
- 3) To enable teachers to work collaboratively on plans for the next semester.

Each seminar lasted 3-5 days and combined workshop learning and general sharing. Generally a seminar had four parts: sharing experiences for that term, reviewing concepts in use, learning new concepts, and planning for the next term's lesson plans. In preparing for the end of term seminar, each project teacher had to look back over his or her own teaching and learning, share what was learned with colleagues in the same geographical area, and present their ideas at the seminar in a group setting for project teachers from the other province. Project teachers left each seminar with a draft of next term's lesson plans that would need to be fleshed out in more detail at their school.

Within the three main activities of the follow-up support system, the one-on-one supervision and the teacher meetings took place in the context of the teachers' own practice while the end of term seminars occurred separately as workshop. This chapter focuses on the learning experiences in the context of one-on-one supervision and group conversations during teacher meetings. The stories of teachers working with a supervisor in a one-on-one context provide examples of how teacher learning could occur in the context of teaching and how supervisors helped teacher learning. Following the stories of teachers will be teacher comments about what they learned and how their views toward supervisors and colleagues changed as a result of this learning.

Learning In and From Practice

During the fourteen day workshop teachers had the same learning experiences they would later offer their students. This helped teachers understand what this kind of learning was like and how new knowledge was constructed. The experience also helped teachers begin to see how to organize such learning activities for students in their own classroom. The teachers even drafted lesson plans during the workshop. During the first pilot term, project teachers adapted their own learning experience to their teaching. During that time, a follow-up support system was developed to help teachers continue developing their practice.

The following statement by a project teacher acknowledges the unique and complementary roles played by the workshop and follow-up support:

When a supervisor came to our school, before the project started, and told us about this new teaching and learning, I could not understand at all what it was all about. The supervisor told us that we would understand more after we attended the workshop. When I attended the 14-day workshop, I said to myself now I know what this is all about, and how this kind of teaching is organized. But I just knew it at the surface level, not deep in detail. Now that I put it into my teaching with my students and have you come to my class to watch and talk to me. I think it helped me to really understand this kind of teaching and learning a lot deeper. (Ms. Busaba, 12/22/93)

The teacher's statement above demonstrates the different level of understanding about this new teaching approach that emerged from this learning experience. Such an understanding started from just listening to the supervisor about a new kind of teaching and learning. This did not help the teacher to develop an idea of what it looked like. By experiencing first hand this kind of learning, the teacher was better able to visualize what this kind of teaching looked like. Finally when the teacher adapted her learning experience to her own teaching, this helped her understand in the context of her practice what this kind of teaching looks like, how it takes place in the classroom and what happens to the students. The teacher, however, mentions in her statement that her learning did not just occur by itself. The last part of the statement describes the role of a supervisor in helping the teacher to deepen her understanding of this kind of teaching.

This section focuses on teacher learning in the context of practice. It describes how the two formats of the following-up activities, one-on-one supervision and teacher meetings, supported the learning of teachers to implement this new teaching approach. The description of teacher learning that takes place in these two formats is based on my own supervisory work.

During the first pilot term, teachers who attended the workshop develop a new unit "Our Community" as part of the life Experience curriculum. The new unit required students to gather data from villagers and then use that data to write a story about their own community. Students were supposed to spend time in the village observing, interviewing villagers, and making sense of the information in order to write a full report. In organizing these activities, project teachers were supposed to prepare students before going into the village, supervise them during their field work, and support students during their review of the data and their writing. Every teacher was supposed to follow the same procedure for preparing students to do field study: developing questions to ask villagers, setting group rules, dividing up responsibilities, and identifying informants. When students were ready to go into the village, the teachers were supposed to follow them to observe and help in their fieldwork. When students came back to class to make

sense of the data and to write a report, the teachers were supposed to help students while they worked in their groups. During this time, the supervisors were to help teachers analyze and modify their teaching.

As a supervisor during the first pilot term, I worked closely with individual teachers. I also organized weekly teacher meetings. In addition I met other supervisors to talk about our work with teachers and to plan for the teacher meeting, which would be held in the afternoon. I also went to the other project site to help local supervisors there organize similar teacher meetings. Working with teachers one-on-one and in groups, I identified three main problems facing teachers.

1. How to help students conduct fieldwork
2. How to help students analyze their data
3. How to plan next lessons

Among the five teachers that I worked with during the first pilot term, I was able to spend more time with four teachers. The other teacher, Mr. Sattrra had a schedule that prevented us from having enough time to discuss activities in detail. Therefore in describing my one-on-one supervisory work, I presented only my work with four teachers that I worked closely with. Below, I describe and discuss each problem area using data from my supervisory work with these teachers during the first pilot term and from exit interviews with those teachers at the end of the pilot phase of the project.

Four stories focus on helping students learn in the field. Two stories describe the problems teachers encounter in helping students analyze field data. And two stories elaborate on challenges teachers face in planning future lessons. Together these stories illustrate the kinds of issues teachers need to work on and the ways that meetings with a supervisor and with other teachers improve their teaching.

Learning to Help Students Conduct Fieldwork

As a supervisor, I went into the village with teachers to observe students conducting fieldwork and to look for issues to talk about during our conferences. The following stories from my work with four teachers illustrate the kinds of problems that we discussed.

Making Field study a Learning Experience for All Students

On November 29th 1993 , I observed Mr. Pachern's fifth grade class gather data in the field and then come back to class to analyze and report the findings. I observed two groups of students interviewing villagers in the field. Both groups followed the same procedures. One student was a secretary and had paper for writing the answers, another student had a list of questions to ask villagers, and the others just sat there listening. One of the listeners told me that he would do the report later in class. It seemed that both groups had given a clear role to each member. I wondered what the teacher thought of this process in terms of what he expected students to learn. Therefore I brought this issue to our conference.

Supervisor: In this lesson, you had students prepare the questions, set up the rule for the groups, plan a visit to the village, interview villagers, and come back to report the class. When do you think students learned from activities?

Teacher: They learned more about the village, learned to be more confident in asking questions of adults.

supervisor: Anything else?

Teacher: Learned more about doing a field study.

Supervisor: Ok. What did they learn and what skills did they develop from doing a field study?

Teacher: They learned to improve their interview skills, questioning skills.

Supervisor: Anything else?

Teacher: Learned to see the real life of the village from the real setting.

Supervisor: The reason why I asked this is because when we were watching students interview villagers, student divided the work by having one person take notes, one person ask questions, another person

do the report, and the other just listened. What do you think of this?

Teacher: The children did not complain about anybody not helping during group work. I think they knew who would do what assignments.

Supervisor: You're right, they all tried to do what their group assigned them, which is good. But what I saw today looked like this. One student was busy taking notes while the other one concentrated on asking questions. The rest of the members sat there listening to villagers. Among the listeners, one of them would read the report later. Do you think the listeners really concentrated on what the villagers were saying? If not, what do you think they would learn from sitting there? So could you tell me how each student could develop their interview skills like you wanted them to learn?

Teacher: They may not have a chance to practice, but I have a plan to have them write an essay about a history of my village. So by that time, I will now really paid attention to the fieldwork.

Supervisor: The point is you just said that the activities of having students gather data from villagers would provide opportunities for students to develop several capacities and skills.

Teacher: Yes I did.

Supervisor: Let me give you some examples. If students are going to develop the capacity of asking questions of adults, then all students should have a chance to ask questions to be able to know that they can really do it. About taking notes, if students did not write it down when listening to villagers, they wouldn't have a chance to practice, to really see themselves doing it and to know how to improve their capacity. Moreover, students, who were not assigned to ask questions or to take notes, would think I don't have to really pay attention to what the villagers said. And the student who was going to do the report may think that my duty is to read the report later, so I don't really need to listen.

Teacher: (With a little laugh) That may be right too.

Supervisor: On the other hand, if everybody helps write information, then they would be more careful and concentrate more on listening. And when they go back to class, each could share the information in the group and this could contribute to a more detailed report. What your students have done could work well, if you are sure that each member of the group rotates functions, so everybody has a chance to practice each task. Otherwise, you should encourage students to help each other asking and writing the information.

Teacher: I think you're right. At the time, I was only concerned that each group had divided the work among all members. I did not think that far ahead of the consequences. This is a good idea. It helped me think through the process. I agree that every student should make notes so it makes them also stick to the interview. This is good.

Supervisor: You can use several strategies. The point here is making clear your objective about what do you want students to learn. Then make sure that the activities you plan really support the student learning

Teacher: Yes I will, this is good, this is useful.

On November 30th 1993, I went with another teacher, Mr. Pornchai, to observe how his students conducted their interviews and how the teacher helped them. I noticed that in one group one girl took all the notes, while another boy, who seemed to be the chairperson of the group, held a list of questions in his hand and did most of the questioning. The other members just listened and watched their friends do the work. At one point the teacher asked the watchers to help in asking questions and one boy said that his duty was to report. The teacher said to the group that they should all ask questions. Observing that situation, I was curious to understand what the teacher thought about that group and how he assumed his students would learn from this activity. So I brought the issue in our conference.

Supervisor: What did you think students would learn in interviewing the villagers and what skills were they practicing?

Teacher: I think they learned a lot this morning when they listened to the villagers and I think the students had a chance to practice speaking and to be good listeners.

Supervisor: I think you're right. Let's take group 2 that we observed. How many of them do you think had chance to practice those skills?

Teacher: (In a laughing voice) Well, probably about 2-3 students who did ask questions who could practice speaking. However, I think the others will practice during the reporting activity.

Supervisor: Is speaking in the interview and reporting the same or different?

Teacher: It's different, reporting is just like reading and asking questions during the interview is not reading.

- Supervisor: So, how could the reporter have a chance to practice speaking besides reading?
- Teacher: Yes, you're right.
- Supervisor: besides listening and speaking, are there other things that the students learned?
- Teacher: (laughing) Writing...Taking notes.
- Supervisor: You see! It's all related. Taking notes requires students to listen carefully to try to understand the message before writing it down in their own words. If you don't make notes for yourself, how could you remember who gave what information to you? Moreover, having students all take their own notes will give you a chance to follow their work and to know their capacities in doing interviews too, right?
- Teacher: Yes that's right. I'd never thought about that. Thank you very much.

The teacher said at the end of the conference that he now saw the usefulness of my observation and conferences with him and that he felt more comfortable talking to me and was not so afraid of being observed any more. He said to me "You are like a mirror to me to help me see myself and my teacher."

Analysis of the Two Stories. These two stories describe similar activities of the teachers as they followed students into the village to observe how they conducted their interviews. In my conferences with Mr. Pachern and Mr. Pornchai, my goal was to try to help the teachers make this a learning experience for all students. First, I wanted to clarify the purposes of interviewing villagers and what that could contribute to student learning. Second, I wanted to understand how the teachers looked at what was happening in the group work during the interview. Third, I wanted to help the teachers see the relationship between learning objectives and learning activities, and their effects on students.

I saw that students did not realize how to divide tasks to maximize participation and contribution from group members. Students seemed to realize that, before going into a village, they need to have questions to ask villagers, and to listen and take notes on what was said during

the interview so that later they could write a report in class. So they divide the responsibility to cover all the required tasks and they thought they had done their best. I was wondering what teachers thought about this approach to group work. I wanted to understand their point of view, so that I could start from where they were in their thinking. So I started with the question “What do you think students learned from the interview activity?” I wanted teachers to think about the goal of organizing the interview activity for students. It seemed clear to me that both teachers understood the value of having students gather data to learn about the community. In the process students would be able to develop skills necessary for this kind of learning; however, I did not hear yet how that learning would occur.

So my next inquiry was to understand how the teachers thought about what students had done in relation to what students would learn. I used the real action of one group as a basis for exploring this. In addition, I asked the teachers to think about how each student could have a chance to develop particular skills.

Both teachers had allowed each group to divide up the roles, set the group rules, and make plans to go into the village. They made sure that students had their questions and had identified whom they wanted to interview. This told me that the teachers paid more attention to group tasks than the group process and did not think enough about the learning opportunities for individual students. I wanted teachers to be able to justify the relationship between their goals and what students would be learning. Using examples from actual group work helped teachers realize what really happened and enabled them to discover how the activity might have to be modified to achieve their learning goals.

By asking questions about what happened in the field and using real examples to discuss, I hoped to make the teachers feel more comfortable in expressing their ideas. First, they could say some positive things about the field study. And secondary, they could look back again at the situation with less stress and more concentration. I invited them to become students of their own

teaching which no one had introduced to them before. Mr. Pornchai reflected his feeling of being able to study himself by saying: “You are like a mirror to me.” He expressed how clearly he had seen himself and how my questions had helped to make that happened . Mr. Pachern also began to see some value in having a supervisor watching his teaching and talking to him afterwards.

It seemed clear that the two teachers knew how to organize the activity, but they did not know how to enhance student learning. At the end of that week I brought the issue of group work to the teacher meeting. It was the second meeting after teachers started using this new approach. Normally, the meeting had three agendas: sharing what they had done in that week, discussing specific problems that occurred in their teaching, and planning more detailed lessons.

There were approximately seventeen participants, including ten project teachers, three principals, four team A members (three local supervisors and one academic cluster teacher) and myself. During the second part of the meeting, I asked Mr. Pachern and Mr. Pornchai to share their experiences helping students working in the field. Then I had other project teachers compare what they had done with their classes. At last I opened our discussion to how to make the fieldwork more effective. The discussion took place in a participatory environment. Teachers shared their own experiences. They talked about their teaching and what happened to students. This sharing led teachers to form a new relationship with their colleagues, as one of the teachers noted.

Usually I only can think this much. But when I listen to other colleague teachers, I am able to expand my view. Something that I have not thought about but I heard my friend talk about is something I can add into my collection. Something that I already did but I was not too satisfied about, I got some ideas from the meeting to help me solve that problem. This meeting encouraged me to be more active in improving my teaching. (Ms. Busaba 12/2/98)

Helping Students Ask Clear Questions

On December 14th, 1993, Mr. Bumroong had students go to the village for the second time to find information about occupations. The teacher spent a few minutes emphasizing that everybody needed to help the group ask questions and all groups had one and half hours to

gather data. The teacher followed two groups of students to observe and supervise their work. When all groups got back, the teacher asked them to review their data and prepare to report to class.

I went with Mr. Bumroong to observe the students. The first group went to interview an old man who was known as a user consecrated water for treatment. Mr. Bumroong listened carefully to the interview and encouraged group members to ask questions. Students asked questions such as: “How long have you been doing your occupation?” “what did you learn to do this work?” and “Why do you like to do this work?” At one point, one student asked the old man “Have you thought about developing this work?” The old man did not respond but turned to the teacher and asked “What did the student say?” Mr. Bumroong then said, “What do you think about transferring this knowledge and career to your children?” “Can you tell us how you are going to do that?” After the old man replied, the group leader concluded the interview by expressing their appreciation and left the house.

As I watched Mr. Bumroong help his students by asking a new question, I wondered whether the teacher and students really understood the meaning of the word “development” in this context, and whether the teacher thought about this students’ understanding of this world. In Thai, the word “development” is used in a more academic or technical context rather than in daily life. Moreover, in the context of developing one’s career or a private occupation, it means “making changes in something in order to make it better or to improve the work.” Students would need to ask about this for other occupations as well. What the teacher asked to the old man still did not help the students get information about how the old man thought about improving his work. Therefore, during our conference after the lesson, I brought this issue up to discuss with the teacher in order to help him consider more appropriate uses of this word. The following is part of our conversation.

- Supervisor: When a student asked the old man if he wanted to develop his work, the villager seemed to have trouble understanding the word “develop.” Do you think students also understand this word?
- Teacher: I think students understand but the interviewee did not understand. Students used a direct technical word so the villager could not get it.
- Supervisor: So how would you help students change their question? If they don’t use the word “development,” what should they use instead?
- Teacher: (pause)... If it related to income...(another pause)
- Supervisor: OK, the old man’s occupation is making consecrated water. What would he say if students asked him about developing his work?
- Teacher: Students won’t get the answer.
- Supervisor: Right, because the old man did not understand. Let’s think for a minute, if we don’t use the word development, what word should we use?
- Teacher: It depends on the career. For example regarding rice farming, if students asked farmers how they would develop their rice farming work, students probably wouldn’t get an answer. I suggested to my students that they should use other words. For example ask how much rice they produced this year. Then ask the farmers if they want to produce more rice next year. If so, how would they do that? Is that what “development” means? Do you think it would work?
- Supervisor: That’s nice example. So, in other word could we say that the word “development” means to make changes in order to make it better, or bring about improvement?
- Teacher: Yes. That’s right.
- Supervisor: Now, let’s go back to the old man again. Do you think if ask him if he thought about improving the way of making consecrated water and how he would do it, would he be able to give an answer to students?
- Teacher: I think so. Right. It also depends on different occupations as well. I will make sure that my students understand this word and will discuss the use of a more typical language.

Analysis. In the above conversation, I set my agenda to discuss with Mr. Bumroong the meaning of the word “development” I wanted to know if he understood this word in the context of occupations. Moreover, I wanted to know if students understood this word. It is important for teachers to understand the words being used in students’ questions or to organize a problematic

word, so they can help students change their wording before interviewing villagers. I started by focusing directly on the old man and his difficulty in understanding the word “development” and asked if students also understood this word. Mr. Bumroong thought that students understood the word but did not know how to put it in a different way. To Mr. Bumroong, the word “development” is understandable to the younger generation. I tested the teacher’s understanding by asking him to use another word instead of “development.” Mr. Bumroong himself seemed to have a problem finding the right word. From his answer using the example of farming work, I began to understand that Mr. Bumroong has some sense of the word “development” and probably used this word more in other careers beside this particular local , traditional career that the old man was doing. To avoid causing the teacher any discomfort, I decided to clarify the word “development,” shared my ideas for the new question, and asked this opinion.

Examining the conversation, I found that at first the teacher felt some resistance in admitting that he and his students were unclear about the meaning of “development.” After being asked to put it in other terms and other careers, Mr. Bumroong began to realize that he might not have a clear understanding of this word. Our conversation reduced his resistance. As a result, the teacher clarified the word “development” and thought more about his role in helping students frame clear questions.

Further Consultations on Student Questions

On December 14th, 1993, I observed Ms. Busaba’s as she taught sixth grade students. In this lesson, the teacher had students make a second visit to the village to gather more information about occupations and then come back to report to class. Before letting students out of the classroom, the teacher reminded students that the language used in the questions needed to be simple enough for villagers to understand. She also encouraged students to use the local northern dialect in asking questions to help the villagers understand them better. Then she asked if anymore would like to share their new or revised questions. Nobody responded and teacher let

the class go to the village. The students spent one and a half hours in the field. When they came back to class, the teacher asked each group to assess their own work and report their findings to class. At the end, the teacher complimented each group on improving their performance and the work of their groups.

As I watched Ms. Busaba organize her teaching, I saw two issues to discuss. Firstly, I noticed that the teacher recognized the problem about difficult language in students' questions. I wanted to know what word students had used that caused the problem and how the teacher helped her students overcome that problem. I wanted to know if Ms. Busaba had the same problem as Mr. Bumroong. I also wanted to be sure that the teacher, herself, understood that word. Secondly, I did not think that the teacher paid enough attention to students improving their questions. I wanted to know what the teacher thought about my concerns and whether she had any other plans to help students improve their questions so they could get better quality data.

I started by asking the teacher to tell me if students used technical terms in their questions which the villagers did not understand. Ms. Busaba gave this example:

A student asked a woman who is a farmer: "How would you develop your agricultural work?" I saw the woman's face become confused and she asked the student: "What did you say?" My student just repeated the question. So I told my students that probably the word "develop" is too technical for the villager to understand. We need to use another term. I gave them some examples. "How can you make more income from your farm?" or "Did you have any problem with growing rice?" and, "If so, how did you solve that problem?" or "How could you increase your rice production?"

Then the teacher turned to me and asked if I thought her examples made sense. From listening to the teacher, I thought she had a clear understanding of the word "development" at it is used in the context of occupations. So I gave her my feedback. I also raised my second concern. In the following part of our conversation, I helped the teacher think about how to help students improve their questions.

Supervisor: I think you're right. You see, sometimes when we ask people with too direct and technical words, they do not understand. Therefore, we need to go another way around. But to be able to do that, students need to have a clear understanding of the specific word for example, the meaning of the

word “development.” What does this word mean in the context of occupations? In general, it means to improve or make it better than it used to be. For some occupations, you may ask about the product, while for others, you might ask about the income or process. If students have a clear idea about the meaning of this word, they will be able to change the question around and finally get the information that they want.

What do you think?

Teacher: I agree. I think you are right. Do you have anything you want to suggest according to my teaching?

Supervisor: From my observation, I think students have improved their speaking and listening skills and gained more confidence. Now I think we should have students spend more time examining and analyzing their question. You see that they are now starting to ask more probing questions already. But their questions still do not quite get to the point. So what we need at this moment is to help them look at their questions more analytically. And this skill will be important for them to construct their own learning in their daily lives. What do you think?

Teacher: I think so, too. I think it is important that that students understand their questions.

Supervisor: That’s true. Students need to understand their questions. They need to be able to categorize or group questions in the same category. So, there should be time provided for discussing on this issue. And this is where you as a teacher need to help them.

Teacher: What should I do?

Supervisor: As I watched you today, I came up with two alternatives that you could use to discuss with students to improve their questions. When the students were reporting out to the class, they talked about the questions they had asked and the information they got. One way to do this is to put that group’s question on the table and then discuss ways to make it clearer or how to improve it in order to get better answers. Or you can wait until all groups finish their reports then have one discussion at the end. If you do the second way, you probably have to write a lot of questions on the board. So what do you think?

Teacher: What I have done before was to ask each group to send their questions to me and I gave feedback to individual groups on how to improve their questions before reporting to the class. I told them that some of their questions were asking the same thing so they may need to combine them into one question.

Supervisor: That’s useful. The thing is how the other groups could learn from your comments so they could improve their own questions as well. So maybe you should list the questions that need to be improved from all groups and

discuss them with the class. The important thing is that to be able to get good quality data, students need to have clear and open questions. They need to be able to change their questions around to be more understandable. To be able to do that, students need time and help to discuss their understanding of the questions and to improve their questions before going into the village.

Teacher: Ok. I will try.

Supervisor: Very good and let me know if you want me to come and see how you do it, Ok!

Teacher: Sure, I will. Thank you very much.

Analysis. In my conference with Ms. Busaba, I had two objectives: to clarify a technical word, and to call the teacher's attention to the importance of helping students improve their questions. It turned out I only needed to work on my second objective because Ms. Busaba seemed to have a clear understanding of that particular technical word.

I thought Ms. Busaba had a clearer understanding of the meaning of "development" than Mr. Bumroong. So I moved to my second concern. I thought it was time for this teacher to pay more attention to the details of students' questions in order to get more quality data. Before this lesson, the teacher had too many worries about things that she wanted students to do in their village study. Now that she seemed more relaxed and less stressed, it was time to focus on more specific detail. My agenda was to get the teacher to spend more time helping students improve their questions.

To be able to do that, I thought the teacher had to see the benefit of good and clear questions for the quality of data gathered. I shared my belief with the teacher. The teacher realized the importance of good questions and of students understanding the question. At this point, I turned to the teacher's role in helping students improve their questions. During the last part of our conversation, Ms. Busaba invited me to tell her what to do. I was reluctant to do this. So I had her think about what she did during student reports and I provided two suggestions.

At the fourth teacher meeting, I asked Mr. Bumroong and Ms. Busaba to share their experiences of helping students clarify, articulate, and improve their questions.

These four stories illustrate how teachers were helped to refine their teaching by thinking about how to improve student learning in the field. Mr. Pachern saw that he needed to pay more attention to how students divided their fieldwork tasks in order for them to improve their interview skills. Mr. Pornchai also got clearer about what to look for in supervising students during the interview in process. Mr. Bumroong learned the importance of helping students clarify technical terms that might cause misunderstanding with the interviewee. Ms. Busaba learned ways to help students revise or improve their questions. None of this learning could have occurred if the teachers were not experimenting with this new teaching approach and analyzing what was happening with students with someone's help.

As a supervisor, my first goal was to help teachers make changes in their teaching based on reflections about their practice. My second goal was to encourage teachers to share and learn with and from each other. To be able to do that, I needed to know what was actually going on in the teachers' practice so I could connect with what they were doing and thinking to possibly stimulate improvements. I found myself playing several roles in order to make the learning happen. The first role was asking questions mostly aimed at uncovering teacher thinking and identification of problems. I also drew teachers' attention to specific aspects of their practice and/or to specific aspects of student work. I provided specific examples. I invited teachers to consider alternatives. Overall I engaged in telling, sharing, encouraging, and supporting. During teacher meetings, I mostly served as an organizer, listener, and stimulator of discussion.

Helping Students Analyze Their Data

In this learning area, the focus was on helping students work more effectively to make sense of data, write up a story, and report the findings. The stories below illustrate the problems that came up during these activities and how the teachers were helped to learn to address them.

Using All Group Members' Data to Write a Story

Mr. Pornchai had students write up their story about village history by integrating new information from the second visit to the field. Originally, he had asked the students to do this task as homework, but only two of the four groups finished their story. So the teacher gave the students an hour to finish up their work and asked the two groups that had already finished to reread their papers and try to fill in missing points. As I observed this activity, I wanted to see how students worked in groups and how they used information to write a story. The following event occurred during the lesson and became the basis for my conversation with the teacher.

I walked to Group 4 and looked at the story that they had already written.

It was very short compared to the questions and answers that the group members had in their notes so I asked them how they could make use of the left-out information to elaborate their story. The student who was the writer quickly took all notes from every member to check the left-out information. I encouraged her to have other members involved in the work, so she returned the notes to each member and had them take turns reading the answers while she checked the story to see if it already covered all the information. The work was then spread to each member equally so that everyone had the responsibility to re-examine their own data, to read it to the writer and to help by listening and checking other members' data.

I returned to the teacher and told him what I had done. The teacher said he thought that it was a good idea. He went over to Group 1 and suggested that they checked all the notes to make sure that their story included everyone's information.

The teacher seemed worried that students were taking a long time to finish so he might not be able to complete the lesson as he had planned. I told him that writing always took a long time and that it was important to give the students enough time to write since this was a new experience of learning to express their understanding in a written form. They will get better and faster as time goes by.

I convinced him that the lesson could be flexible. We continued talking about how to help the students do the report. We thought that if the report seemed to be long, the teacher could encourage the students to have more than one reporter from each group.

During our conference after class, the teacher expressed his feelings about supervision:

"You know you really helped me a lot. You helped me to think of something that I had never thought of before. Sometimes I could not think about something, but talking to you I had a chance to look back and I was able to discover my weak point to be improved for my next lesson. I'd never thought about a supervisor this way before. Now I know that I can get help from them."

Analysis. This was my first time seeing students working in a group to write a report. I wanted to see what the students were doing in order to discuss the process with the teacher. I wanted to help the teacher improve the quality of the experience for all students. Therefore, I sat with one group to observe their work. I found myself suggesting to the group how to work with the data more effectively and how to increase participation from all group members. When I realized that my suggestions worked quite well with that group, I shared what I just did with the teacher. Telling him in detail what I did gave the teacher a more concrete idea of how group work could be structured to produce a fuller story. The teacher accepted the idea and passed it on to another group. He began to see the benefits of having a

supervisor in his classroom. By playing the role of assistant, I tried to reassure the teacher about his autonomy in the classroom. I wanted him to think of me as a colleague in his effort to learn to make changes in his teaching and I think it worked.

The teacher shared his concern that students were taking a long time writing a story. I tried to reassure him by saying that learning to do new things takes time and by encouraging him to be flexible. I was trying to convince and comfort the teacher by saying that it's ok to take a longer time for students to improve their writing. The last part of the discussion shows that there was no wall between us anymore as the teacher shared his new feelings about working with a supervisor. The teacher acknowledge that I had helped him reflect on and rethink an aspect of his teaching and discover a weakness that could be improved.

Giving More Effective Feedback

On December 22nd, 1993, I observed Mr. Pachern teaching a lesson in which students reported on information that each group had gathered about the family in the village. The class president chaired the session by asking each group to send a representative to do the report. When all groups finished, the class president called each group to send another member to give feedback on the other groups' reports. Most of the feedback was general and focused on the personality and clarity of the speaker. I wondered what the teacher wanted students to learn from this activity. Did students know in advance that they would give feedback to the other groups or was this a process that always happened with reports? Did the teacher think the activity accomplished his goal? So I raised these questions in our discussion.

Supervisor: Did students know that they have to give feedback about the other reports, or is this a usual activity to do after reporting?

Teacher: It is not so usually for this activity but it is not new for students. They did it before. For this time, I only told the class president to call for feedback after the report. The other students did not know that they would have to give feedback to others.

Supervisor: What do you think about letting students know in advance that they need to give feedback on the reports?

Teacher: Well the good thing for not letting them know is you will see a very natural response from students and how much attention they paid to the report. The weak thing is that students may not listen carefully enough to give good feedback. If they know about it beforehand, they probably will be more prepared.

Supervisor: This is my feeling. If you do not let students know in advance and then you ask them to give feedback, you probably want to assess how much attention students paid to the report.

Teacher: That's true.

Supervisor: Or, on the other hand, if you let students know that they will have to give feedback after the report, you encourage students to listen more carefully and practice trying to catch the main idea and think about it in order to provide feedback to others. So you can think about what it is that you want to get from this feedback-giving activity.

Teacher: This is interesting. I'd never thought of that before.

Supervisor: That's ok. Now you see, you have more than one alternative. So think about it next time when you have students report their work to the class. What is it that you want to come out of this activity? You, yourself, may want to know how far students went in gathering data. What about the students who listen to the report? What do you want them to get out of it? This is because each group has their own information. If you want each group to learn more from the other groups in the area that their group did not have information about, you may need to let them know what they should focus on. Or if you want them to give feedback on the content of the report, then you may need to ask them what the report was about. Then the feedback would be on the details of the report rather than the amount of information such as "This report had an appropriate amount of detail."

Teacher: Yes, students liked to say something very broad and general.

Supervisor: That means you need to be clear and specific in what you want students to work on and to learn about.

Teacher: Yes I think so.

Supervisor: The other thing is you should leave some time after each report for students to brainstorm their reactions to each specific group. Your assignment of giving feedback to the report was a very good idea. It required attention and concentration from the listeners. Moreover, it

encourages students to practice listening with a goal in mind. You see most students focused on performance when giving feedback. Now if you wanted them to pay attention to the content, you should say so.

Teacher: Ok. I will be more careful next time.

Supervisor: So, tell me how you feel.

Teacher: I'm glad you came to my class. I think this good. I learned so many things from you.

Analysis. In this lesson, Mr. Pachern was trying to make some changes in his teaching by having the class president be the organizer of the activities. (The teacher told me this at the beginning of the lesson). My agenda with Mr. Pachern was to find out what he wanted students to learn from these particular activities. Then my idea was to work with the teacher to improve such activities to promote better learning for students.

During the first part of our conversation, I had the teacher think about the results of my feedback and consider the pros and cons of letting or not letting students know in advance. The question required the teacher to assess the alternatives beyond what just happened with his students. I did not want to make the teacher feel so uncomfortable that he did not do the right thing, so I shared my opinion about the objective of the two different ways of doing this feedback-giving activity. By doing that, I compared the result of each way on students learning to give Mr. Pachern some ideas and an opportunity to examine and rethink his own purpose for doing this activity. The teacher, with his excited voice, said "This is interesting. I'd never thought of that," which told me that he began to see more clearly the benefit of letting students know in advance that they would have to give feedback to the report. Therefore, I took that opportunity to go into more detail about the feedback-giving activity. By asking questions to clarify teaching and learning objectives, and by providing information on teaching strategies, I helped Mr. Pachern learn to look more critically at his own teaching. At the end the teacher reassured me that he learned from our work.

Planning for Future Lessons

In addition to talking with teachers about the lesson I observed, we also discussed what teachers would be doing in the next lesson. I helped Mr. Bumroong think about connecting field data to the textbook and I helped Ms. Busaba think about uses of time in future lessons.

On December 15th, 1993, I observed Mr. Bumroong teaching a lesson on reporting field data about occupations in the village. During our conference, I asked him what he planned to do on the next lesson. Mr. Bumroong told me that his students had already gone to interview villagers twice about occupations in the village. So in the next lesson, he planned to have students learn about occupations in more detail by following the curriculum in Unit Five of the Life Experience subject. I was curious to know if the teacher thought about integrating field data on occupations from the village with the content in the textbook, and how he planned to do it. This is another step in developing teaching by connecting what was learned in a “real life” setting with content in the book and putting it in a broader picture. I was excited to have an opportunity to discuss this with teachers.

- Supervisor: Will you have students gather data about occupations from the village again tomorrow?
- Teacher: No. For tomorrow’s lesson, I will have them learn about occupations from the Life Experience book. It will be a classroom learning activity.
- Supervisor: That’s interesting. What will you plan to do?
- Teacher: Occupations are in Unit Five.
- Supervisor: What activity will you have students work on?
- Teacher: It will focus on the content of occupations that students need to learn from the textbook.
- Supervisor: Right. Could you also tell me how the content is delivered to students?
- Teacher (pause) Actually I haven’t really planned it yet.

Supervisor: That's all right. But do you think it will be helpful to talk about this plan?

Teacher: I think so.

Supervisor: Then let's plan together.

Teacher: Ok. I guess I will tell the objectives of learning about occupations, then tell the outline of the content, and then have students work in groups to study and summarize the content of occupations.

Supervisor: So the content is from the textbook, right?

Teacher: Yes it is in the textbook.

Supervisor: OK. Let me ask you something before you have students work on reading about occupations from the textbook. What will you do with occupational data that students already have from the village? Are you going to hold it for a while, then come back to it later?

Or, do you plan to connect it with what students will learn from the textbook tomorrow?

Teacher: I think I will try to connect field data to the textbook's content.

Supervisor: Ok, if you plan to connect it together, how would you do that? What would you say to your students at the beginning?

Teacher: Well, I will start with students' experiences by saying to them something like this "From having talked to villagers about occupations, we now know that there are several occupations that our village has and we also know that each occupation has some problems and how it has been solved. Then...(pause)"

Supervisor: Then you will have students looking for more information about other occupations in a broader aspect from the books, right?

Teacher: Sounds like that. You know it's like starting from what is closest to students and then going from that to a broader view.

Supervisor: This is very good, very interesting. Now let me ask you about students' field data. Do the students have a chance to learn from other groups how many occupations each group has data on?

Teacher: Not yet.

Supervisor: Do you plan to have them summarize the type of occupations that existed in the village before working on the next activity?

- Teacher: I think I will. I'm sure that students can summarize it easily because they have all seen it in their own village.
- Supervisor: I may have ask you many questions because I'm interested in learning how you connect what students learned from the field with the content in the textbook. And I think what you are doing now is exactly the aim of the curriculum.
- Teacher: I think tomorrow I will start like this, I will say to students: From the data you have gathered in the village what kind of occupations exist in our community? We will spend some time summarizing. Then I will say: Besides these occupations that we found in our village, there are also other kinds of occupations that we have in our country that someday we may have in our village too. So today we are going to find out about those occupations. Here are some books that will tell you about other occupations, so each group will help another study and summarize about the occupations that they found. What do you think?
- Supervisor: That's nice. See what you just did and will be doing in your class is exactly what the curriculum asks teachers to do. The curriculum wants you to teach students from something close to them in their real lives and connect it to a broader picture of the world. About the occupations, you used the village as the closest resource for students to learn about it and that makes sense to them since they saw it in their daily lives. Then you expanded their knowledge to more complex kinds of occupations in the country. So what do you think about that.
- Teacher: (smile) I think so.

Analysis. In the segment of our conversation, I took the teacher beyond what had happened in his lesson to what will happen in his next lesson. By doing this, I provided an opportunity for Mr. Bumroong to take another step in his learning from his own practice to planning for future practice. Instead of reflecting on his past teaching, the teacher imagined future teaching.

I asked Mr. Bumroong to tell about his plan for the next lesson. Since the teacher did not have a clear plan, I could play the role of a co-planner. The teacher tried to sketch out what he planned to do which seemed similar to the activity suggested in the teachers' manual. I was interested to see how the teacher was going to connect the field data with the content in the textbook, so I asked him if he had this idea in his plan. My question gave the teacher

some light through an unclear picture, so he started to find a way to connect the field work to what students would be doing with the textbook as he said “I will start with students’ experience by saying to them like...”. As a co-planner I helped connect the second part of his plan when I saw that he seemed to be stuck. Together, we were able to draft a more detailed plan.

To help the teacher make a more effective connection between the field data and the content in the textbook, I took the teacher back to where students were at the end of this lesson. I asked him whether students had a chance to summarize the field data with the whole class so they would have ideas about occupations in the village because I wanted him to get students ready to learn from the textbook by having a clear understanding of the field data. The teacher demonstrated his learning by revising what he would say to students at the beginning of the next lesson. This time his introduction was clear. I wanted to convince and at the same time comfort and encourage the teacher about his teaching. Therefore, I had him revisit the goal of the curriculum and showed him that his teaching really was at the heart of our present curriculum.

Ms. Busaba worried about finishing her teaching. In our conversation on December 22th, 1993, Ms. Busaba expressed concern because of the amount of time used in this kind of learning, she might not be able to finish every activity that she was supposed to do that term. I was glad that she brought up the issue about time because I was wondering how I could discuss it without making it sound like an order from the project. I was looking for the opportunity to discuss the use of time in relation to students learning, so I was happy that the issue was raised by the teacher. The following is a part of our conversation.

Supervisor: Now that you have been teaching this way for awhile, could you tell me how you feel about this kind of teaching?

Teacher: Well, I think it’s good. In my teaching, I usually play the main actress’ role. But now my students took that role from me in doing their own learning. At first, I was kind of worried that if students

learn in the village, what content would they learn? And how could they answer questions on a test that relies mostly on the textbook. But after I have done it, I began to see that this way of learning really provides a basic knowledge and skills for my students that I can always connect to what needs to learn from the book. That reduces my anxiety. Now what I still worry about is the time. I'm not sure that in the limited time we have left, I will be able to finish everything by the end of this term.

Supervisor: Ok. Let's talk about this. Tell me more what it is that you are worried about?

Teacher: See, students need a lot of time to gather data in the village, and there are two more topics that students need to learn from the village. At first, Bumroong and I had discussed how much time would be enough for our students to spend in the field to get appropriate data. Two times seemed less than enough, three times seemed ok but then we did not have that much time left. But if students only had two visits, they might not get enough data. So we ended up with having students make three visits to gather data about the topic of occupations.

Supervisor: That's very thoughtful and it is very important that you want your students to get most data for their learning. What you have done so far is excellent. And because it was the first time your students experienced learning this way, you really needed to spend a lot of time help them develop the skills necessary to learn this way. You also said and agree with you that students have improved their skills in many ways. You said they feel more confident talking to adults, they ask better questions, and work in a more participatory way with their group. So now don't you think they could go faster in gathering data?

Teacher: I guess so. Yes, it's possible.

Supervisor: Now, with the time that we have left, don't you think we should probably reduce our high expectations of the amount of detail that students would gather, and pay more attention to what students still need to know in order to write a full report about the village?

Teacher: Ok.

Supervisor: What you need, then, is to plan the lesson carefully. Can you think of anything you could do that would save time for the field study?

Teacher: How should I do? I guess you have to help me.

- Supervisor: Ok, I will give you an example. The next topic is about the social life of the village. Remember! Last time you told me that students wasted their time by going to see the villagers and it turned out that the interviewee was not home. One thing you can do to save time is to look for villagers that can provide good, clear, and understandable data to your students and arrange with them in advance to stay home at that particular time. In this way, your students do not have to walk around and wasting their time to find people.
- Teacher: But I think when students go out and find informants by themselves, it's good for them so they can learn on their own which person is good and which is not good, don't you think so?
- Supervisor: I definitely agree. It's good practice to let them discover informants by themselves. Now that we face the problem of too little time but too many activities to do, we should use all the time left in a way to maximize student learning. Another thing is that your students have had experience identifying informants by themselves from the earlier lessons and they also talk about this problem, right?
- Teacher: Right.
- Supervisor: So don't you think they already learned some lessons about this?
- Teacher: I think so.
- Supervisor: What about making a list with your students based on their experience and searching for more informants by yourself as well? And you could involve students in finalizing the list or making changes in the list when they have more information too.
- Teacher: Tell you the truth, I, myself, learned to know how well villagers could provide information from following my students in the field. If my students did not go to ask them I probably wouldn't know at all. Some people look good and smart but when they give an answer to students, it turned out they did not know anything.
- Supervisor: See, now you know what should you do in selecting valuable informants for your students. Another thing is we had talked earlier about having students spend more time getting clear on their questions before going to ask villagers so they get more valuable data and again it will save time too. So now there are at least two things that you could do to help students get more quality data in a limited time. What do you think if during the next topic, you have students spend two visits instead of three visits to the village with your well-prepared plan. Do you want to try?
- Teacher: Ok. Let's try.

Supervisor: The most important thing here is to make sure that students have a chance to improve their learning skills so they could use them to construct their own learning in their lives. So do not worry too much about the amount of data students get. As a teacher, you can always have them share their data and add more when you help them connect with the content in the textbook.

Analysis. In this connection with Ms. Busaba, I was already concerned about the time used in the field study and the expectation the teacher had for students in gathering data from the field. It was the teacher who brought up the problem She was worried about the limited time and the number of learning activities that students would have to do during this term. I made our discussion an occasion to plan for future activities.

Ms. Busaba described how she and her colleagues had decided on the number of field visits students should make for one topic. Her description reflected her habit of using a fixed structure. For Ms. Busaba, students need to get an appropriate amount of data in the field. Depending on student capacities, an adequate amount of time for them was three visits to the village. In fact, there were many ways for students to get the same amount of field data in more limited time. In this instance, I wanted the teacher to look at other alternatives that could help students spend less time and also be able to gather the same amount of field data. I wanted the teacher to be able to unpack the idea of students using a case study approach to learn about this village. I wanted the teacher to pay attention to helping students improve the process of gathering data rather than putting too much emphasis on the amount of data collected. The teacher needed to be able to see what kind and how much data was enough to understand the issue rather than just how much data was needed to produce a long report. Moreover, I wanted to unpack the idea of students learning by themselves with the teacher. I also wanted to work with the teacher in areas that needed to be improved. In her learning, I wanted to learn from her teaching in relation to what her students learned rather than providing new information about teaching strategies. Therefore in this particular conference, I proposed two areas for the teacher to work on: (1) helping students identify and make

arrangements with the villagers, and (2) providing time to improve the interview questions.

The first area allowed us to talk about what the teacher could do to help students reduce visits to useless informants and thus not waste their time. The conversation led us to talk about the teacher's role in providing opportunities for students to learn by themselves rather than letting students do whatever they wanted on their own. I was trying to help the teacher to see that there was a place for her, as a teacher, in her students' learning.

We had already discussed the problem of improving questions in our earlier conference in story Four. At that time I called the teacher's attention to have value of having clear, understandable questions to get higher quality answers. In this particular interaction, I related this to time management. I was able to encourage the teacher to try to improve her teaching in both areas.

When Ms. Busaba told me her feelings about this kind of teaching and learning, I realized that she was very positive toward this new approach. The fact that she shared her concerns about time told me that she felt closer and more comfortable with me. I realized that our relationship had gone beyond the trust building stage.

The Role of the Supervisor

As seen in the eight stories, my supervisory work with these four teachers allowed me to play several roles as I helped them analyze and develop their practice. In every situation, I asked questions, provided information, and solved problems. I also acted as a mirror, clarified language, served as a teacher assistant, provided demonstrations, and did co-planning. Each role emerged from the particular circumstance.

Looking across the eight stories, there are some common features that I focused on when working with these teachers. There were some important things teachers needed to work on. During the workshop teachers were at the beginning stage of learning how to do new things in their class. They went through the motions of doing all the new activities: making up the

questions, getting into groups, going into the field, asking their questions, and coming back to make sense of the data they had gathered. During the workshop, teachers experienced this new kind of learning when they returned to their own classrooms, they began to create new learning activities for students, giving them a chance to do things they had never done before. That was the first stage of trying something new. By having students do a field study by going out to the village, asking questions and reporting findings, teachers performed a role of having their students do what they had done at the workshop. The teacher, however, needed help to develop their thinking beyond just doing the activity. So all my work with these four teachers was about getting them to focus on the quality of the experiences students were having and the changes that they could make to increase such learning. In other words, I wanted teachers to focus on the relationship between their objectives and the activity provided to students. My goal was to help teachers get inside the activity, not just focus on external components. For example, in giving feedback to students during student reporting sessions, teachers often focused on such things as the voice not being loud enough or that the face should look straight ahead instead of to the side. These were surface issues.

In my work, I started where teachers were. So as we looked at surface activities, I tried to encourage them to figure out what they needed to do to make it more likely that students would learn the things they were supposed to learn. Teacher thinking on this issue reflected their roles as planner and instructor. In my work I also watched what happened and made adjustments based on what teachers needed in particular lessons. Therefore some of my work focused on improving planning while other discussions focused on how to help students improve their group work both in the field and in the classroom. This follow-up work of mine provided the kind of learning teachers could not get in the workshop. Until teachers tried these things, we (the teacher and I) could not talk about them. Once teachers started trying these things, we could then use particular examples from their practice and what their students were learning as the content for further

teacher development. All of our conversations and discussions during the conference were grounded in these specific things that were happening in a specific event.

The common theme of my work was to guide teachers by asking them to think about what they were doing or not doing. To think about what students were doing or not doing. Also I was helping them look below the surface of their teaching and student learning. I was encouraging them to think more about the relationship between what teachers and students were doing and what students were supposed to be learning. Looking below the surface showed that it was not enough to just go through the activities. This was a very important first step for teacher learning in practice.

All of this thinking would then lead to implications for what I needed to do with the teachers to make such learning happen. This part of my work in the follow-up activity demonstrated a kind of learning that teachers could not experience in the workshop. This kind of learning only could take place in and from their practice.

The stories illustrate issues that arose as teachers experienced a new approach to teaching. These issues would not have come up if teachers were not working with their students in new ways. The learning experiences took place with the help a supervisor in the context of one-on-one supervision.

What Teachers Said They Learned

This section focused on teacher reports about how their views changed as a result of local experimentation, one-on-one supervision, and group conversations. The statements emphasize two areas: (1) changing views toward supervisors and other teachers in the project and (2) what things teachers learned in their practice and how these were learned. Data come from the end of term exit interviews, final exit interviews, focus group interviews with teachers, and my own notes during my work as a supervisor and project coordinator. I used the comments of six teachers, five working with me and one working with the district supervisor, in this section.

Throughout the five terms, project teachers were encouraged to continue learning from their own teaching and from their colleagues; however, support activities such as one-on-one supervision and teacher meetings organized by supervisors were reduced in frequency. Supervisors did less classroom observation but continued to talk with teachers. During this time classroom observations were focused on specific lessons and on teachers who were in special need of assistance. Formal teacher meetings occurred less often during the second pilot term but increased dramatically during the third pilot term with a focus on developing and planning lessons. During the fourth and fifth pilot terms, however, formal teacher meetings declined sharply and changed their focus. During the first pilot term, teacher meetings emphasized sharing, solving problems, and planning. In the second and third pilot terms, teacher meetings were more used for lesson planning, while in the fourth and fifth pilot terms the meetings mostly focused on preparing for visitors. While the focus of formal meeting teachers had changed, teachers themselves, however, constructed their own communication and held some informal meetings with and without supervisors.

After the first pilot term, I went back to the Ministry to serve as project coordinator, leaving most of the supervisory work to district and provincial supervisors. One district supervisor, Mr. Preecha, put a lot of effort and time into meeting with the teachers. Even though he had other work during the day, he spent many evenings meeting with teachers. I worked closely with him during the first pilot term, demonstrating how I worked with teachers, sharing my opinions about this kind of learning discussing and clarifying concepts and problems with him. During the remaining pilot terms, I kept in close communication with Mr. Preecha by long distant telephone. Data from the teachers refers partly to my work, but mostly to Mr. Preecha's work with them. In this part, I describe and discuss what some teachers said they learned and how their attitudes toward supervision changed.

Changing Views Toward Supervisors and Colleagues

The follow-up support activities provided an opportunity for project teachers to work with their supervisors and other project teachers in new ways. The one-on-one supervision required the supervisor to establish a close working relationship with the teachers. The teacher meetings provided opportunities for project teachers to get to know their peers and form new relationship around professional development.

In general, school teachers do not have a chance to meet supervisors very often since supervisors seldom visit school. Most teachers meet district supervisors, although not very often, but they rarely meet the provincial supervisors and never any Ministry supervisors. When talking about why the supervisors came to their school, more teachers said they came as inspectors to check up on the school. The one-way communication between teachers and supervisors at all levels led to a distant and uncomfortable feeling on the part of the teachers. The following statement expresses the feeling this teacher had toward a Ministry supervisor like myself and toward the district supervisor as the beginning of the project and how she changed her view about supervisory work as we continued working together.

At the beginning I was so afraid of you. You came from the Ministry. Also I already had a negative picture of a supervisor in my mind that they mostly came to our school only to give orders or check on us. So at that time, you may recognize that I hardly came close to you. But after that, as we continued to meet on several occasions, I have to say that I really appreciated and was happy to work with you and the project.

In the past, I did not feel like sharing my problems with a district supervisor. I was afraid that he might think how dumb I am to raise such a silly question or problem. Or he might think how stupid I am for having been a teacher for many years but unable to solve such an easy problem. Those were my earlier thoughts. Now that I really know the district supervisor, I would not hesitate to consult and discuss with him on any issue (Ms. Busaba 4/18/97).

This statement shows what some teachers think about Ministry people. It also demonstrates that this view can change by closely working together. The statement also reflects on the teacher's uneasiness at asking questions of the district supervisor. It also demonstrates the strong feeling of "losing face" that prevented her from consulting a supervisor. This feeling of

“losing face” is part of Thai culture and especially in the teaching career. It leads teachers to stop students from asking questions because they are afraid that they will not be able to answer.

Working closely with teachers in one-on-one context provided an opportunity for the supervisors to build trust and develop informal contact. Again, close work helped the teacher change her views.

The next statement also suggests that one-on-one supervisory work can alter the teachers’ view of supervisors and lead them to be more active in seeking their help.

In the past, I did not really know the supervisor. I would rather escape from meeting with them when they came to our school. Having met the supervisors in this project, my feelings toward them totally changed. Now, if the supervisor did not come to our school, I would go to find him instead. Our relationship with project supervisors turned out to be looser and more meaningful. (Mr. Bumpen 4/18/97)

The one-on-one supervision provided an opportunity to break the wall of ice between supervisors and teachers, as the statement above described. The feelings toward supervisors changed from a person you need to stay away to a person that you can always count on for help. The statement below also demonstrates this same point.

The supervisor played an important role in helping me implement this new approach to teaching. This is because the project did not tell us everything we needed to do. So we have to think how to do it by ourselves. I thought of myself as having blurry eyes, not really blind. I could only see roughly the direction but I was not sure that I walked on the right street. However, the supervisor was right there to keep me company. I knew that he was trying to help me but he did not tell me what to do.

Instead he asked me what I thought of doing about this. He guided me when I got stuck. So I felt more comfortable with him. I knew that he would be there if we needed help. (Ms. Busaba 4/18/97)

The above statement demonstrates the high level of trust that this teacher had for the supervisors as a result of his close and continual work with her. In a way, this trust could not happen with someone always telling the other what to do. It happened because a person played one role of guide, supporter, and helper.

Besides learning with the supervisor, project teachers were encouraged to learn with colleagues. By meeting, sharing, and helping each other, project teachers found their feelings

toward and relationships with other teachers changed in a more positive way as shown by the following statements.

In the past, teachers are mostly alone by themselves. We have never really talked or consulted with each other about our practice. We just stayed in our own classrooms and organized teaching in our own way. Never at any time did we ask each other about teaching and learning. When we met, we mostly talked about other things except teaching. After attending the project and having a chance to meet and talk with each other in the meetings, you know, we never had time to talk about anything except this teaching and learning. Even during lunch time in our school, we only talked about our teaching such as “What did you do with your students? Did you have any problem? And how could we solve the problem?”

From then on whenever we met each other, at a formal or informal meeting, we always talked only about teaching and learning. (Ms. Busaba 4/18/97)

I know my colleagues better than before. From having met each other regularly and helping each other work, we ended up building a close relationship among each other. (Ms. Pornchai 4/18/97)

This is very interesting to me. You know, I never knew that my peers have such good ideas about helping students in the field. Listening to them was very useful and we became close friends with each other. (Mr. Bumroong 4/18/97)

The above statements show how some relationships among teachers changed as they continued to work and learn from each other. The statement by Ms. Busaba demonstrated the effects of teacher meetings on changing the life of teachers in school as well as the communication among teachers that used to focus mostly on daily lives. Mr. Pornchai’s and Mr. Bumroong’s statements, however, emphasized that teacher meetings gave opportunity to know their colleagues in other ways. Moreover, all three teachers accepted that activities of sharing and helping each other solve problems led to the development of closer professional relationships than they ever had before.

Teacher meetings helped overcome teacher isolation and fostered collaborative work among teachers in the same school and in different schools. As the focus of conversation changed to teaching and learning, teachers formed their own professional learning community.

The “What” and “How” of Teacher Learning

In describing what and how the teachers said they learned I separate my discussion below into learning from a supervisor and learning from colleagues. Below are teacher statements that relate to what and how they learned from these two approaches:

Learning From the Supervisor

Asking to give reasons as a way to reflect on teaching

The supervisor helped me learn to improve my teaching by asking me to talk about my teaching, like what I did, what I thought my students learned, and how I knew what they learned. (Mr. Bumroong 4/18/97)

The supervisor helped me to learn from my own teaching by asking questions to think about my teaching. This reflective thinking led me to look in more detail at a particular event. Examining the details made me notice something that I did not think of before. (Ms. Busaba 4/18/97)

Integration of subjects.

Once I was stuck on how to integrate mathematical concepts with the issue of deforestation. The district supervisor helped me by guiding me to think about using graphs to present the areas of deforestation. (Mr. Pornchai 4/18/97)

Weak area in specific topic.

When the supervisor came to observe my teaching, he focused on areas that I needed to improve. It was very helpful to me. Sometimes, I did not know what my problem was. But the supervisor knew and explained it to me. Having a supervisor come to my school regularly helped me a lot. Sometimes when I got stuck and did not know what to do with my students, I could go right to the supervisor for help. (Mr. Pachern 3/15/95)

Start from where teachers are.

The project supervisors when they came to see us, they learned to understand our teaching in our context. Many supervisors think that they know the most and they are a lot better than teachers. The project supervisors emphasized understanding me from where I am. They are willing and sincere in helping us. They are patient in spending time to make it happen. (Mr. Bumpen 4/18/9)

Alternative supervisory work.

Before when the supervisor came to our school, he asked us to show him lesson plans, student records and other paper work stuff. Then he made comments on what he saw from our paper work. Right now things have totally changed. When the supervisor comes to my school, he or she goes right to my class to observe my teaching and talk to my students. When he was not available to observe me, he asked me to record my lesson on a cassette tape. I did and gave to him. Later on he gave me useful feedback. (Mr. Sattru 4/18/97)

These statements reveal what some teachers said they learned from working with a supervisor. The focus is on a particular teacher's own teaching in order to improve or solve a problem that existed. The learning took place because the teacher was asked to reflect, focus on the teaching in that lesson, and think about alternatives. The focus was on learning from the whole lesson (Mr. Bamroong and Ms. Busaba) or the integration of subject matter between mathematics and forestry (Mr. Pornchai) or a specific weak point of the teacher (Mr. Pachern). The statement by Mr. Bumpen illustrated one important feature that made learning the most effective for the teacher, starting from where they are in their teaching.

Learning from Colleagues

Once teachers had thought about their own teaching, they could bring these experiences to share with colleagues. All project teachers valued this way of learning and, over time, formed a learning community to continue to learning together.

Below are examples of teachers' statement about what and how they learned with and from colleagues.

About the teacher meeting, when I first heard about it, I just could not imagine why we had to meet this often. After we kept meeting for a while, it made a lot of sense and was useful to us. I found myself looking forward to this meeting to talk and hear about myself and others' teaching. Later on, it turned out that whenever we met, we just talked about our teaching. (Mr. Bumpen 4/18/97)

The teacher meetings really help me learn more about this kind of teaching. From sharing experiences in the meeting. I understand clearer how to organize my teaching. (Mr. Pornchai 9/17/94)

Mr. Bumpem and Mr. Pornchai agreed that meeting with colleagues helped them to see more clearly how this kind of teaching was organized. The opportunity of hearing and sharing with others about teaching gave them a chance to see how this kind of teaching took place in other classrooms. Having the opportunity to compare and contrast their own teaching with others helped these teachers see more. Mr. Pachern, in the following statement, valued the process of helping each other solve problems during the meeting:

When I heard about the weekly meeting, I did not understand why we had to meet so often. As I implemented this new teaching and shared my problems with others in the meeting, I realized that I definitely needed a meeting to share and help each other solving problems. (Mr. Pachern 4/18/97)

The point is we worked together planning lessons. We exchanged ideas and helped each other solve problems. When I faced a problem and tried to solve it, but it did not work. I discussed with my colleagues and finally was able to overcome that problem. When other teachers had problems, we would help by thinking of ways to solve that problem. Sometimes that particular problem had not existed in my classroom yet. However, having an opportunity to think about that problem in advance also helped me to be well prepared. Working together was a lot better than working all by myself. When I work alone, I just do it without knowing how it will effect my students learning. (Ms. Busaba 4/18/97)

In the above statement of Ms. Busaba, the teacher described the benefit and effects of having to work and plan together with colleagues. Not only helping each other solve problems, but also working together would lead to new form of professional relationship.

Besides learning different areas as described above, some teachers also use the process of group work in a meeting as a model for their teaching as explained in Mr. Bumroong's statement below:

I used experience from working with my colleagues in the meeting where we shared, discussed, and brainstormed alternatives to help improve my students' group work. (Mr. Bumroong 4/18/97)

The following statement of Mr. Sattrra demonstrates another aspect of teacher meetings as a follow-up tool to encourage teachers to work more activity when he said:

The meeting also stimulated me to always be active. Because we listened to others telling us why they were up to in their plan. That made me always look back to see where was I in my own teaching. (Mr.Sattrra 4/18/97)

The statements above suggest that teachers learned from hearing about their colleagues' practice. Some learned to see their own teaching through other teacher's teaching. Others learned from helping each other solve a specific problem. This learning took place through sharing, discussing, and planning lessons in teacher meetings.

While the learning was grounded in the particulars of their practice, different formats fostered different learning.

Sharing and exchanging ideas in teacher meetings helped me learn how others did their teaching. I learned some teaching strategies that I did not think about before, but my colleague had used it in her teaching and it worked very well. However, learning from the supervisor focused more on clarifying concepts and procedures such as curriculum objectives, curriculum analysis, assessment, as well as other things regarding teaching. (Mr. Pachern 4/18/94)

“I think the teacher meetings helped me know about others’ teaching. It also provided me a chance to meet with my colleagues to discuss some problems according to the new teaching. The supervisor helped me learn to connect field data to the content in the textbook.” (Mr. Bamroong 9/9/94)

Learning from colleagues focused on sharing experiences and helping each other. However, learning from the supervisor focused more on examining my own teaching. The supervisor would ask me to tell about my teaching, so I told her what happened in that particular lesson. Then she focused on a specific circumstance and asked me to say more about why it happened that way and what I wanted to do next. This really helped me think effectively.” (Ms. Busaba 4/18/97)

These statements by Mr. Pachern, Mr. Bumroong, and Ms. Busaba demonstrate how the teachers differentiated the kind of knowledge learned from the supervisor and from colleagues. Mr. Pachern and Mr. Bumroong had similar views. They thought that the learning experience from colleagues was more in actual teaching or practical knowledge while learning from the supervisor tended to focus more on technical aspects related to theory in the curriculum. Ms. Busaba had a slightly different view from the other two. She agreed that learning from colleagues focused more on actual practice. However, the learning experience from supervisor support focused on getting her to reflect on her own teaching as a way to learn from her own practice. Even though the learning described in this section all took place in the context of the teachers’ practice and focused on their teaching and learning, they resulted in different learning areas and formats. Moreover, each learning experience assumed its own particular learning context. All information described in this chapter demonstrates that teachers can be helped to learn how to change their practice. Describing stories and teachers’ statements, I sought to show that teacher learning to change practice can happen and will happen if staff developers expand their view about teacher learning in and from practice and design follow-up activities to support such learning. Not all project teachers and design follow-up activities to construct this kind of teaching

and learning. As a supervisor, I believe that all teachers can attempt the race and reach the same destination. But every teacher does not begin at the same starting point. It is the job of supervisor to help them find their ways to reach the goal.

After two and a half years, by continuing to learn in and from their practice, the project teachers had formed a learning community. This shows the Ministry of Education that follow-up support plays a key role in helping and encouraging teachers to change their practice and to continue improving their teaching. Most of the project teachers convinced me that they will continue this new kind of teaching and will try to make changes in other areas as well. The SFEP project is known for its success in helping teachers learn to change their practice. Our workshop and follow-up activities are considered as the most effective strategies for helping teachers improve their teaching. How they helped and encouraged teachers to make change will be described more in the following chapters that focus in detail on two cases.

It's not easy to make change up to this stage. For me I still have not completely changed my views and my teaching. Part of me still thinks in the old way. Like I said it's not easy. But from having been able to change this much, I think the factors that helped me make change besides the supportive activities were the flexibility and participatory management of the project, and the freedom and autonomy that we were given to design teaching on our own. (Mr. Bumpen 4/18/97)

Chapter 5

Case of Mr.Pornchai : The Story of a Committed Traditional Teacher Who Changes His Teaching in Fundamental Ways and Learns How to Learn In and From His Teaching

Introduction

This chapter tells the story of a teacher who participated in the SFEP and seriously committed himself to changing his practice to improve student learning. The chapter has three parts. It begins with information about the teacher and his teaching prior to participation in the project. Next comes a description and analysis of his teaching during the first pilot term and discussion about changes that took place. The last part focuses on his continuing efforts to change after participating in the workshop and thoughts about his possible future development.

Base-line Teaching

This section describes Mr.Pornchai, his perspectives on teaching as a career and his actual teaching before the project began. It begins with background information including: job statistics, reasons for becoming a teacher, reputation, relationship with students and community, views of teaching as a career, ideas about what it means to teach and attitudes toward supervisory work. This is followed by a description and analysis of his teaching before the project began.

Background Information. Mr.Pornchai is 36 years old and has been teaching for 13 years in Pana Nakorn close to district of Sarm Kasat province in the northern part of Thailand. He started his teaching career at Samakkee-Damrong primary school and continued teaching in this school until the present. Besides teaching all subjects in the sixth grade, Mr.Pornchai was given many other responsibilities including: organizing sport competitions, doing budget work for the school, and various academic improvement tasks.

Mr.Pornchai never wanted to be anything but a teacher. While he was a student in school, he had a definite plan that he would like to be a teacher. He liked to watch his teachers and he always appreciated being chosen to read books to his friends. When a teacher assigned an essay

about “What I would like to be in the future,” Mr.Pornchai wrote that he wanted to be a teacher. He attended a teachers college after grade 10 and spent two years earning a lower teaching certificate. After that, he applied to be a primary school teacher and was assigned to Samakkee-Damrong school. While teaching in this school, Mr.Pornchai up-graded his education through self-study and took an examination to qualify for a higher certificate. In an effort to improve his educational experience, he enrolled in the Open University and received the B.Ed.

Mr.Pornchai is regarded as a good teacher by his colleagues, principal, and students. He cares about what his students learn as well as their health. If one of his students is sick and has to stay at home, he asks students who live nearby to bring homework to that student or he pays a visit himself. He assesses student learning by looking at exercises and quizzes and always spends time re-explaining to students who do not get the right answers.

Mr.Pornchai remained at the same school and did not request a move to a school closer to his house because of his close relationship with his students. He said in an interview: “I feel very loved and connected to my students. I want to continue watching their growth. My students always come back to see me. During the New Year holiday, they all come to pay respect in a ceremony for their teacher. Watching them grow up year by year and hearing about their progress, it is a great morale boost for me as a teacher.” Mr.Pornchai also felt very comfortable with the people in Ban Samakkee-Damrong community. He thought the people of this community were very willing to be involved in school activities and he had good, on-going communication with them.

Ideas about Teaching and Supervision. Mr.Pornchai thinks of teaching as an honorable career that people respect and admire; however, he believes that one must be a good teacher to deserve that honor. Being a good teacher means loving and caring for children, and paying attention to their learning. When asked about what “teaching” means, Mr.Pornchai said, “You need to provide knowledge to your students, make sure that they learn all the content in the

books, so they will be able to continue onto secondary school.” This view of teaching as providing students with knowledge from the textbooks was reflected in two lessons that I observed during the initial observations prior to the workshop.

Mr.Pornchai viewed the supervisor as a person focused on accountability rather than capacity building. He said,

The supervisor seldom comes to my school. Most of the time he came to assess student capacities in various areas for some kind of competition among students at the district and provincial levels. Then he left right after that. I don’t quite understand that kind of assessment because it took only one hour at a specific time and day. What if the kids were not feeling well that day or they were already engaged in something else? I wonder if that is the right way to examine the kids. I don’t remember at any time that the supervisor ever came to my classroom besides testing students.

When asked about his expectations for the supervisor, he said “Actually, it doesn’t matter to me whether they come to school or not. I still do my best to teach my kids. But if they were to come, I would want them to visit my class and give me suggestions or advice on how to improve my teaching.”

Mr.Pornchai’s teaching To learn about Mr.Pornchai’s teaching prior to the workshop, I observed two lessons in the Life Experience subject area. The first was about microbes and the second was about rocks. Both revealed a common stance toward teaching and followed the same pattern. First, the teacher showed some concrete materials as examples. Then he had students look in the textbook to answer questions. Next he had students give a report. Finally he had students copy the summary that he put on the chalkboard into their notebooks. The teacher planned both lessons from a manual provided by the provincial office.

Mr.Pornchai began the lesson on microbes by telling his sixth graders that they were going to learn about microbes. He had some samples of bread mold that he brought from the local market. He asked the leader from each group to come to the front of the room to obtain a piece of moldy bread that he had put into a plastic bag. Then he wrote the following questions on the chalkboard, which he took from the teacher’s manual.

1. What do you see on the bread? How did it get there? And how did it grow?
2. How can we prevent this from occurring? Give an example!
3. How is this useful or harmful to us? Give an example!

Students had 25 minutes to look for answers in the textbook. The students all went to work in their groups, examining the bread, and searching for answers. The teacher divided students into four groups and had each group sit together. Each group selected a chairperson and a secretary to manage and record the work. Each member of the group helped out by looking for information and letting the recorder copy it on a piece of paper. The recorder then handed the sheet to the student who would read it to the whole class. As the students began working, Mr. Pornchai sat at his desk for a few minutes, then he walked around observing the students working, returned to his desk again, and sat there until the students finished the task. He asked each group to send a representative to report to the class. The reports were quite similar since they were based on the same books:

1. Molds grow from tiny spores which are in the air and which will grow into mold when the conditions are right.
2. Molds will grow from spores when they find a moist, warm place. Some materials can provide them with food, so we need to keep the bread in a dry climate and cover it completely.
3. Some molds are quite useful, such as penicillin and molds that flavor cheese, and others are harmful such as those that damage food and cause some diseases.

After each group finished its report, Mr. Pornchai reported what students had said. The he wrote the word “microbe” on the chalkboard and explained its meaning and its pros and cons to the students. He wrote, in summary, his explanation on the chalkboard: “Microbes are very tiny little living things that can be both useful and harmful to us.” He read the summary to students one more time before asking them to copy it in their notebooks. At the end, he said: “Today we learned about fungi/mold which is one kind of microbes. Later we will learn about yeast, bacteria,

and viruses.” He asked students if they had any questions. When no one responded, he ended the lesson.

The teacher planned to assess students’ understanding of the content at the end of the whole unit by giving them a quiz or exercise. After the lesson, he expressed his feeling of nervousness about being observed and said that he forgot to give some content to students. He wanted to explain more about the pros and cons of microbes and he was going to write a summary of the lesson that was longer than what he wrote on the chalkboard to help students understand the content.

The second lesson revealed the same pattern of teaching and learning. The teacher began the lesson by showing some samples of rocks and asking each group of students to examine the rocks, look in the textbook, answer questions on the task card given to each group and report the answers to the whole class. The questions for this lesson were: how many kinds of rocks are there and what are the uses of each?

Students had 15 minutes to finish the work. As in the lesson on microbes, they helped each other look in the textbook for answers. They let the writer of the group record information on a piece of paper for the reporter to read to the class. Because the time for this lesson was only an hour, the teacher had two groups do the report with each of them answering a part of the question. Group one reported on the kinds of rocks, while group two reported on the uses of each rock. The teacher then summarized by writing the content on the board and reading it to students. At the end, he asked students if they had any questions and had them copy the content on the board into their notebooks.

Mr. Pornchai told me during our briefing session that he still felt nervous and that he again forgot to explain some content to his students. Because he shortened his explanation, he worried that his students might not have enough information to be able to understand. He planned

to re-explain the information again in the next hour. One reason for shortening the explanation was that he wanted to complete all the planned activities.

Analysis of the lessons. Mr. Pornchai's teaching prior to the workshop will be analyzed using the following categories: curriculum and lesson planning, learning tasks, teacher's role, students' role, resources for learning, and assessment.

Curriculum and lesson planning. In the two lessons observed, the teacher had students learning content according to the central curriculum. He taught topics separately and did not relate the content from the textbook to real life. While he used local materials such as bread mold, he used it without any application to students' daily life since the questions that students were asked to answer were based on the textbook. There was no discussion about bread mold in the life of students. For example, he did not ask if they had problems with bread mold at home, if so, how this might happen, where they keep such bread, and how long they kept it before the bread began to mold.

In planning the lessons, the teacher used a teachers' manual provided by the provincial office. The bread mold and example of rocks were suggested in the manual.

Learning tasks. Students were assigned similar activities in both lessons: examining local materials, finding answers from the textbook, reporting answers, and copying the teacher's summary into their notebooks. Most of activities were done using group work. Examining local materials could have been a valuable learning activity. However, the teacher only used them to motivate students with no intention of having students explore them for more meaning.

Teacher's role. What Mr. Pornchai did in these two lessons reflected his beliefs about good teaching. He studied the manual in advance. He spent time in the local market finding materials to motivate students. He wrote important information on the chalkboard to make sure that all students had the right knowledge in their notebooks. He worried that his nervousness about being observed would cause an unclear explanation. He was also concerned that his

students might not be able to understand the content. Mr.Pornchai planned to re-explain material during the next session, assess student understanding from their exercises or quiz, and remediate students who still did not get the correct answers.

Mr.Pornchai paid attention to facts students were able to obtain from the textbook and whether they recorded the important information in their notebooks. In his description about teaching he said, “You need to provide as much knowledge as you can to your students. You need to make sure that they learn all the content in the book.” The knowledge that Mr.Pornchai spoke of seemed to be factual knowledge rather than conceptual and application knowledge since it came from the textbook. The teacher did some explaining but he did not try to explore the meaning with the students by using their own experiences from earlier lessons or from real life. In this kind of teaching, Mr. Pornchai provided information, identified resources for learning, monitored students’ work, and checked if students were able to find the right answers. The textbook was a primary resource.

Students’ role. The students worked in groups in both lessons, sitting together and doing one report after searching for information from the textbook. During group work, students interacted with each other, helping to find answers from the textbook, and discussing the proper information for their report. Learning in this class meant getting the right information or the right answers, not constructing an understanding or students coming up with their own ideas or conclusions.

Assessment. There was no assessment activity in the lessons. The teacher usually assessed student learning at the end of each unit. The teacher also mentioned ongoing assessment such as asking questions to see if students had the right answer, but this did not happen in these lessons. Mr.Pornchai’s way of assessing student learning reflects how he thinks about teaching and learning. If teaching means providing information to students and learning means absorbing

information, then the teacher would want to check whether his students got the right information by having them answer recall questions.

In conclusion, Mr.Pornchai is strongly aware of his responsibilities and his duties as a teacher and a school officer. His view of teaching is reflected in his practice. What he did reflected his understanding that this was the way the Office of the National Primary Education Commission (ONPEC) would like all teachers to teach. He used the teacher's manual to guide his teaching and learning activity for his students. Mr.Pornchai had never seen any teachers help students learn through their own inquiry.

Mr.Pornchai's First Steps in Implementing a New Approach

In this part, I describe how Mr. Pornchai implemented the new teaching approach that he learned and experienced from the 14 day workshop in his classroom in the area of the Life Experience. Then I analyze and discuss how Mr. Pornchai's teaching changed in six major areas and how those changes affected Mr.Pornchai and his students. I will focus on teaching in the first pilot term which was the second term of the 1993-1994 academic year. The term went from November 1st, 1993 to March 31st, 1994. During this term, I supervised Mr.Pornchai intensively around three consecutive lessons. Each lesson lasted about two hours. The data that I use to describe and analyze Mr.Pornchai's teaching included three classroom observations and subsequent debriefings, my note taking during teachers' meeting, and exit interviews with Mr.Pornchai, his district supervisor and some of his sixth grade students.

In organizing Mr.Pornchai's story, I begin by describing and analyzing three lessons. Then I discuss changes that the teacher made and indicate some areas that still need to be improved.

Mr.Pornchai's Teachings Following the Workshop

The objective of teaching during the first pilot term was to have students learn from people in the community about village history and the past and present situation in terms of

natural resources, especially regarding forests and trees. By the end of the term, students and villagers were to identify an issue to study in-depth the following year. Students were to do a series of group activities such as developing questions to ask the villagers, going to the village to interview the villagers, making notes about what people said in the interview, coming back to class to try to make sense of the information that they have gathered, writing a report and presenting their findings to the class. To reduce the pressure on teachers to do something totally new, the project encouraged them to start with a village history and then discuss and share ideas regarding a target for the next step.

Lesson one. Before the lesson I observed, groups of students had developed questions to ask villagers, gone into the village to interview people, analyzed the information they had gathered, tried to write up what they knew about the village history, thought about what was missing, and developed more questions to get at the missing information.

In this lesson, the teacher planned to take the students to visit the community for the second time. Before leaving, the teacher took about twenty minutes to review the last visit and confirm arrangements for present visit. He talked with students about how many people each group of students had interviewed and about how much he learned about the village from listening to the groups reporting. Then he asked each group to give some examples of new questions to be asked. After that he assigned groups to interview the various families with whom he already made arrangements. He had each group divide the tasks among the members and set up rules for going into the village.

The teacher took two groups (1&2) with him in his pick-up truck and dropped them off in the village. Since the other two groups (3&4) were assigned to families within walking distance, they went by themselves. The teacher dropped Group 1 in front of the interviewee's house and had a short rehearsal with them about the kind of respect students should pay, how they would describe the objectives of the interview and how they would conduct the interview. Then he took

the second group to the other house. He stayed with them and observed their work for about fifteen minutes before going back to observe the first group.

While observing the second group, the teacher paid attention to how students were asking questions, what kind of answers they were getting from the villager and how they were taking notes. He intervened to encourage students to probe for more details by asking specific questions. For example, one of the students asked the villager about whether the environment of the village in the past was different from the present. The villager told the students that she thought the environment of the village in the past was different than in the present. Students quickly wrote in their notebooks next to that question that “it was different” and then prepared to ask the next question. The teacher said “Don’t you want to know how they were different” Students then continued to probe the issue.

After the students returned, the teacher asked how they enjoyed this activity and whether they wanted to do it again. All the students replied that they liked it very much and would really love to do this activity more. The teacher then told students to find time to review the information and to write a full story about the village history to be reported to the class in the next lesson. The lesson ended at 11:50 am.

In the second lesson, students were supposed to report on the village’s history, using more complete information than they had in the former reports based on their first visit. The teacher spent a few minutes eliciting feedback on the second visit by asking each group to tell the class how they felt about going into the village, whether they liked it, and what they learned. All four groups said they liked going to learn in the village, it was exciting and fun. They learned a lot about their own village. The teacher then asked students if they wanted to know some of their weak points from his observation of two groups and how they could improve for the next field study. The students all agreed that they would like to hear so the teacher made the following observations.

- Teacher: The first point is about the greeting. Yesterday when group one went to meet the villager, they only paid respect but did not tell about the objective of the interview. What did the other group do?
- Group 4 : We only paid respect.
- Group3: We paid respect and told him that we would like to ask questions.
- Teacher : You need to let people know why you are there and also get acquainted with them before start asking questions. The second point has to do with note taking. Who took notes in your group?
- Group 2&3: The secretary took notes.
- Group 1&4: Two members of group were assigned to take notes.
- Teacher: I think all of you should take notes when going into the field. So next time make sure that everybody takes notes, ok! The third point was about asking questions. From what I observed, there were two persons in each group who did the work, the others did not ask any questions.
- Group 3: In our group, we all asked questions.
- Teacher: For the groups that had only some members ask questions, you need to change to have all members take turns asking questions, but not have everybody ask at the same time. The last point is about the tone of your speaking. Some speak like they are talking to their friends. So, please be careful when you are talking to an elder. Try to speak in a respectful tone. The secretary of each group, please make this note to remind the members for the next field visit.

The teacher then asked students if they had finished their reports. Two groups were finished, while the other two still needed more time. The teacher gave them about an hour to write up the story and asked the groups that had already finished to pass their story around for members to read and make any needed changes.

While groups began to work, the teacher stayed with group 1 to explain that they needed to study the information and try to put it into a story. Then he moved to Group 3 to see how they were working. He called on one of the students who sat quite far from the group to move closer so the group could work together. The teacher went to his desk and sat for a few minutes, observing the groups work. Group 1's students were discussing the work together. When the secretary finished writing some details, she would give the paper to the other members to read

and give feedback. The teacher walked to Group 4 to encourage the members to add some more details on their story. In Group 2, one member was drawing a village map, while the others were reading the group's story.

By 11:35 am the teacher called for reporting. He said they would hear reports from the group that had already finished. These groups that still did not finish should find some other time to complete the story. The teacher handed out a task card for students to do while they listened to the report and called on Group 2 to report. Two members of Group 2 came out showing the map of the village and explaining it. Then they read the story which was three pages long. On the task card, each group was supposed to listen to the report and then give feedback on how the report went and what were some weaknesses. When Group 2 finished, the teacher asked a volunteer to give feedback. No one wanted to volunteer, so the teacher decided to draw a number. He picked number 3 to give feedback. A representative from Group 3 came out and commented that her group thought that the story had a lot of information but the reporter did not read it smoothly and put the paper too close to his face. The teacher told the other group to be prepared to report on the next day and ended the class.

The third lesson was shortened from two hours to one hour because Mr.Pornchai had to attend a meeting at the district office. He had adjusted the activity to have the other three groups report their stories and get feedback from the listeners according to the task cards he gave each group during an earlier lesson. After all groups finished their reports, the teacher planned for them to write an essay about "my village" to make sure that each student had knowledge of his or her own village.

The teacher started the lesson by telling students that he needed to go to a meeting so he would like to begin the Life Experience lesson earlier than the regular time. The teacher emphasized that each student needed to listen carefully and take notes for the feedback. Then he called on Group I to report. The representative from Group I had a hard time reading the story

because he could not read the other students' handwriting. The listeners tended to laugh, while the reporter tried to read the group's report. The story covered village history, vocations, beliefs and culture, tradition, education, and communication and transportation. After Group 1 finished, the teacher gave students about three minutes to discuss in their groups what kind of feedback to give before sending a representative to report their thoughts. Most of the feedback was similar: that the report was good in terms of detail but the reporter did not read it very well. The other two groups did their report, followed by feedback which was quite similar. The teacher made the following comments at the end of the reporting.

From listening to all of your reports, I heard some groups had different information than the others. Therefore, I would like you all to find time to go back and find out answers with more villagers before reaching a conclusion. Next, I would like to comment on your way of reporting, giving feedback, and listening to the report. I noticed that members of some groups took turns giving the report while other groups sent the same reporter to report all the time. I would like everybody to have a chance to report, so please make changes in the next report's activity. In terms of giving feedback, everybody in the group needs to give feedback to share before you finalize the group's opinion. You need to separate the strengths and weaknesses in your comments. When some of you gave feedback on the strengths, you also included weaknesses in the same category. So be careful about that, too. For reporters, when reading the story, sometimes you should lift your face up and look at the audience. Don't just look at the report. Finally, for some of you, please show good manners. Don't plan while doing the report. Be serious and concentrate. The good manners of the listeners is to pay attention to the details of the report. It's not polite to laugh when a reporter makes a mistake but to laugh when he says funny things.

The teacher then complimented students, saying that he was impressed by the details of the report and that he thought the students did good work; however, he thought that each student might have a different way of telling the story. He worried that some students who did not take a lot of notes in the field would not be able to remember the information at a later time. Therefore, he planned to give each of them a chance to tell a story in their own way and use the information about their own village that they learned from the villagers. The teacher then gave each student pieces of paper to write an essay about "my village" and told the class leader to monitor student work. After that he left for a meeting.

Analysis of Mr.Pornchai's Planning and Teaching

Mr.Pornchai's teaching of three lessons will be analyzed according to the framework of teacher change that I developed for the SFEP project: curriculum and lesson planning, learning tasks, teacher's role, students' role, resources for learning, and student assessment.

Curriculum and lesson planning. The three observed lessons were part of a unit on "Our Community" that Mr.Pornchai and his colleagues developed during the workshop and was to be taught during the first pilot term. In the first Life Experience unit, the learning moved from finding information in books to seeking information in the community. It provided opportunities for students to bring real life into the classroom, to examine and to think in new ways about their village in order to understand it better. For example, instead of telling students about the community in terms of structure and the important institutions located in the area, this new unit challenged students to try to think about why the community was established, where the first group of people came from, what made them choose to build their community at this place, and how their community developed over time. It also integrated content that was usually separate into the same unit. For example, when the students went to find information in their village, they would learn about many aspects of village life: people, vocations, culture, religion, forests, etc. Because these topics are usually treated in separate sections of their textbooks, students are not likely to build a whole picture or relate topics to the real situation of their own village.

In terms of lesson planning, the teacher had to review his own learning during the workshop to design a learning process, outline the content to be learned in the community, and made an effort to adjust or make changes in the plans to fit his students, abilities. For example, during the workshop Mr. Pornchai made two visits to the community, wrote about that village's history and drew a village map. In planning lessons, he planned two trips for his students to get information in the community and expected them to come up with results similar to his own. Mr.Pornchai demonstrated his ability and willingness to modify daily plans to fit his students'

needs. When he found that the students could not finish in the time he had scheduled for the work, he gave them more time to do their work instead of sticking to the shorter time frame of the original plan.

Learning tasks. The students were told at the beginning of the term that they would be doing different things in their Life Experience lessons. They would learn about communities from studying their own community. In the three lessons that I observed, the teacher had the students engage in the following activities: developing questions, setting rules for going into the village, interviewing villagers and taking notes, making sense of information gathered from the villagers, writing a report, presenting the report to the class, giving feedback to their own group and to other groups on their report, and writing an individual essay. All these activities except for the final essay involved group work. Students produced a group report and a piece of individual writing. In assigning these activities, the teacher combined opportunities for intellectual work with opportunities to improve social skills.

By intellectual work I mean activities which require students to reflect on their own experiences, to generate new information about the village, to interpret, compare, and assess new and old information, to make connections among different ideas and information, synthesize ideas into new understandings, and write a report that reflects what they learned. Each lesson shows that Mr. Pornchai began to design activities that engaged students in this way.

In lesson one, the students were asked to develop more interview questions, and to share them for the second visit. To develop new questions, the students had to review their earlier data and questions to see what information was missing and what questions were not answered, and then discuss together what new questions they needed to ask in order to make a fuller story about their own village. When they interviewed the villager, they had to listen carefully, take notes, figure out what was clear and what was unclear, and come up with follow-up questions to elicit more details. Before leaving the village, they had to assess their data to make sure that they had

all the information they needed.

Lesson two focused on making sense of the information gathered from interviews with villagers and integrating the new information into a full report. Students were asked to interpret the new information, integrate it with the earlier information and then synthesize all the data into a new understanding. Constructing a village history required students to put information into their own words, to think about the sequence of the story they wanted to tell the class, and to set it down in detail.

In lesson three, students reported their story to the class and gave feedback on their report and the presentation of others. The teacher enhances the learning experience by assigning listeners to give feedback on each presentation. This required careful listening, analysis, and critical judgment. Students had to discuss their impressions and make decision about what to say before sending a representative to present their feedback.

Throughout the three lessons, the teacher provided tasks that encourage students to construct their own knowledge about their community. The village history, written by students, was different from other written materials about the community. There were also differences among the groups' report and among individual reports. By telling the story in their own language and sharing their own understanding, students produced unique products reflecting their individual views and understandings about their community.

Along with the more intellectual aspects of the work, the teacher provided activities that led to the development of strong interpersonal ties and social cohesion. Activities such as working in groups, interviewing villagers, and reporting to the class required social skills. Students were divided into groups that would work together for a whole unit. To make their groups work more effectively, the task required students to think about how to divide responsibilities among group members to promote better teamwork. In addition, they had to assess their own group in terms of strengths and weaknesses and think about how to make it

better for future activities. These assignments helped students to develop the interpersonal skills needed for productive teamwork.

In interviewing villagers, students had to speak clearly and politely, and listen carefully in a respectful manner. This activity helped the students develop their social skills in oral communication and practice being good listeners. Finally, the reporting activity gave students an opportunity to experience public speaking for the first time. They had to pay attention to their voice, actions, sequence of the speech, and the audience.

Teacher's role. The teacher designed and organized learning activities and supervised and monitored the learning process. As the designer and supporter of learning, the teacher played the roles of planner, organizer, listener, encourager, helper, supervisor and monitor.

In planning the lesson for the students to learn about the village, the teacher designed activities to maximize students learning. He gave the students time to review their new set of questions and to make any improvements that would help them get the most useful data. He asked them to divide responsibilities so that each member of the group would participate in the interviewing process. He had the students set up rules for working in the field so everybody would have a clear understanding of each person's responsibility. To organize an effective visit to the community, he spent time in advance going into the village to make appointments with villagers he thought would be good resources for his students. He assessed the distance from school to each household and arranged transportation for each group to get to the interviewees' houses.

As a supporter and supervisor of learning in the field, the teacher followed students into the village to observe and listen to their interviews. While listening to one student asking questions, he quickly noted the very short answers which the villager offered. To enhance the quality of the field work, the teacher intervened to help students elicit richer information. Then he asked them whether the answer was clear enough or whether they needed to ask for more detail.

Walking with the second group to the next house, the teacher helped the students assess their notes to identify missing data and think about what questions to ask in order to get that information.

Besides observing, listening, and asking questions that encouraged students to discover more information on their own, the teacher talked with interviewees to get their feedback on student performance in terms of their language and actions/manners. In doing this, he played the role of monitor in assessing the activity, supervisor in trying to learn about the students' strengths and weaknesses, and a helper to the villagers in understanding what the students were trying to achieve so they could provide valuable information to students in future activities.

The teacher supported student learning by giving feedback on student field work, observing and helping the students work together to make sense of the information they had gathered, and monitoring the quality of group work. He complimented groups that worked well and insisted on active participation from all students. When listening to the student's reports, he did not focus on whether the report was right or wrong but whether students had rich information. In designing and supporting learning, Mr. Pornchai chose to be a producer and to give students the main roles as actors.

Students' role. The students in Mr. Pornchai's class participated actively in their own learning. As researchers, they learned how to generate questions, gather information, and synthesize this information into a story about their village. To do this, they had to become active listeners and note takers, story tellers and reporters. As active participants in this learning process, the students were asked to reflect on their experience, comparing and contrasting information gathered from the village and devising new questions to get more information. When they went into the village to do the interview, they had to listen carefully, trying to understand what was said and take notes in their own words. After that, they had to examine and integrate this new information using their own words into a full story, share their story with other students and get

feedback for more improvement. The whole process enabled the students to construct their own understanding of their village.

The students also played the role of monitor in assessing their group's work during field work and commenting on their own and other groups' reports. Being a monitor of their own and their classmates' learning, the activities required students to step back and look critically at themselves, their product and their peers' work. The activities helped them become students of their work, of their ways of working together, and of their fellow students' work.

Besides taking ownership of their own learning, the students were encouraged to participate actively as group members in being responsible for the assigned task, following the group's rules, sharing information, and concentrating on teamwork.

Resources for learning. In learning the new unit about "Our Community", textbooks and other reading materials were relegated to being merely supplementary study materials while the community served as the primary resource for learning. The people of the community were central information providers by telling about village history, by reflecting on their way of living, and by sharing their views about the village. Moreover, community members helped students improve their communication skills by asking them to clarify their questions when they seemed unclear, and helped the teacher assess student work by giving feedback on how well they conducted the interviews.

Students also served as resources in their own and in their fellow students' learning. By reflecting what they already knew about their village and listening to their peers' stories, they gained new knowledge and understanding.

Assessment. The assessment objectives in these observed lessons were more focused toward attempting to help the students learn effectively. The teacher tended to use assessment as a tool to serve the learners rather than as an accountability device. For example, the teacher used his own observations of students working in the field and in the classroom to assess how well

they did. He gave his feedback to the students in the second lesson on what were the weak points they needed to improve in order to gather more valuable information. In listening to group reports, he went from focusing on the amount of data to being interested more in the richness of the information so as to be able to help his students write a more factual story. Assessment of these lessons was more an ongoing process that aimed to help students improve their own learning rather than one event at the end of the unit to evaluate student understanding of the content.

Students also engaged in ongoing assessment of their work. They were asked to assess their own group's field work and give feedback on group reports. In these three observed lessons, students were encouraged to focus their assessment on the quality of the report. The community people were also included in assessment, giving feedback from their perspective on the students' interviews. The criteria of assessment were not shaped by a textbook exercise or quiz, but by all the participants in this learning process.

Analysis of Mr. Pornchai's teaching in the first pilot term reveals how the teaching and learning in his class differed from what was observed prior to the workshop. It shows how serious Mr. Pornchai is about trying to change his practice. The changes Mr. Pornchai made, how they happened, and what he needed to learn more about to continue improving his teaching will be discussed next.

Initial Changes in Mr. Pornchai's Practice

During the first pilot term, Mr. Pornchai began to make important changes in his teaching. Such changes represent an initial step toward a more student-centered teaching approach promoted by the SFEP project. The most striking changes were observed in three areas: the teacher's role, the students' role and the curriculum. These changes can be directly tied to Mr. Pornchai's participation in the 14 day workshop sponsored by SFEP and to his work with a supervisor.

Changes in the teacher's role. In his initial teaching before the workshop, Mr. Pornchai functioned as a source of information and organizer of activities that required students to find and report information from their textbook. Mr. Pornchai summarized the important content on the chalkboard so that students could copy it in their notebooks. Mr. Pornchai assessed student learning by having them do exercises and take a quiz at the end of the unit. He studied the manual provided by the provincial office and located local materials to use in his lesson. During the lesson, Mr. Pornchai monitored students on each task, directed them to find information, asked each group to report their findings, and summarized the lesson to make sure that students had the correct information in their notebooks. The teacher made these moves to assure himself that his students got the correct information covered in the textbook.

In teaching the new unit about “Our Community,” Mr. Pornchai began to adopt a different teaching role guided by a new view of learning and new goals for students. Mr. Pornchai created opportunities for students to begin to learn more on their own using their community as a resource. Instead of asking himself “What should I teach my kids?” Mr. Pornchai asked himself “What should my students learn about their own community and how can I help them learn this?” Abandoning his role in directing students to get the right information from textbooks, Mr. Pornchai began to assume a new role of designing learning activities and supporting the learning process. He planned and organized activities that enabled the students to explore their community and supported the students in constructing knowledge about their village.

Changes in the students. In the baseline Mr. Pornchai's students were busy trying to find information from the textbook and copying information from the chalkboard. They worked in groups helping each other find the answers in the textbook to questions posed by the teacher. At the end of the lesson, they copied information which the teacher had written in the chalkboard. In this kind of learning, students were receivers and copiers of information supplied by the textbook and the teacher even though actively involved, often in groups. Task cards encouraged

memorization rather than engagement of critical or analytical thinking to achieve personal understanding.

In studying the new unit about “Our Community,” students were given more responsibility for conducting their own learning. The teacher set the goals and designed the tasks, but students exercised more autonomy in deciding what components of the community they wanted to learn about and how they could go about learning it in each field visit. Students began to take on the role of active learners, responsible and autonomous in their learning. They started to move their role from receiving information to constructing their own meaning and understanding.

Changes in the Curriculum. The other changes that happened in Mr.Pornchai’s class were in the areas of curriculum and resources for learning. Before participating in the project, the teacher organized and sequenced his teaching of Life Experience using a prepared curriculum. Textbooks were the major source for learning. Mr.Pornchai taught each part of the subject separately and tested student understanding at the end of each unit. Most of the activities took place in the classroom.

In teaching the new unit, “Our Community,” the teacher integrated content that was usually taught separately. Instead of teaching about culture and history, natural resources, vocations and population as separate topics in different units, he integrated these topics into an organic study of the local village drawing on primary sources of data. The teacher assessed his students’ learning throughout the unit, relying on observations of the students at work and on their written reports. The students also participated in assessing their own learning and their peers’ learning. The focus of assessment went beyond right answers to consider student understanding. Mr.Pornchai used ongoing assessment to determine how well students were understanding the information they gathered and to provide appropriate help, rather than to judge how well they memorized information in a textbook.

Involving the community as a major source for learning instead of relying heavily on textbooks was another change in the curriculum. In doing this, Mr. Pornchai introduced his students to a new mode of learning: seeking information from the real world and constructing their own understanding.

During the new unit of “Our Community,” Mr. Pornchai made significant changes in his teaching. These efforts reflected his commitment to his work and to his students’ learning. Still, this was the first step in trying to implement a new approach to teaching and learning. In order to provide students with more meaningful learning experiences, other changes would be needed.

Assessment of Changes in Mr. Pornchai’s Teaching

In earlier sections, I have described and analyzed the teaching and learning that occurred in Mr. Pornchai’s class during the first pilot term. Clearly Mr. Pornchai took important first steps toward a new vision of learning in his class that were almost opposite to what he and his students were used to. This new vision embraced constructivist learning as opposed to traditional learning. Analysis of his teaching shows how he implemented the changes by teaching the new unit about “Our Community,” Still there were areas that Mr. Pornchai needed to work on to be able to provide even richer opportunities for students to learn.

Firstly, Mr. Pornchai had to learn more about the teacher’s role in helping students learn to construct their own understanding. Designing and organizing activities that provide opportunities for students to learn by themselves are not enough. Students still need to learn how to construct their own learning, knowledge, and understanding. This requires the teacher to play a more active part in observing, encouraging, guiding, and supervising. While the teacher tried to give students feedback, he focused mostly on their performance rather than on the details or content of the information they gathered. He needed to pay more attention to the content in student reports, in order to understand where students were in their understanding and to work from that point to promote deeper understanding. Feedback such as “You have a lot of information,” or “You need

to get more information next time,” did not give students enough guidance in gathering better quality data.

Secondly, Mr. Pornchai needs more experience in helping students learn through group work, an important feature of this learning approach. Working in groups provide opportunities for students to learn from each other by sharing, discussing, brainstorming, decision making. Mr. Pornchai tried to enhance the quality of group work by asking students to divide the tasks among themselves and set up rules; however, he did not help students understand how to work in groups effectively. While he asked them to assess their group work and he requested more improvement, he did not show clear examples of what he was looking for.

Compared to other teachers in the project, Mr. Pornchai was among the teachers who put a lot of effort into making such change in practice. His story during the first pilot term shows how a teacher seriously committed to his work can transform traditional ways of thinking about teaching and take the first steps toward changing his practice. Mr. Pornchai’s teaching during the first pilot term also demonstrates that changing practice is not easy and cannot happen in a short period of time.

Mr. Pornchai’s Continuing Efforts to Change his Teaching Practice

This part describes how Mr. Pornchai continued to develop and change his teaching from the second to the fifth term which is the last term of the SFEP project. The second and third term were in 1994 academic year (May 1994 – March 1995) and the fourth – fifth term were in 1995 academic year (May 1995 – March 1996). The data used to describe and analyze the changes include observations, debriefing and exit interviews of each term conducted by two field workers from the project: final interviews by myself and a field worker; my notes from field visits with the teachers and supervisors; and documents such as the teacher’s lesson plans and student work. Before describing and discussing Mr. Pornchai’s continuing efforts to change his teaching practice, I would like to provide some information that will help in understanding the teaching

and learning activities that happened in Mr. Pornchai's class.

The SFEP project promoted learning that has students develop a case study about an issue related to trees or deforestation in their local community. The project uses a "Seven Step model."

Teachers were encouraged to organize their learning activities in the following way:

1. Students collect information in and about the village to identify environmental issues related to forest management and deforestation.
2. They select an issue with community members and study that issue in depth.
3. They report findings to community members and encourage them to think about possible alternative strategies to address the problem they studied.
4. They study alternatives with community members and jointly select a possible solution to ensure that it fits with the community.
5. Students develop a plan for the project with community members.
6. They implement the project with community members.
7. They evaluate the project and make changes to improve the project, again in collaboration with community members.

The SFEP project expected these steps to take place over a two year learning cycle for fifth and sixth grade students. Mr. Pornchai and other project teachers were informed that they should not feel pressured to push students to do every activity to meet the target plan, especially if such activities did not fit with student capacities. Teachers, instead, should just let the lessons flow and learn from what happened to students. For the first pilot term, the emphasis was on teachers learning from their implementation to see how far students could go in doing a community study. It was hoped that students would learn about their village and at the end of the term identify a forest management related environmental issue. At the end of the pilot phase, the project team and the teachers would reflect on all their experiences and the lessons learned, and discuss what appropriate environment education learning activities for fifth and sixth graders should be.

In studying Mr.Pornchai's efforts to change his teaching, it is important to understand that, over the five pilot terms, Mr. Pornchai had three different groups of sixth grade students. The first group (first pilot term) entered this learning approach during their second or last term of their sixth grade with no earlier experience. The second group (second – third pilot term, 1994 academic year) entered this learning approach in their sixth grade with one term experience from their fifth grade. The third group (fourth - fifth pilot term, 1995 academic year) came with a year's experience. Because of the students' and the teacher's experience, Mr. Pornchai, was able to organize the seven steps most fully for the last group of students.

Changes in Curriculum and Resources for Learning

My students came back and reported that we need to have forests because forests provide water. They just reported what the villager told them, but they did not understand why forests provide water. At this point, the teacher needs to bring in content about water and the water cycle to help them understand the relationship. Also, there are so many points in the curriculum that the teacher can relate to the field data. **This kind of learning is like a chain**, students go into the village to gather data, the teacher can relate those data to content in the textbook. It depends on how you do it. (Pornchai in debriefing interview. 7/18/95)

Each term Mr. Pornchai continued to integrate the Life Experience curriculum and use the community as a major source for learning. First, he integrated different aspects of the Life Experience curriculum with data from the village to form a new unit: “a case study of a local environmental problem in our community.” He also integrated other subjects such as Mathematics, Thai language, and Arts in studying the local problem. In both ways, Mr.Pornchai tried to connect real life with the content students needed to learn in the curriculum.

In the first full year cycle, Mr. Pornchai had students do the following activities:

- Collect more detailed data on how people earned their living, on their social life and life style, on policy, and bio-physical data. Then write a full report “my village,” that included its history, way of life, and the condition of natural resources.
- Study the relationship among the forest, humans and the environment
- Identify a problem to study in-depth (the water shortage in the village)

- Study in-depth the causes and the effects of water shortage in the village and alternative solutions to this problem.
- Report the findings to the community members at the end of school year.

During the final full year of the project, Mr.Pornchai tried to have students slightly touch the beginning of step 7 that focused on evaluating and improving the alternative project. He organized the full year activities as follow:

- Review former data about the village and collect more complete information.
- Study in-depth the causes and the effects of the selected problem,“deforestation,” and report the findings to community members.
- Study the possible alternatives to solve the deforestation problem.
- Develop a letter with questionnaire to report the findings about the problem, get the villagers’ opinion, and suggest alternatives.
- Work with villagers on the school projects to improve the school forest and to establish an herb garden.
- Visit the forest committee to stimulate and follow up their work on developing the project.

When students were collecting data to understand the economy of the village, Mr. Pornchai had them find more details about the kind of merchandise that exists in the village: how each type works, what products are sold, where they come from, how much the stores earn for their benefit. He used the data to explain the topic, “the retail store and the wholesale store”. Students more clearly understood about the retail store than the wholesale store because they had seen an actual retail store in the village but had never seen a wholesale store before. That made it difficult to visualize what that kind of store was like. His explanation reflected his feelings toward increasing their understanding of real life learning. In organizing this activity, Mr. Pornchai integrated the topic of “merchandise” from the unit of “our village” using real life situations in the village as resources.

Students went into the village to collect data on the economic situation of the village. They also needed to learn about merchandise in terms of the retail and wholesale business. So when they went into the village I had them collect additional details from

several stores in the village and use that information to help them learn about merchandise. I don't have to wait until the next term to teach this content according to the sequence in the textbook. (Final interview, 7/4/96)

Mr. Pornchai integrated several other topics in the unit on "Our Community." For example, when students collected bio-physical data about the forest, he integrated content about trees, soil, and water for students to learn in the village context (Observations on 7/13/94, 2/2/95, 7/18/95). He also integrated a topic, "a good family," where students collected data about the life style of the village (Observation 11/22/94). In addition, Mr. Pornchai began using core skills of Thai language (speaking, listening, writing, and reading) as vehicles for doing the village study. In most of the interviews he mentioned how much his students had improved these skills while doing their field study.

When students reported their findings, feedback from the community about how much students had gained confidence in asking questions and presenting information was a strong factor in Mr. Pornchai's improvement. Mr. Pornchai integrated the arts by having students draw pictures of the forest in the past and present using data gathered from the villagers and from their observations. Later on, he had students make their own book about "my tree," describing the tree that students liked the most. In each book, students had to tell about the tree, draw a picture of the tree and its parts, make a diagram to show the portion of this tree in the village or forest, write a poem about this tree, and decorate the whole book. This activity shows how Mr. Pornchai integrated mathematics, arts, and Thai language in learning about trees in the village. Another example of Mr. Pornchai's continuing efforts to integrate curriculum came from the interview during term 5: "My students asked me why they still had not learned about character development and work-oriented subject areas. So I asked them if they had learned about drawing or art which falls in the area of character development, and if they had learned about taking care of trees which is about work-oriented subject. This means that I had already integrated those two subjects in the Life Experience area."

Throughout the pilot phase, Mr. Pornchai had been trying to create a more integrated curriculum. The teacher integrated topics within and across subjects. He changed the sequence, added details, and took out some information that did not seem relevant. Moreover, he created new tasks and assignments such as writing, drawing pictures to explain the concept of forest, and designing graphs to strengthen student learning. These changes led him to become a curriculum designer of his own teaching. He commented in the final interview,

Before participating in this project, I used to teach each content area according to the sequence presented in the textbook or manual. Now I don't think it is necessary to follow that sequence. It has to be flexible. When my students go into the village, I look and see if any content in the textbook could be learned during this time. Then I just bring it up and discuss it with them in connection with their field study. I try not to worry whether this content is listed to be taught in the second term. Another thing, I reduce some details regarding content that are not necessary to the student's life and add more details in areas that relate to the real life of my students. For example, in forestry, the textbook focuses on having students learn about forest and forest regulations. I think it would be more useful for students to understand about the forest and the relationship between the forest and human beings. Therefore, I added that. In summary, my teaching has covered all content areas but at different levels of detail and in a different sequence." (Final Interview, 7/3/96)

For Mr. Pornchai, the key to curriculum integration was to focus on project activities around a main theme, draw in content from the textbook related to the theme, and look in the village to see how students could study that theme. As the statement above reveals, he came to understand how to connect "real life" learning and classroom learning. His ability to adjust the level of detail indicates how much he understood and learned in terms of creating the essence of the present curriculum. Mr. Pornchai had created a learner-centered curriculum for the benefit of his students.

More Changes In Teacher's Role

My role as a teacher changed a lot in these two years. Before, I thought of myself as the main actor in my teaching, always standing in the front of classroom and doing most of the talking. Right now, it is my students who do the play and express their ideas. I move to the side of the classroom where I can watch my students and help them when they need help. I think the most important role of a teacher is to center on your students learning. This means the teacher should watch, help, and guide but not tell the students. For example, you should let them know the objectives of this learning and how to do it. Let

the students inquire on their own. The teacher should just watch and help when they need it. When students get stuck, the teacher should guide the direction, not tell the answer. For me, I gave my students a lot of support because I wanted them to discover the learning by themselves and pass through the experiences by themselves. They had to do it or face the problem on their own so they could build the awareness and that led them to real knowledge, real learning.” (Final interview 7/3/96)

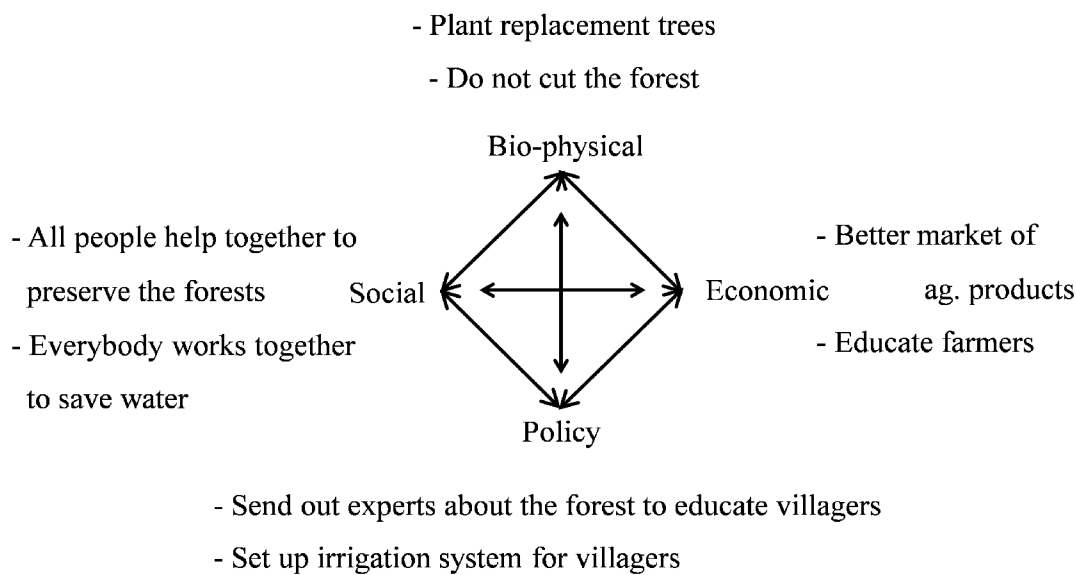
Little by little, Mr. Pornchai began to reduce his role from telling students textbook content to organizing activities so that students could do the learning themselves with his guidance, support and supervision. In the first pilot term, Mr. Pornchai provided an opportunity for his students to begin to construct their own learning by using life in the village as the main learning resource and using the textbook in combination with other materials. Over the two year cycle of the project, Mr. Pornchai continued to improve this role. Below is further evidence that he continued to change his role toward guiding, supporting and supervising the students’ learning.

Looking more closely at student learning. Mr. Pornchai began to pay more attention to the quality of student reports. Earlier in the first pilot term, he gave feedback to student reports that focused more on the manner of speaking rather than the content of the findings. During the second pilot term, Mr. Pornchai paid careful attention, listening to each report and making notes in his notebook. When all groups finished, Mr. Pornchai summarized the lesson based on what students had reported and connected many of the points to the curriculum to increase student understanding. For example, in the lesson on merchandising (Observation 6/8/94) Mr. Pornchai had students gather data in the village and read more details from textbook about the differences between a retail store and a wholesale store and then report findings to the class. The teacher, after students finished their report, summarized their conclusions by writing in two columns on the blackboard. One column was about the retail store and the other was the wholesale store. Under each column, he put what the students had reported and encouraged students to clarify the meaning of terms and to discuss the differences between these two kinds of stores. By doing this, Mr. Pornchai enlarged student understanding by having them clarify terms, examine the

differences and make connections.

Helping students deepen their analytical thinking. Mr. Pornchai's teaching in the third pilot term provides the evidence of his continuing effort to deepen student learning and understanding. This term was the last semester for the sixth grade students (class 94). The target output for this term was for students to report on the in-depth study of the problem "water shortage in the village," and to propose suggestions for possible solutions. Mr. Pornchai introduced the Kite Model. The students grouped written information about the village into these four categories. This lesson went beyond categorization to more analytic work. Students had to look for interactions and relationships among the four categories. Mr. Pornchai prepared a large piece of paper for each group to do their analysis. He explained how each category interacted with, related to, or affected each other. Then he walked around each group to observe them at work and to give advice when students asked. Students reported their group work using large paper and explained what their group came up with. At the end, the teacher wrote a summary about alternative solutions on the blackboard using information from each group's report.

Figure 5.1: Alternative solutions to reforestation to resolve water shortage



(Observation 11/7/95, 11/8/95)

In this lesson, Mr.Pornchai engaged students in more analytic work. He set up a large sheet of paper on a moveable clipboard so students could work as a group more effectively. Using a clipboard allowed all members of the group to see the writing. It also enabled the teacher to see the work more easily so he could help students. The teacher explained how to use the Kite Model to analyze cause and effects. Then students worked with their data to build their own conclusions. They saw how other groups worked on the problem. They got a chance to revise their thinking and come up with a new conclusion during the summary session.

Another aspect of Mr. Pornchai helping students gain more skills in analytical thinking was during the second full year cycle. The teacher had students study in-depth the cause and the effects of the deforestation problem. This time, the teacher asked students to develop questions that focused on forests. Mr. Pornchai introduced a new way of brainstorming to encourage individual thinking as well as group synthesizing. He gave each group several small pieces of paper. Students wrote one question on each piece. Then one person read his first question out loud and out that piece with the question aside. The other members would examine their questions and throw the same or similar questions to the same location on the desk. The process continued until the last piece of paper was put down. After that, students looked through each pile to select the clearest question or revised the question for better understanding. When students finished revising all questions, they wrote them up and gave them to the teacher. The following day, Mr.Pornchai made comments and gave feedback on the quality of the questions. When accompanying students into the field, the teacher gave one of the groups that he could not go with a mini cassette recorder to record the interview so he could listen to it later. When students came back and reported the findings, the teacher also recorded this session. This time, students report writing focused more on the in-depth study.

Mr.Pornchai designed activities for students to do more thinking about alternative solutions. Then he assigned them to develop a survey to ask villager's opinions about the

alternative solution that students had studied. When the students collected all the information, the teacher had them look at the frequency of villager's choices and put together a report using graphs and other forms of statistics to display their ideas.

Gaining new insights about the teacher's role. Another aspect of Mr. Pornchai's change is the improvement of his teaching role and his increased understanding of this learning approach. Mr. Pornchai was able to summarize the lesson based on student information. This reflected his understanding of what was the real learning to be attained. The teacher's demonstrated ability to give feedback on the content and the process of the reports reflected improvement in his role as a supporter of the learning process. Mr. Pornchai expressed his understanding of his role toward student learning when he said:

Teacher and students are working together more than before. This is because the teacher is participating in the students' learning. For example, when students went to study in the field, the teacher needed to go with them. When they tried to make sense of the information gathered, the teacher always needed to be there to observe, to help, or to guide them. If the students were left alone to work by themselves, they might not know what to do, why they are doing it, or what it means for them to do this activity. Therefore, the teacher has to be involved with students in their learning. (final interview 7/3/96)

The above statement reflects Mr. Pornchai's view about the teacher's role in student learning. Just because the teacher no longer controls the flow of information, does not mean that the teacher should now leave students entirely alone. For Mr. Pornchai, the teacher's new roles in promoting student learning are to stay with students, watch them work, observe how they work together, let them know the objectives of their learning, help them when they stuck, guide them when they seem discouraged, and provide feedback for improvement.

Changes in Student Assessment

In terms of assessment, teaching the case study approach is different from other subjects. The teacher has to watch students closely and continually assess their understanding. For example, you need to observe students from the start when they develop questions, follow them in the field to see how well they ask questions, observe them while they make sense of information they gathered and examine the report that they write. Then you can judge their learning." (Exit interview 9/16/94)

Mr. Pornchai continued to move away from assessing student learning at the end of the unit by using an exercise or a quiz as a tool, to more ongoing formative assessment. The above statement reflects his changing view of student assessment after participating in the project. Initially Mr. Pornchai relied mostly on one time assessment at the end of the unit. By the fifth term he was using a greater variety of assessment tools. In terms of change in student assessment, Mr. Pornchai continued to use a wider variety of tools to assess the whole learning process.

Mr. Pornchai used observation to see how students were learning when they interviewed villagers, worked in groups, and reported to the class. Another kind of assessment focused on student writing. Mr. Pornchai continued to create more forms of writing to assess student understanding. During the first pilot term, the teacher used an essay and report on village history to assess student understanding and their improvement in writing skills. In term 2, the teacher added more writing tasks by having students write a poem or motto about trees or forests to assess their understanding and appreciation of the forest. Later on in Terms 4 and 5, the teacher had students write a letter to the villagers to arrange the interviews. He assigned each student to make a book about “my favorite tree” with information about the tree and its usefulness. Besides a group file, Mr. Pornchai had each student collect his or her work in an individual file so he could see how each student was improving in writing and how each of them understood their own learning.

Mr. Pornchai used drawing as an assessment tool to understand student understanding. Having students draw a picture of their village gave Mr. Pornchai a chance to see the students’ perspective about their village. Drawing the forest nearby, gave the teacher a chance to see student observation skills and their understanding about the forest.

Mr. Pornchai gave students an opportunity to evaluate their own work as well as the work of other students. For example, each group had to evaluate its own group work during the field study. When doing a report, each group had to assess and give feedback to the reporter.

Moreover, Mr. Pornchai used villager observations to help him assess how students did in the interview. He used this feedback from villagers to improve the learning process.

In summary, Mr. Pornchai used a variety of tools to assess student learning. Anyone involved in the learning process has to be involved in the assessment process as well. He assessed student improvement in terms of what they learned and how they went about learning it. He extended the duration of assessment from just at the end of the process to assessment as an on-going process.

Mr. Pornchai helped me learn how one teacher can make changes in his practice. In doing this project, the concern from my colleagues was whether the teachers would continue this learning approach beyond the life of the project. I will end Mr. Pornchai's case by sharing his feelings about that:

You know I changed my practice a lot. I will not stop changing even though the project is finished. The project helped me learn to change in many ways. The learning that I think affected me the most was learning from my own practice. Of course, the other activities: workshop, teacher meetings, seminars, also played an important part in my learning to change, but the learning from my own practice was very real. You helped me to learn to see myself in the teaching. So don't you worry, I will continue this kind of teaching.

Chapter 6

Case of Ms. Busaba

Introduction

Ms. Busaba is the only female primary school teacher in the project. Most teachers know her as a strong, active teacher with a clear academic emphasis. Throughout the life of the project, Ms. Busaba participated in all activities designed by the project team and continued her role as a leader in implementing the project's learning approach/activities in her classroom. After the project ended, at the conference to disseminate the project's findings, she wrote about her experience and the value that she gained from the project.

I think I have been lucky to be involved in this project. During the last three years, I have come to accept that I have learned many things that were useful to me and the development of my professional role as a teacher. When I look back and compare my teaching before I attended the project with my current teaching, I realize how much I had lost my way by teaching the content in the textbook instead of the goal of the curriculum. Especially, I lost my concern for my students' own interest and took them away from their real life learning. In my personal journey of teaching and learning, I not only lost my own direction, I brought along all my very dear students with me. This means that my teaching was not concerned with how students could identify the local issues in their village, or how they could discover a possible solution to overcome the problems they faced in the village. Only these kinds of experiences would help my students learn to know, understand, and love their community. This is meaningful, real learning. (Document disseminated during the conference on December 11-13, 1996)

To describe the changes in Ms. Busaba's teaching and her process of change, this chapter is structured in three parts. It begins with information about the teacher and her teaching prior to participation in the project. Next comes a description and analysis of her teaching during the first pilot term and discussion about change. The last part focuses on her continuing efforts to change and offers some thoughts about the teacher's future development.

Part I

Base-Line Teaching: Becoming a Teacher

Understanding Ms. Busaba, Her Teaching, and Her Ideas About Teaching and Supervision Prior to Participation in the Workshop

I always wanted to be a teacher. I made this decision when I was young. If I had to make the decision again, I would still want to be a teacher (Base-line interview 9/24/93)

Background Information About Ms. Busaba as a Teacher

After finishing middle school, Ms. Busaba took the entrance examination to attend a teachers college located in the north near her home. After spending two years earning a lower certificate, she was qualified to apply for a primary school teaching position. She came back to her hometown to sit for the local teacher recruitment examination. While waiting for the results, she went back to the teachers college to pursue a higher certificate and majored in mathematics education. It took more than a year for the provincial primary education office to announce the available teacher positions and Ms. Busaba was one of those who qualified. Ms. Busaba, in order to get this job, decided to quit her studies. She was appointed to the Ruemjaiwittaya school located in the same district as her parents' home. She had been teaching there 16 years when she joined this project in 1993. Ms. Busaba feels a close attachment to her community and has a strong commitment to improving the quality of her school to promote better student learning.

After settling down with her work, Ms. Busaba continued to up-grade her education through self-study and took an examination to get a higher certificate. In 1978, she enrolled in an open university majoring in primary education and earned credits toward the B.Ed degree. In 1980, she applied for a weekend program at a teachers college to get another B. Ed degree in Social Studies. Ms. Busaba achieved her goals by getting degrees from both institutions in 1984.

Ms. Busaba has been teaching sixth grade since she started her career. This school has two sixth grade classes. She does not teach all subjects in the sixth grade. Instead, she and the other sixth grade teacher divide subjects and rotate between the classes. Ms. Busaba teaches Life

Experience, English, Thai language, and Work-oriented subjects. As a teacher, she spent a lot of time improving the work-oriented subject because she observed that many of her students could not afford to continue to study at the secondary school level. They had to work to help support their families. As a result of these efforts, the district selected her as the outstanding teacher in work-oriented subjects for four consecutive years. Besides her regular teaching, Ms. Busaba works as an academic teacher at her school and school cluster. This position requires that she attend meetings several times a semester at the school cluster to develop cluster tests, teaching and learning materials, and school achievement reports.

When she was 36 years old, a wife and a mother of three children, Ms. Busaba moved from her parents' house to live in one of the staff houses at the school. All of her children have attended Ruemjaiwittaya school for their primary education. Ms. Busaba lost her oldest son about ten years ago in a motorcycle accident. It took her many years to get over her sadness and feeling of blame since she was the driver. With help and sympathy from her colleagues and community members, she finally got her strength back and was again able to devote herself energetically to teaching.

Ms. Busaba's Ideas About Teaching and Supervision

Similar to Mr. Pornchai, Ms. Busaba thinks teaching is an honorable career which people respect and admire. In her teaching, she tries to teach students good things. She wants her students to receive good things, do good things, and contribute to making a good society. In classroom learning, "good things" means learning all the content in textbook. Ms. Busaba makes sure her students pass the required tests. She spends time with students who do not pass the test until they can. She plans her lessons a week in advance due to the amount of subjects she teaches. She always finds time to produce learning materials for her students.

Regarding supervisory work, Ms. Busaba appreciates visits from the district supervisor who comes to her classroom to observe her teaching. She thinks the district supervisory gives

useful suggestions to improve her teaching. However, she has a different feeling toward provincial supervisors as noted in her base-line interview:

The provincial supervisor seldom comes to this school, approximately once a year or some years not at all. When they come, they spend most of the time with the principal. They never get close to the teachers and do not want to build a relationship with us. Sometimes they bring a list of criteria and ask the teacher to follow it. They never want to ask teachers whether they can do it. Most of the criteria come from theory. We doubt that even the provincial supervisor can do it. (Base-line interview 9/24/93)

Having had a chance to get acquainted with Ms. Busaba's life and thoughts about teaching, the next section describes what this teacher did in her teaching prior to participating in the project.

Example of Ms. Busaba's Initial Teaching

During the base-line data collection, Ms. Busaba's teaching was observed for two lessons. The first lesson was about "Food: preparing and cooking" and the second was an art lesson in making a mold of a special event in the community. Due to Ms. Busaba's teaching schedule, we were unable to observe her teaching Life Experience.

A Lesson about Food: Preparing and Cooking.

The lesson lasted one and a half hours. The objective for this lesson was to help students learn how to select useful and healthy food to eat. Understanding this lesson would help students plan for the cooking activity in the following lesson.

Ms. Busaba opened the lesson by spending a little time talking with students about the foods that students eat in their daily life.

Ms. Busaba: You all had a chance to help your parents cook and to help me prepare lunch at school. Can you tell me what food is?

Students: Food is something we eat that is useful to our bodies.

Ms. Busaba: Yes you're right. Useful food gives our bodies good health, but poisonous food can make you sick and you could even die. So be careful about the food you eat. Now tell me what you ate today?

Students: Fried eggs and rice.

Ms. Busaba: OK, fried eggs. What did we put in when we made fried eggs?

Students: Eggs and some oil.

Ms. Busaba: What do you think the oil in the fried eggs give our bodies in what category of food?

Students: Fat.

Ms. Busaba: That's right. Cooking oil that provides fat came from both vegetables and animals. Let's talk about animal meat. When you want to buy raw meat, you want to buy it fresh. To know whether it's fresh or not, you just press your finger on it. If it turns pink or red, then it's fresh. About the fish, you need to look at its eyes. For fruit, you should buy during the season so you will get fresh fruits at appropriate price. Do you think pickled fruit is useful for our bodies?

Students: No.

Ms. Busaba: So, when you want to buy food, just choose the one that is useful for your body. Now, what I would like you to do in today's lesson is on this task card. I want each group member to contribute to group work. The secretary of the group needs to do the writing and the group president needs to monitor your group work. You have 20 minutes to work, so everybody please concentrate on your group work.

During this time, students in four groups were studying the task card and discussing how to do the task. Each group was asked to list all the food they had eaten that day, put their lists together and categorize them into meals and desserts. Then the groups' representatives would come up and to report out to the class. All students participated in this group work. Once in a while some boys were off task, playing with each other, but eventually the other members of their group called on them to get back to work.

Ms. Busaba walked around each group to stimulate group work. She often asked group members to share information and to help summarize the report. Ms. Busaba stopped at each group to see their work and to answer questions. When she found that some students seemed to be unclear about the task or unable to work as a group, she spent time re-explaining the task. Ms. Busaba extended the group work time another ten minutes after she found that students still needed more time to finish their work.

The teacher called on the class president to moderate the report session. Each group sent two members to do their report. One person read the question while the other read the answers. Two boys did the report for Group One while the other three groups selected all girls to report. Ms. Busaba listened carefully to the reports and summarized what the reporters said at the end of each presentation. Students paid good attention to each report as well as to the teacher's summary. At the end, Ms. Busaba wrote on the blackboard this summary:

The kind of food that we should buy or eat.

1. Food in all five categories.
2. Food in season.
3. Fresh food.
4. Healthy food.

The teacher spent a few minutes explaining each item on the blackboard. Then she told students that this lesson would help them make a good/ correct choice as they made plans to buy food to cook during the next lesson. Ms. Busaba then dismissed the class.

Ms. Busaba assessed students learning by observing the way students worked in their groups. She emphasized that they should help each other doing the task. The teacher examined the content reported by each group to see how they understood the different types of food, meals and desserts. During later hands-on activities such as cooking, the teacher would assess students by focusing on three areas: how students followed procedures, how they selected materials/food for cooking, and the taste of the food.

Ms. Busaba did not know in advance that she would be observed for this lesson. She told the observer that she usually used the local language in combination with Central Thai when explaining things to her students. She thought this helped students understand more clearly. For this lesson, she felt more tense than usual and did not speak in the local dialogue.

An art lesson using clay molding.

In this lesson, Ms. Busaba planned to have students use clay to mold an event in their community. In order to do this activity, students had to think about community events in which they had participated and to select one event to work on in a group. Then they had to plan what characters were needed to be in the event and how to mold it using clay. Prior to this lesson, students had learned about molding and had used clay to mold one project that they wanted to create.

The lesson followed her plans. The teacher spent a few minutes talking about the previous art lesson and linking it to today's lesson by telling students what they would be assigned to do. Then she gave examples of community events and explained the main task of molding an event. Students worked in groups on the assignment. The teacher walked around to stimulate group work and answer questions. After that, each group reported on their work. At the end of the lesson, the teacher made a summary on the blackboard and discussed it with students before letting them leave the classroom.

Students had 20 minutes to finish their work. All groups decided to work on the floor of the classroom. They discussed what event they wanted to work on. Three groups chose a Buddhist event while one group worked on an example of life in the community. Then they divided tasks among each member and started molding. In one group, two boys did not bring clay, so they had to run out to get some from the schoolyard. Ms. Busaba walked around each group to observe the group work. As in Lesson One, the teacher extended the working time for another 10 minutes for students to be able to finish their work.

After finishing their work, each group brought their product to "a presentation desk" in the front of the classroom. The teacher then gave students 7 minutes to prepare for their presentations. Each group was asked to tell the class what community event they produced, why they chose that event, and what problems or obstacles their group faced in producing their clay

mold of an event. After all groups finished their presentations, Ms. Busaba summarized the events that students presented and wrote on the blackboard about the problems that all groups had. Those problems were about the planning, the harmony of group work, and the preparation of clay. Ms. Busaba discussed each problem in detail and told students to maintain their strong points and to improve their weaknesses in future lessons. The teacher then told students about the activity for the next art lesson. Students would have to create a theme or story by using the same clay molding procedure. Ms. Busaba asked students to think and plan in advance so they would be better prepared to do the activity. The teacher ended by complimenting students on their work and for their attention to the lesson.

In expressing her feeling about this lesson, Ms. Busaba felt she did not plan the lesson well. She told students too far in advance, about 7 days ago, to bring clay into this class and never confirmed it again. So some students forgot. Moreover, she did not provide enough information about what she wanted them to use the clay for. Therefore, students did not know how much clay they should bring. As a result, students could only create an event with the amount of clay they brought in.

In this lesson, Ms. Busaba assessed students accomplishments based on group work activity and group products. She observed the amount of harmony among students as they worked together in their group and the efforts that each member put into the group. The teacher emphasized creativity as well as the product's quality. In her teaching, Ms. Busaba also involved her students in the assessment process. :

I often have students assess their work as well. Each group thinks about how to score the work. Sometimes, a teacher by herself may not be able to assess student work as well as having students involved in their own assessment. This is because you can get more ideas and create a final set of good criteria. By giving students an opportunity to assess their own work, they have to examine the work carefully and they will know what their weaknesses and strengths are. As a result, this experience will encourage them to be more careful and more willing to try to improve their future work.

Analysis of the Lessons

Ms. Busaba's teaching will be analyzed using the six areas that the Social Forestry, Education and Participation Project (SFEP) would like to see changed in teaching and learning: curriculum and lesson planning, learning tasks, the teacher's role, the students' role, resources for learning, and assessment strategies.

Curriculum and lesson planning. In her planning, Ms. Busaba studied the objectives of the curriculum and the activities suggested in the teacher's manuals provided by the provincial primary education office and other publishers. She made some adjustments to fit with student and village life based on the suggestions in curriculum. For example, she encouraged students to think about food that they had in their daily life and she categorized responses into food types. In the art lesson, Ms. Busaba had students use their own experience in community events to find a theme for their molding work.

Ms. Busaba followed the sequence of content from the textbook and the teacher's manual in her teaching. Her conversation with students at the beginning of the food lesson illustrated her knowledge and ability to link the concept of food and its benefits for human life. During the two observed lessons, there was no evidence that Ms. Busaba tried to integrate into her teaching other relevant content outside the food unit.

Learning tasks. In both lessons, students were assigned some similar activities: working in groups, using real life experience to produce group work, and reporting out results of group work. However, the types of work were different between each lesson. The food lesson asked students to analyze, synthesize, and categorize information. The art lesson asked students to create the theme, design the display, create a mold, decorate and then display the final product. Students did more analytical thinking and writing in the first lesson. They used more creative thinking, designing and handicraft work in the second lesson.

Teacher's role. In her teaching, Ms. Busaba planned lessons in advance, designed activities and materials for learning, explained key information to students, monitored student group work, helped students when they asked, listened carefully to student reports, and summarized the lesson at the end. During the two observed lesson, Ms. Busaba never took her eyes off her students.

Even though students were active in both lessons, Ms. Busaba still maintained tight control over the ideas during class discussion. Ms. Busaba always responded to student ideas by linking their answers to information that she thought was important. Students only answered questions posed by the teacher. They were never given a chance to evaluate their own ideas so that they could draw their own conclusions. In other words, Ms. Busaba had the outline of the content in her mind and tried to transfer that content to the students when it was mentioned or referred to. In doing this, Ms. Busaba played her role as a content provider and managed to transfer information to students without lecturing to them.

In supporting student learning, Ms. Busaba tried to make sure students understood the task and key information so they could function effectively in doing the task. The teacher paid attention to group harmony and group rules. Ms. Busaba always encouraged students to help each other in their group but she did not design the activity for students to really improve group work skills. Saying “everybody needs to help your group do the work” does not provide students a clear picture of how to help, how to share, how to brainstorm, or how to synthesize a group's decision.

In listening to students doing a report during the lesson about food, again Ms. Busaba was looking for whether students reported the right category of food. The teacher would correct them right away, instead of asking them to give reasons for their choice. The teacher's role in students learning was to provide information and monitor students as they worked toward getting the correct information rather than helping students draw their own conclusions.

Students' role. In both lessons, students worked in groups. Students had a chance to use their real life experience but only as it fit with the content they were supposed to learn. They had a chance to think analytically and creatively but their thoughts were not taken into account if they did not match the right answer. The role of students in these two lessons was seen as actively following instructions and receiving the right information.

Resources for learning. Students' previous content knowledge and the teacher's explanations and summaries were the major sources for learning in both lessons. The real life experiences of students were brought in because the nature of subject, life at home, was aimed at helping students improve their life at home. Students did not use any textbooks during these two lessons. However, they were expected to apply the content learned in previous lessons and apply it to this lesson. In the food lesson, Ms. Busaba asked students to bring in information about the food they ate to be used as data and she used previous student knowledge about food types as a framework for analyzing the data. To help students understand clearly, the teacher then explained in more detail and summarized the main idea to her students. Similarly, on the molding lesson, students shared their experiences about the selected community event to frame the display product. They used their previous knowledge about molding to plan and design what they wanted to mold. The teacher explained the important points for molding the event to help students produce better quality products.

In her interview, Ms. Busaba said she wanted students to apply their knowledge about food to their home diet:

Knowing about the usefulness of different categories of food will help students make good choices selecting food in their home. Some students may not be able to apply this knowledge because they are poor. They do not have enough money to have a choice about food. However, this knowledge is still useful to learn for their future.

The above statement shows how focused and somewhat inflexible the teacher was in her thinking about content learning. For Ms. Busaba, the purpose of real life experience was to match the content rather than to provide questions for investigation. Even though the teacher tried to

bring in a variety of sources for learning, the content from the textbook was still the heart of learning.

Assessment. In these two lessons, there were no written assessments such as individual exercises or quizzes. Observation was the major tool for assessing the process of group work when students reported. Their molding products were used to assess student understanding of the content and tasks. Sometimes Ms. Busaba had students assess their own learning, but even then, the criteria of the assessment focused on right answers and right procedures. Students reasoning about their own conclusion did not appear in the assessment. However, the teacher saw students' self-assessment as an effective strategy for students to improve themselves.

In conclusion, Ms. Busaba had an active role in helping students learn the content in the curriculum and from the textbook. She realized the importance of student practice for the learning process. Therefore, she planned lessons and designed activities that would give students a chance to practice and do their own work. However, student work always had to match the correct answers she sought. Students in Ms. Busaba's class were given the opportunity to link their real life experience to their learning, but only within the fixed framework of the content. "Good work" meant that students got the correct answers or followed the right procedure. The right answers and procedures came from the textbooks or the teacher's explanation and summary.

Ms. Busaba was seen as a successful teacher by her school, school cluster committee, and district office. She committed herself to do her best for her students. She paid attention to individual student learning and gave extra time to weak students to help them pass the tests. Her sixth grade student achievement scores were always above average at the cluster level as well as the district level.

Ms. Busaba attended the intensive 14-day workshop provided by the SFEP project as a way to help project teachers learn to make changes in their teaching. The next section will

describe analyze Ms. Busaba's teaching after attending the 14-day intensive workshop during in the first pilot term of the project.

Part II

Ms. Busaba's First Steps in Implementing a New Approach

To Environmental Education

The focus of Part Two examines how Ms. Busaba implemented the new approach in her class during the first pilot term. The duration of this term was from November 93-March 94 which was the second term of the 1993-1994 academic years. The data used to describe and analyze Ms. Busaba's teaching consist of four classroom observations and subsequent debriefings, notes taken during teachers' meetings, an exit interview with Ms. Busaba, some of her sixth grade students, district supervisors documents from Ms. Busaba's lesson plans and student work.

In organizing Ms. Busaba's story on her initial implementation effects, I begin by describing and analyzing her teaching during four lessons. Then I discuss changes that the teacher made and finally indicate some areas that I think still need to be improved.

Learning about "Our Community" Unit

Description of Ms. Busaba's Teaching Following the Workshop

During the last part of the workshop, Ms. Busaba and her colleagues in the project developed an integrated unit for the curriculum area of Life Experience. This unit was called "Our Community." It was divided into two subunits, "Village History" and "Life in the village." It was planned that at the end of the term, students would be able to write about the history of the village, describe the way of life in the village, and identify an environmental issue in their village related to trees or deforestation.

The SFEP project asked teachers to focus on collecting data in one village located next to their school. For Ruemjaiwittaya school at that time, there were two villages in its service area:

Ban Ruemjai and Ban Ruemjit villages. Both villages were located next to each other and used the same public places such as the temple, market, etc. The target village is Ban Reumjai. Ms. Busaba's students came from both villages.

Of the four observed lessons, two dealt with the first subunit about getting to know your village and drawing a village map. The other two lessons focused on the second subunit about village occupations. All four lessons show how the teacher used the community as a resource for student learning.

Lesson One: This was the first lesson of the new integrated unit. It was a two hour lesson. The goal of this lesson was to prepare students to go out in the field to study their own village in terms of location and places that needed to be on the village map. Ms. Busaba had two objectives that she wanted students to achieve in this lesson. Firstly, she wanted students to have an idea of how to study their own village. Secondly, she wanted them, as a group, to be able to develop a plan for going to the village to survey places and locations in order to draw a village map.

Ms. Busaba realized that her students came from two villages and would be collecting data in only one village, Ban Ruemjai. Therefore, she began her lesson by having students think about places that each village shared and used together for special activities. Ms. Busaba wanted students to think that even though they came from different villages, these two villages were like siblings. The two villages shared places and did many activities together. Since all the shared places were located in Ban Ruemjai, Ban Ruemjit's people were also members of Ban Ruemjai. Hence, students from Ban Ruemjit would not feel that they were outsiders who collected data from villagers in Ban Ruemjai.

After asking how many students came from Ban Ruemjai and Ban Ruemjit villages (of 20 students, 14 of them came from Ban Ruemjai and 6 from Ban Ruemjit.), Ms. Busaba took a few minutes to talk with students about places and things that people in these two villages shared and did together.

Ms: Basaba: Tell me what are some places that people from our two villages share together?

Students: School, market, cemetery, roads, bridge, and river.

Ms. Busaba: (wrote what students said on the blackboard and said) Think about how we are in the same village. What are the important places in our village?

Students: The temple.

Ms. Busaba: OK. How important is the temple?

Students: It is a place to do religious activities and ceremonies.

Ms. Busaba: Yes. Anybody has ideas about other places?

Students 2: The school.

Ms. Busaba: How is the school important? (the students paused so the teacher continued) Think about it. Nothing will be wrong with your thoughts.

Students 3: Library.

Ms. Busaba: Good. Keep on thinking and don't worry too much about a wrong answer. I'm not concerned about a right or wrong answer, because everyone has his/her own reason. Anyone else?

Students: (said at the same time) Health center, play ground, cemetery.

Ms. Busaba: OK. Now, let's focus on one place and think about the benefits and disadvantages. Which one do we want to start with?

Students 4: The pickled ginger factory.

Ms. Busaba: What do you think about this factory in our village? Help each other think about the benefits and the problems of this factory. Don't worry about a wrong answer. Nothing is wrong with your ideas.

Student 5: Villagers could earn more money.

Ms. Busaba: Yes. The villagers could make extra money besides their rice field. What else?

Students: It pollutes the water in the river.

Ms. Busaba: What is the consequence of the polluted water?

Students: It affects farmers.

Ms. Busaba: Why do you think water pollution affects farmers? Could you give me any examples?

Students: It damages the rice and other plants.

Ms. Busaba: You see how much you, at this age, can think about things that surround us?

The teacher then told students that there would be some changes in how they were going to study Life Experience in this term. She summarized the ways students had been learning before this term (e.g. how they learned from textbooks, supplementary books in the library, and from the teacher). The learning approach that students would use this term would focus on learning things close to their own lives in the community.

Ms. Busaba: From now on, you will be learning what you want to learn the most. Tell me what shall we do if we really want to know about our village.

Students: (Quiet)

Ms. Busaba: Do you think we know the real information of our village yet?

Students: No, we don't.

Ms. Busaba: Then how should we do to know that information?

Students: Ask villagers.

Ms. Busaba: OK. What should we ask them about? How do we ask villagers so they are not embarrassed in answering our questions? What kind of questions should be asked?

Students: (Quiet)

Ms. Busaba: OK. I will give you a hint. We should ask questions that start with why. We should not ask just yes or no questions. Suppose we want to know about the effect of the pickle ginger factory, do you think we should ask the owner directly?

Students: No we should not ask him.

Ms. Busaba: I agree. We should first ask the villagers.

The teacher spent about 20 minutes with the overview, then she told students the two objectives of the lesson: ways to study in the village, and developing a plan for going into the village.

For the first objective, Ms. Busaba wanted students to have some ideas on how to study their village, especially how to develop questions to ask villagers. The teacher had students practice developing questions to ask about one place in the village. Students proposed that they wanted to know more about their temple. The teacher had students work in four groups (already formed from the previous lesson) to think of questions to ask about the temple. The teacher gave each group a large piece of paper and gave them 15 minutes to work.

While students were working in their groups, Ms. Busaba walked around. At one table, she asked students to tell about the role of the groups' members. The students replied that the group secretary was to take notes, the group's president was to monitor group work, and the group members were to share ideas and help the group to work productively. As the teacher came to another group, she noticed that one boy had his head down on his desk. Ms. Busaba put her hand on the boy's face and neck and asked him if he were sick and if he had taken a pill. It turned out that he did not feel well and had already taken one pill, so she asked him to rest for awhile. Walking over to another group, Ms. Busaba emphasized that all students should try to avoid yes or no questions and try to think as much as they could about more open ended questions. She suggested to one group's president that when a member proposed an idea or a question, he or she should ask other members whether they agreed with that member.

After circulating around every group, Ms. Busaba came to her desk at the back of classroom and looked at her lesson plan. When 15 minutes had passed, the teacher called for the reporting session to start. The teacher emphasized that each student should pay attention, listening to each group's report while thinking about questions to ask each reporter. The teacher let each group volunteer to do their report based on how ready they felt.

All groups sent female representatives to do reports. They reported on questions to ask about the temple. Each group also made a written report to give to the teacher. Ms. Busaba, after all groups finished the report, commented by saying, “All questions that you have developed represent what we want to know about the temple. I noticed that each group had similar ideas to ask about the temple. Another thing is you can add more questions during your interview with people.” The teacher then summarized the main questions about the temple before moving on to the second task by saying:

Every question that you developed will help us know more about the temple. When you ask these questions, you can always add more questions that come up in your mind during that time too. I can see that you all have some ideas about how to get information from the villagers for this experience about the temple. That was your practice. Later on, you will do the real thing. This term, we will learn to know Ban Ruemjai village. We will start with the history of Ban Ruemjai. First of all, we need to know the geography of Ban Ruemjai. Therefore, in tomorrow’s lesson, you will be going into the village to survey its location. When you come back to class, each group will have to draw a village map as your design. Before I give each group a task card, I want to review the process of making a map. I will use a school map along with my explanation.

Ms. Busaba asked students to help her put on the board the school map she had made in advance for this lesson. She discussed with students the main things that should be on the map title, scale, directions, and more of places. Then the teacher gave a task card to each group to take into the village in the next day.

Details of the task card.

To survey the geography and surroundings of the village, each group is to make a plan on going into Ban Ruemjai village. The plan should include:

1. What rules was the group to use?
2. What kind of behavior should be expected of group members during field work?

3. What things are to be observed in the village? How will you record your observations so they do not get mixed up and so you will not forget them later?
4. In surveying the village's location, how do you plan to do the survey? What direction does the group want to start from and end with, so the process will not be too complicated to manage?

Students had 20 minutes to finish the task and get ready to report to the class. Ms. Busaba walked around each group to observe their work, explained various procedures, and encouraged group participation. The teacher gave each group a folder to collect their work.

All groups finished their work in about 20 minutes. The teacher then called on the groups to report in order. Group three sent the same reporter as before to present their report. Ms. Busaba asked the group to change the reporter to someone new. The teacher emphasized that group members should take turns being a reporter. The way each group reported its work was similar. Three groups reported by reading the questions, followed by the answers. One group only read the answers. Ms. Busaba commented after the report session that she was looking to hear students describe their plans for going out to the village and how they would do the survey. She did not expect to listen to someone answering the questions. The teacher then told students that she would give them an extra hour in the afternoon to revise their reports so they would be ready to go into the village on the next day.

I think maybe this activity is new to you so you may not have a clear understanding about how to do this planning report. I will give you one more hour after lunch to work on this plan again. If you are going to go to the village tomorrow, make clear what will you be looking for and where those things are located. Secondly, make clear what route you will take to cover your survey location. When you do the report, try to tell it like a story. Don't read the question and follow with the answer. Since it was your first time, I think you will do better as we continue to practice.

Ms. Busaba ended the morning session by having students summarize two main ideas. The teacher asked students what kinds of questions should be asked about their village. As students answered, the teacher wrote on the blackboard: open ended questions, such as why and how. The other idea was about things that should be on a village map, such as the name of the

map, scale, direction, and name of places. The teacher reread the summary and then let students leave for lunch.

I could not observe the afternoon session (one hour) due to an appointment with another teacher. However, we spent time after school talking about these two sessions. About the afternoon session, Ms. Busaba said that she did not give a task card to students but asked them directly to think and tell her their plan for tomorrow's survey. Why would they do? Where would they go? How would they record their observations? Ms. Busaba thought that students improved a little in their reports. The teacher was not very satisfied with the work of the students. However, she agreed that her students needed time to continue their improvement.

Ms. Busaba assessed student learning by observing their work, listening to their reports, asking questions, and examining their written work. The teacher knew her students very well and paid attention to helping students learn better as she said:

I kept posing questions continually because I wanted to model for my students how to ask questions. This is how you ask questions and this is how you pursue more information. So my students would be familiar with these strategies and could do these when they went into the village.

Also, I said very often to my students, "Keep on thinking. There is nothing wrong with your ideas. There are no wrong answers." I did that because my students are still children. They are young and just kids. They would not feel confident if you kept saying "you're wrong" all the time. I would rather say to them. "What you think is good just revise it a little to make it sound better."

Ms. Busaba also regularly assessed her teaching. For this lesson, she learned that things did not always go as planned. The teacher predicted that students might have trouble with the first objective, developing questions. It turned out that they did very well in the limited time they had. For the second objective, the teacher thought that students would find it easy and be able to make good plans. It did not turn out that way and the teacher had to spend an extra hour to complete the lesson. Reflecting on her teaching, Ms. Busaba thought that if she had to teach the second objective again, she would have brought another example as an exercise to help students learn

various ways to make a plan to do a survey. The teacher thought that having such an experience would help students develop a more concrete understanding of how to do their assignment.

Lesson Two. Prior to this lesson, Ms. Busaba had students go to Ban Ruemjai village in four groups to survey places and make a village map. Each group walked around observing and making notes to be used for their group's project. In this lesson, the teacher had three objectives. Firstly, the teacher would like students to assess their own work individually, comment on the work of their colleagues, then synthesize findings through group work. Ms. Busaba wrote in her journal that students needed to be able to evaluate their own work before making any comments or criticizing their colleagues' work. To be able to do this task effectively, students needed to practice accepting any comment or criticism from their peers. Secondly, the teacher wanted students in each group to make a village map based on their observations. At the end of the lesson, each group would send a representative to report to the whole class.

Ms. Busaba began the hour by talking to students about their feeling of going out to the village. All students replied that they enjoyed this experience and looked forward to continuing to learn in the village. The teacher then gave the first assignment to students. She wanted students to think back on the field study that they had done yesterday. Each student was asked to think and then write about what they did, what they learned, what obstacles or problems stood in the way of their learning, and how to overcome such problems. Ms. Busaba gave each student a piece of paper to write on for 10 minutes. At the end of the observed time no one was finished so the teacher allowed students to continue working for another five minutes.

The teacher then asked students to get into their groups to share findings, make comments to other group members, and develop a summary of how their group worked. The following is from the teacher as she gave students their assignment:

Ms. Busaba: Now that each of you has had a chance to look at material you collected, let's hear what your group members think about it. This will give you some ideas for improving yourselves in the future. Usually we hardly see the faults of our work. I also want you to talk in your group about what

the group did, what you learned, how you did your group work, whether it went as you had planned, what the problems were and how to make it better.

Ms. Busaba had students propose the amount of time needed for their work. Students said 20 minutes. During this time, the teacher went to her desk and spent time reading and making comments on student work. Then the teacher walked around the class observing student group work. When she realized that some groups were about to finish while others were still working, the teacher said to the class: “Make sure that all members contribute to the work of the group. If any group is finished, you should spend time reviewing your answers again to see if there are any changes or improvements. The group secretary should read it out loud and group members should listen carefully to make any final changes.”

The second assignment was to make a village map. Before beginning this work, Ms. Busaba reviewed the main points to be in the map by putting the school map on the board and discussing with students such points as the name of the map, scale, direction, and name of places. The teacher then gave each group a large piece of paper to draw a map and told them that they would have one hour and a half to finish their work.

Students were eager to do this work. Three groups decided to work on the floor while one group worked on the top of several desks but later on moved to the floor. The learning climate was relaxed. Some students laid down on the floor to draw a map while others sat in a circle. The teacher walked around and sat with each group. Ms. Busaba often told to each group that she was only making suggestions. The group needed to decide what was best for them through a group decision. The teacher encouraged students to design and decorate their own symbols and styles on the map. Ms. Busaba decreased student stress by saying that “We can only do our best in the limited time that we have. Don’t worry too much about the details in your map. You can always add more details later when you have another chance to visit the village.”

The teacher called for the report session when the working time was over. She asked each group to pay careful attention to other group reports, to compare their group's report, and to think about the differences between each report. Students were eager to present their reports. Each group sent more than one representative to report on the work of their groups and to present the map they had drawn. At the end of the reporting session, Ms. Busaba put all four maps on the blackboard and talked about the similarities and differences among those maps as a summary. After that, the teacher ended the class.

Ms. Busaba assessed student learning by listening to their reports and reading their written work. She thought students in general learned about the village's location and surroundings. They got some ideas on how to use their observational data to develop a village map. As time passed during the lesson, the teacher realized that two hours were not enough for her students to finish the task so she asked the other subject teacher if she could use his hour for students to continue their work. It turned out that overall Ms. Busaba spent three hours for this lesson instead of two hours as planned.

Ms. Busaba spent another seven lessons to finish subunit one on village history. During those lessons, students were asked to develop questions to ask about the village history, take two trips into the village to interview villagers, review information gathered to write a report and reported to the class, write an individual essay about "my village", and draw a picture to tell about village history and its current situation.

In subunit two, Life in the Village, students would learn about ways of life in their village using the four themes of the Kite Model: economic, social life and culture, policy and management, and bio-physical environment (natural resources). Understanding these four main areas of the village would help students identify the actual environment issues that existed in their village. The third and fourth observed lessons were about the economic life of the village. They focused on how villagers earned their living, what kind of occupations people in the village had,

what the rewards were for each occupation worked for the villagers, what problems or obstacles were associated with each occupation, and what ways villagers could improve their earnings.

Details of activities will be described in lessons three and four.

Lesson Three. This was a three hour lesson. Prior to this lesson, the teacher had students develop questions to ask about occupational life in the village. Students needed to find more details about each occupation, such as how it works, how it affects the lives of the workers and the community, what the approximate income is for a particular job like farming, what problems villagers face in their occupation, and what strategies villagers use to improve their work. To provide an opportunity for students to practice asking these kinds of questions, Ms. Busaba invited a community person to come to her class and had students ask their questions. After that, the teacher and students discussed what needed to be improved and had each group make changes in their questions before going into the village to interview villagers.

For Lesson Three, students were to go into the village for the second time to gather more data. The teacher had planned to organize three visits to the village for students to get enough information. Ms. Busaba began the lesson by having a discussion with students that reflected on the visit from the previous day. The teacher commented on the strategy that students used in their interviews:

Yesterday we went into the village and came back to report to the class. Each group assessed their group work and reported on ways to make the process work better. So today you need to follow your suggestions. The first visit we did not identify the person that we thought would give valuable information. We just went into the village and talked to whomever we met at that time. For today, we should leave the class with target informants in mind. From my observation about the problems we had yesterday, I noticed that some villagers could not answer your questions. This is because we used some terms or words that they did not understand. So we need to make changes on that before going into the village today.

Ms. Busaba gave students a few minutes to review their questions before telling them to leave for the village. Students spent about one hour and twenty minutes in the field. The teacher was able to follow and observe two groups of students as they interviewed villagers. Ms. Busaba

could not locate the other two groups. The teachers had each group make their own decision about whom they wanted to interview and did not have students tell her before they left the class, so she lost them in the village. When all the groups came back to class, Ms. Busaba commented:

I noticed that most of you spent a lot of time traveling to the interviewees' houses. You selected target persons that lived far away from school. There are people who live nearby who can answer your questions too. You have one more day to gather information. So think and plan carefully for your last chance.

The teacher complimented one group she had observed. She thought that group had made a good decision to split into two smaller groups to interview different houses in order to get more information. Ms. Busaba critiqued questions that students asked that seemed to focus only on the amount of things such as how much land the villagers had for farming, and how much rice they produced. The teacher said she wanted students to continue asking additional questions such as: Is the rice produced enough for the whole family?

After that, Ms. Busaba gave each group pieces of paper to report their assessment of the fieldwork they had done. The teacher wrote on the board four items that she wanted students to assess and report on

- How was the group work?
- What were the questions used in the interview?
- What do you think about the target interviewees?
- What information did you get from this visit?

While students were working on the report, the teacher went to sit at her desk making notes in her notebook. When the teacher noticed that most students were about to finish their work, she asked each group to have the secretary read the group's reports out loud to get feedback and improvement from group members. After that, the teacher started the reporting session. Each group sent a representative to the front of the room to read the report. The teacher encouraged students to ask questions from each reporter to get a clearer understanding. At the end, the teacher complimented students on the improvement in the group process. Then she asked

each student to find time to review his/her own information to see what additional data students needed to gather during the next visit. The teacher told students that she expected to see a better prepared plan for the last visit. The teacher then ended the class and let students get ready to go home.

When I interviewed Ms. Busaba after school, she said she thought students made some improvement in their interviewing of villagers. Through her observation of two groups in the field, she noticed that students felt more confident and asked better questions. Before, students were shy and tended to ask fragmentary questions. This time the teacher felt students had more direction and better plans for group work. The teacher saw all members of the group participate in asking questions. However, the teacher felt that most students asked questions only from their list. Only few students were able to think up and ask additional questions to pursue more detailed information. When she asked students why they did not try to add more questions, they told her that they were not able to think of any other questions in that limited time.

Ms. Busaba wanted all students to have a chance to practice the full interview process on their own. So during the third visit, the teacher planned to have each student interview a different household. In this way, the teacher said that each student would have the experience from the beginning until the end of each interview. Students would then know what it was like to interview people, how to start up, how to continue, and how to end the interview. Moreover, the teacher thought that students in each group would have more data from their individual interview to share and summarize with their groups.

Ms. Busaba seemed to worry about the amount of time the class spent on this kind of learning. As a sixth grade teacher whose students would be taking a final exam organized by the provincial office, the teacher was concerned whether she would have enough time left to cover all the details in textbooks. Later on, when the teacher observed her students, progress and improvement through this learning process, her worries declined and she began to see a way of

connecting content into the field study. The teacher expressed her view about this kind of learning:

This kind of learning is good. I usually played the main actor in my teaching. But now I gave this role to my students to play. At first, I doubted it. Would my students learn anything? Students have to take the provincial test that focuses mainly on information from the textbooks. The things my students learned in their village might not help them answer question on the test. But as I did this kind of teaching and learning in my class for a while, I began to understand that this is like a basic kind of learning for my students and I could add content from the textbooks to connect with their village learning. My only small concern still is whether I will have enough time to do that well.

In the following lessons, students went into the village for the third time to do their own individual interviews. When they came back to class, all members shared information in their groups and wrote a report on various occupations and how people earned their living in the village. The teacher and students summarized the way people earned their living into four kinds of occupations: agriculture, service, merchant, and factory. The teacher, concerned about time and the content students needed to learn from textbooks, and balancing this with the learning process emphasized by the SFEP project, decided to have each group study in-depth only one occupation by gathering information from textbooks and other supplementary books, as well as from community members. Each group wrote a report and shared what they learned with the whole class. The next observed lesson describes how each group wrote a report on the details of various occupations.

Lesson Four. The period of study was two hours. This lesson took place a week after the last observed lesson. It continued to focus on the topic of vacation/occupation but in a wider curriculum context. Prior to this lesson, the teacher had assigned each student to work individually, searching for and making sense of information about the occupation given to his/her group. Each student was given a task card with instructions to follow. In this lesson, students were to share their information and summarize it into a group report. The teacher hoped that by the end of this lesson, students would be able to write a group report by sharing and synthesizing information from each member of the group. Moreover, the teacher hoped that each group would

continue to improve their group work.

Ms. Busaba gave students an hour to work in groups. She advised each group to focus on one question at a time, listening to each other's information and choosing the best parts from each one to put in their group report.

The teacher walked from one group to the next to see how students were working on their respective tasks. She sat with one group and encouraged them to think harder. Students seemed to be stuck with one question so the teacher told them to try another question and come back later to the first one. With another group, the teacher talked to the president of the group, explaining to him his role as chairperson was to invite members to share thoughts and to get their agreement. Ms. Busaba encouraged each group to have a secretary read out loud the summary and to ask members whether they liked it or not. At this group, Ms. Busaba played the role of a group member listening to the report and making some comments to improve the summary. In doing so, the teacher also asked other group members whether they agreed with her comments. The teacher continued to walk around to each group stimulating group work until the end of period

Ms. Busaba noticed that Group Two had finished their work, so she called on them to report to the whole class about "service work." There were two representatives from group who presented the group's report. One member read the questions, while the other read the answers. Four questions guided their report.

1. What occupations are categorized as service work? In the present, it seems that more and more employees are doing in this kind of work. What are the reasons for this?
2. What morals should employees have to do this work? Why?
3. What differences are there between service work, agriculture work and factory work?
4. If you could choose your own occupation, would you choose to work in the service sector? Why or why not?

The teacher sat with Group Four listening to the first presentation to the class by Group Two. Before the report started, Ms. Busaba called for attention to listen carefully to the

report: “You need to listen carefully because other groups are doing different occupations from yours. Each of you only studied one occupation so you will learn other occupations from the other groups’ reports. When Group Two finished the report, the teacher encouraged the whole class to ask questions. There were several questions and the teacher encouraged members of Group Two to answer. After that, the teacher summarized by asking questions related to the main concepts students needed to learn such as: What is service work? What are examples of this kind of work? What is the usefulness of this work to people? Is there service work in our village? and What examples are there? The teacher helped re-phrase student answers and added more detail. At the end of the session, Ms. Busaba asked students whether they were able to take notes on the summary and told students to spend some time at home writing in their notebook about service work. The teacher then dismissed the class.

Ms. Busaba continued to have students learn from the village about the other three themes: social life and culture, policy and management, and the bio-physical environment of the village.

Analysis of Ms. Busaba’s Planning and Teaching

All four observed lessons described above demonstrated how Ms. Busaba applied the knowledge and experience learned from the 14 day workshop to organize learning opportunities for her students in the new unit “Our Community” in the Life Experience subject area. In this session, I will analyze teaching and learning according to the six areas of change that I used in analyzing Ms. Busaba’s initial teaching. These six areas included: curriculum and planning, learning tasks, teacher’s role, students’ role, resource for learning, and assessment.

Curriculum and lesson planning.

Before attending the project, I used to plan the lesson on every subject in one notebook. I just listed them in the sequence of a daily schedule that my students would follow. With this project, I planned the Life Experience subject individually in a separate notebook. I found it helpful and convenient to make notes after teaching and to review the previous lessons. I will do the same thing with lesson plans for my other subjects this coming year. Planning the lessons for “Our Community” unit helped me learn to develop these by

myself. I learned to think about student capacities and planned the lessons to fit with these. Before, when I finished my teaching, I just put a very short and general summary on the result of the teaching and learning part. Now you gave me a series of questions to think and write about after I finish each lesson. I just could not do the same thing that I used to do anymore. When I came to make notes on this part, I had to think for a while: What did I do in this lesson? What did I see my students learn? Is there anything that did not happen as planned? How can I improve this unit? This writing was good and helpful to me. (Debriefing after Observation December 22nd, 1993)

The above statement describes the way Ms. Busaba planned her lessons before and during the first pilot term of the SFEP project and how the project improved her ability to make her own lesson plans.

In the four lessons observed, Ms. Busaba planned the lessons based on the outline of a new unit, Our Community, that she and her colleagues had developed at the workshop. The teacher used her knowledge about the community and her students, her experience from the workshop, and suggestions from the teacher's manual to design detailed activities that fit with this context. For example, in Lesson One, the teacher had students practice developing questions to ask about the public place that the two villages shared. She did this to reduce the gap that could have developed for students from Ban Ruemjit about Ban Ruemjai village. In the other three lessons, the teacher had students think individually and note their ideas down on a piece of paper as a way to help each of them to think by themselves before sharing ideas within their group. The workshop used this process as a way to help teachers develop their ideas for group discussion.

In terms of curriculum integration, the first two lessons that focused on making a village map provided examples of how Ms. Busaba brought in a real life situation to form a lesson for students. Students had learned how to make a map in their math class. They knew most places and locations in their village. The first two lessons provided students a chance to look at their village by way of a class exercise. It also gave students a chance to practice applying what they learned in school to a real world situation. In this way, the teacher integrated other subjects such as math and art to a real life situation in this new unit on Life Experience.

Lessons Three and Four demonstrated how the teacher connected what students learned in the village to the Life Experience content in textbook. In the regular Life Experience class, students learned about “Occupations in Thailand” in Unit Five of the textbook. Ms. Busaba and her colleagues, when developing a new unit at the workshop, were told that they should integrate this Unit Five’s content into the village study. Therefore, Ms. Busaba planned her lessons in two parts. The first had several lessons that focused on gathering information about village occupations. At the end of this part, students would know what kind of occupations existed in their village and how they worked. The second part focused on wider information about occupations in Thailand. The teacher had students search for information from the textbook as well as from supplementary books that she prepared for them. At the end of the lessons, Ms. Busaba’s students had learned about occupation in Thailand based on content in different books with an understanding and a more concrete view of how each occupation worked in their village.

Ms. Busaba always planned her lessons a week in advance. The teacher also adjusted her daily lesson as a result of earlier student learning. Ms. Busaba added an extra hour for Lessons One and Two to help students get ready for a field study. In Lesson Four, the teacher made more task cards for students because she noticed that students lost their concentration when they had to share a task card with other members in their group. Ms. Busaba thought that each student needed to do the study on their own as well as with their group. Therefore, the individual task card not only helped students concentrate and do their own work, but also helped students locate information they could share confidently with their group.

Learning tasks. The students were told that this term they would be doing learning activities both inside and outside the classroom. This was different from the lessons observed during the base-line where students were asked to use their knowledge and experience from their lives in the community to construct or design their answers. The students depended mostly on their recollection. For learning activities in the first pilot term, students were to go into the

community to study the actual way of life and to find out information about the situation of the village in the past from community members. In this kind of learning, students also used their recollection of life in the village but only to frame and plan their study. They were asked to develop a deeper understanding about their village from a wider perspective.

In Lessons One and Two, students were to develop a village map. The tasks requires students to reflect on their knowledge about the location of their village in order to plan the direction of their survey. Students were asked to design a strategy for their group work and for the process of data gathering. During their survey in the village students were asked to observe and make notes on any information that they would use to make a village map. When they came back to class, students were to work in group to write a report on how they did the study. The final piece of work was a village map where students had to use their creative thinking, knowledge about map making, and drawing skills to make that map.

In Lesson Three, students were asked to review and improve questions to ask about occupations within the village, identify their target interviewees, go into the village to interview the target persons, come back to write a report, and then present findings to the class. These learning activities provided an opportunity for students to re-examine the questions and to make changes in questions so they were more open and more understandable. Students needed to do some assessment to identify persons for their interview and to get the group's agreement regarding selected interviewees. During the interview, students needed to listen carefully to be able to ask follow-up questions to pursue a point in greater detail. When they came back to class, students were to study their own notes and the notes of other members of their group to make sense of the information they gathered. Then the students were to pull together their thoughts and write a report that they were to present to the class.

The task for Lesson Four was similar to Lesson Three in terms of the learning process but different in terms of the resources needed for learning. Lesson Four's task required students to

pursue information from textbooks and other supplementary books. The teacher used a task card to assign the work. Students were to study various textbooks to answer questions posed in the task card. Each group was assigned to study different occupations in order to help other groups learn about that occupation from their presentation. To complete the task effectively, students had to read information, try to capture the main concept from each book, reread again and then write a report. Each student had to do his/her own report. Then group members got together to share their findings and to synthesize findings from each member into a group report.

The nature of the tasks assigned to students during the four observed lessons promoted the development of intellectual work. The task of making a village map required students to reflect on their own knowledge and experience from other subjects, such as math and art, as well as their own lives in the village. Then they went into the village and gathered more data to generate new information about the village. Students were asked to make connections between real life in the village and the content from the textbooks. Through report writing, students had to synthesize ideas into new understandings and develop a report that reflected what they learned. Students would need to do a lot of analytical, critical, and reflective thinking. To be able to perform this kind of thinking, however, students needed intensive guidance and close support from the teacher to help them develop these skills and to practice them continually.

What the teacher did in her teaching during the four observed lessons demonstrated her commitment to help students learn and to improve their thinking skills. Organizing activities that required students to think analytically, critically, and reflectively was like building a window to help students see a wider view. But seeing is not enough to help them learn how to fly in the wider world.

Ms. Busaba also provided an opportunity for students to develop their interpersonal and social skills. The teacher emphasized the role each member of the group was to play, assigned students to think about the strategy of group work, asked each group to set their rules, and

encouraged group work participation. These were some of the ways she sought to improve student group work. Ms. Busaba modeled the behavior she wanted by asking follow-up questions and by participating as a group member to help students see a concrete example of how to interact.

Teacher's role. In the four observed lessons, Ms. Busaba demonstrated how a thoughtful and caring teacher organized learning activities for students to do a field study. She prepared students before going into a village by having them think about questions to ask and places to visit, and to plan for their field study as in Lessons One and Three. The teacher supervised students while they were in the village in order to help them better as in Lesson Three. When students got information from the village or from books, Ms. Busaba provided time and support to help students make sense of such information as occurred in Lessons Two, Three, and Four. During her teaching, Ms. Busaba always paid attention to students and tried to make sure that each student understood the task and how to do it in a group. The teacher would walk around each group observing and encouraging their work. If Ms. Busaba were to come to her desk, it was only because she wanted to check her lesson plan or to read a student's work. During lesson, the teacher never left the room for anything unless it was related to student learning.

Ms. Busaba continued to play the role of being a supporter for learning. By doing that, the teacher designed, planned, and organized learning activities that focused on field studies for students. Throughout the learning process, the teacher encouraged, guided, helped, complimented, supervised, monitored and assessed student learning. Moreover, this teacher always reflected on her teaching as a way to improve student learning.

In all four lessons, the teacher, as a guide and a helper, spent time to describe, explain, and discuss to make sure that students understood the tasks they would perform in each lesson. Ms. Busaba spent time in advance making task cards to give to each group, so students would have written instructions to study as they worked in their groups. Reflecting on her assessment of

what had happened to students when they only had one task card per group, Ms. Busaba recognized the trouble each group had sharing a single task card. Later on in planning for Lessons Three and Four, the teacher decided to give students in each group a task card. For Ms. Busaba, giving each student a task card was a better way to help students since they would have more time to work and be able to be concentrated more. As a result, students would have more opportunity to experience thinking and searching by themselves as well as with their group.

Another aspect of Ms. Busaba as a supporter for learning has to do with her insight into students' feeling. The teacher was concerned that student feelings could affect their learning. For example, in Lesson One, Ms. Busaba spent time talking with students about the two villages: Ban Ruemjai and Ban Ruemjit. She emphasized that they were really one community that always shared and did things together. The teacher wanted students from both villages to feel that they were closely related to each other like a sibling village. Therefore, students from Ban Ruemjit should not feel uncomfortable but were encouraged to study about Ban Ruemjai village. In another example, the teacher said to students "Keep on thinking. There is nothing wrong with your ideas. There are no wrong answers because it came from your idea." The teacher did that as a way to encourage students to think more and to ask more questions. Ms. Busaba reflected on this strategies encouraging strategy as she said:

I did that because my students are still children. They are young and just kids. They would not feel confident if I kept saying "You're wrong" all the time. I would rather say to them, "What you think is nice just revise a little to make it better."

The above comments showed how deeply Ms. Busaba as a teacher knew and cared about her students' feelings and how she managed to perform her teaching in a way that prevented the development of students' negative attitudes toward learning. Consequently, she was able to support and stimulate maximum student learning. Ms. Busaba played the roles of encourager and complimenter to inspire and stimulate student learning.

Playing the roles of a guide, a helper and an encourager in supporting student learning, Ms. Busaba realized and paid attention to the importance of “getting students ready” before letting them carry out their field studies. In Lesson One, she had students practice thinking of questions to ask about the temple, review the major points of the school map, and plan their field study. When the teacher found that students still did not have a clear plan, she helped them by providing another extra hour in the afternoon to let students improve their plan before going into the village on the next day. As a result, she thought that students would have clearer ideas of what to look for in the village and how. Guiding students to think about the main points of the map so they would have a basic idea to start with, the teacher took time to review and discuss the major points of the map again before letting each group draw their own village map as in Lesson Two. Prior to Lesson Three, students were asked to gather data about village occupations. To get rich data, the teacher helped students get ready by having them prepare a set of questions focusing on the details about occupations. To give students a chance to try out their questions and to make some changes, the teacher asked a villager to come to class so students could practice asking questions. She also provided time for students to improve their questions before going out to ask villagers.

Ms. Busaba wanted students to see concrete examples of how to ask follow-up questions and the various roles group members should play during group work. Therefore, she modeled asking follow-up questions in her teaching. The teacher thought that providing the direct experience of being asked a follow-up question would guide students to become familiar with this type of questioning and that this would in turn affect student thinking and interview strategies. Another example of Ms. Busaba being a role model to guide student learning took place in Lesson Four. The teacher sat with one group of students while they made sense of data that each had gathered from various sources. In that group, Ms. Busaba told members to think of her also a member. As a group member, she listened to each student share their findings, asked

students questions to clarify meaning, commented to improve summaries, and at the end asked other group members for their ideas and whether they agreed with her comments. This example demonstrated how the teacher acted as a role model in a concrete situation to guide students to learn how to be an effective group member.

Ms. Busaba supervised, monitored and assessed student work regularly in the classroom and during the period of field study. Playing the roles of supervisor, monitor, and evaluator, the teacher paid attention to how students performed their group work activities and how effectively students completed assigned tasks. Focusing on group work, the teacher always emphasized the role group members should play, how to promote maximum participation, and the importance of group work harmony. For example, in Lessons Three and Four, the teacher suggested strategies to the group secretary on how to get comments and agreement from group members to finalize the report. In Lesson Four, Ms. Busaba explained to the president of one group how to provide opportunities for group members to share their ideas and how to synthesize those ideas. Focusing on how much students were able to do the tasks, the teacher, while walking around the class to observe each group's work, always took time to re- explain or clarify the task to students. In Lesson Four, when the teacher passed by one group and noticed that group members were stuck on a question, she encouraged them to work on other questions and then come back to that question again later.

While each group was presenting data, the teacher played a monitoring role by asking students to pay attention to listening to the reporter and to be prepared to ask questions at the end of each report. When a question was being asked, the teacher called on the members of the group responsible for the report to help the reporter answer the question. By organizing and monitoring the report session, the teacher played a role similar to that of a director of a play trying to monitor each actor.

Ms. Busaba designed, planned, and organized learning activities so students could relate real life learning to what was to be learned from the book. Lessons Three and Four provided examples. In Lesson Three, the teacher had students learn from their community about four main occupations. And in Lesson Four, the teacher expanded their understanding of these four occupations by having students search wider and deeper for information about each occupation from textbooks and other supplementary books that she had prepared for students. Ms. Busaba also adjusted her plans and redesigned activities to fit in a limited time frame. Instead of having all groups searching for information from books about the four occupations, which would take longer, she changed the activity to have each group study only one occupation and share their findings with others. In this way, Ms. Busaba was able to organize learning activities for students in a constructive way and covered the content in the books in a limited time. By doing this, the teacher helped students learn to make connections between their real life in the village and what was happening in the rest of the country related to occupations.

In supporting students learning, Ms. Busaba also emphasized individual learning as well as learning through group work. The teacher planned to have each student construct his/her own interview with villagers to find more data about occupations. This was to occur sometime after Lesson Three. Ms. Busaba thought that such individual work would help students gain experience in doing different components of a field study such as identifying an informant, organizing an interview, taking notes, and making sense of information. Another example of focusing on individual learning had to do with the teacher asking students to write an essay about their village. By reading student essays, the teacher could assess student capacity to gather and interpret data as well as their ability to write.

In the role of a monitor, Ms. Busaba assessed student learning using a formative approach. Firstly, the teacher assessed student learning as a way to help students in need as well as to improve her teaching. Secondly, the teacher focused on the assessment of the learning

process more than the product. And finally, she used a continuing assessment strategy rather than a quiz at the end of the unit. More details about the assessment will be presented later.

Ms. Busaba's teaching in the four observed lessons demonstrated key roles the teacher should play in supporting student learning. These roles began with the teacher as a designer in planning activities to help students learn from their community. During the organization of learning activities for students, the teacher encouraged students to come up with their own ideas. When students seemed to get stuck, the teacher would guide them with leading questions, re-explain, and encourage students to think harder. The teacher complimented students on their work as a way to build confidence. While students were working in class or in the village, the teacher supervised and monitored them in order to understand how students approached their own learning so she could better help students when they were in need. At the end of each session, the teacher involved students in summarizing the lessons learned. After each lesson, the teacher reflected on her teaching as a way to change her instruction to help students learn better.

Students' role. In all four observed lessons, the sixth grade students played the role of active participants in their own learning. Through the learning process, students performed as planner, researcher, decision maker, problem solver, and monitor. Most of the time, students were encouraged to be an active group member.

Before going into the village, students in their groups were asked to develop a plan for study. As a planner, each group had to develop a set of rules, divide tasks among various group members, identify informants, and design how to go into the village. After coming back from the field, each group reflected and assessed their work as a way to improve and revise their plans.

Using the community study approach, students were provided the opportunity to construct their own learning. As a researcher trying to learn from their own village, students reflected on their experience of living in the community and then developed an outline of what else they wanted to learn. They developed a set of questions to ask villagers, listened carefully to

villagers' answers and took notes, made sense of the information they gathered, interpreted, analyzed, and synthesized their findings into a group report. Students, through the report writing in their group, compared and contrasted data, made connections from previous to new information, and transformed their information into their own words in a written report. In constructing a village map, students reflected on their own experience of identifying public places and carrying out a walking trip around the village. In doing this assignment, students observed places and locations carefully, made notes, and used mathematical knowledge to construct their own village map.

Playing the role of decision makers, students chose topics they wanted to work on, identified informants they would like to interview, and set the amount of time they wanted to spend in group work. Students also made decisions as group members.

Students monitored their own work as well as the work of their respective groups. After doing a field study in the village, students assessed their work and then as group members, they assessed the work of their own group. They did this by reflecting on what they did in the village and what they learned. Then they examined the work to find problems or obstacles that existed during the process. As they clarified these problems, the students then took on the role of problem solver to think of the ways to overcome such problems in their next visit to the field.

Students participated as active learners in all four observed lessons. Besides constructing their own learning as individuals and as a group, they disseminated and shared their learning with other students in the class and learned to use information from others to improve their previous understanding. In looking at Ms. Busaba's class as a play, students increasingly took on the important role of main actors.

Resources for learning. Ms. Busaba used multiple resources for her students to learn in these four observed lessons, including places, people, natural resources, documents, and books

Even though children have seen their village every day of their lives, when they gather data on the village, they experience a new learning context. Such an activity really helped them learn how to construct their own way of thinking about the village. Students gained a deeper and wider understanding about this village, which I think would never have happened without doing this case study.” (Exit interview with Ms. Busaba 6/13/94)

Ban Ruemjai village was used as the main resource for learning with the new unit “Our Community”. The village’s physical condition, history, range of occupations, way of life, and natural resources were subjects for students’ investigation. Students visited villagers to understand village history and village life. During the interview process, students also improved their speaking and questioning skills by asking questions and being asked to clarify their questions by the villagers. Village places, where students used to run around, and local natural resources were turned into learning opportunities. Students learned to observe, count, and measure numerous objects in order to make a map and to write about the village.

Students learned from their own and other students’ experiences of living in this community. Student assessment of their work and teacher feedback were used as information for students to improve their work. Students used their reports and other written documents to compare and contrast as a way to enlarge their understanding. Textbooks and supplementary books helped students relate their concrete knowledge of the village to more abstract content listed in the curriculum. Teacher led discussions and summaries of content learned helped students to shape, revise, and deepen their conceptual understanding

In organizing student learning activities for the new unit, “Our Community”, Ms. Busaba demonstrated a broad use of resources that could help and guide students in their learning. These resources included herself as the teacher, students themselves, close up villagers and village surroundings, documents and printed materials. Some resources such as villagers and the teacher served multiple roles beyond providing information, such as stimulating, thinking and improving communication skills, while some resources such as documents and written materials provided only information.

Assessment. There was no formal kind of assessment such as a quiz or test for the four observed lessons. Ms. Busaba expressed her thoughts about student assessment in learning the new unit on “Our Community” in the following way.

Before, when I finished teaching a unit on Life Experience, I always used former tests to measure student understanding. With this kind of learning that focused on group work, I assessed students by looking at the process and product of group work. Assessing the process of group work, I expected to see good students helping weaker ones. I thought the best group product should result from maximum participation by all group members. Regarding individual student assessment, I mostly observed the development process of each student. Before, I measured this by using a test and paying attention to their individual scores. Now I continually observe each student as well as look at each group’s product. I think focusing on a group’s product encourages the monitoring of group work as well as group participation. (Exit Interview of Ms. Busaba 6/13/94)

Ms. Busaba’s statement reflects her view of student assessment during the lessons in Life Experience. The teacher, in her assessment, focused on the learning process, knowledge and understanding, and the process of group work. Observation was used as a major and continuing tool to assess individual learning and the process of group work. She used the group’s product such as reports and presentations to evaluate student knowledge and understanding. The teacher focused on the group’s product as a tool to stimulate and strengthen student group work.

Ms. Busaba observed student interviews and subsequent presentations, and read their written reports as a way to assess improvement in language and communication skills. Results were used to understand student improvement, and to revise, adjust, or improve her teaching.

Students in this class also assessed their own learning and assessed the products of their respective groups. In this regard, Ms. Busaba emphasized that students had to be able to reflect on and assess their own work before assessing the work of the others.

Assessing student learning in the new unit “Our Community” was an on-going process. It involved several tools and focused on the process of individual and group learning as well as on the knowledge students learned. Both teacher and students took part as evaluators.

In the first pilot term, Ms. Busaba organized her teaching of the new “Our Community” in a different way. The new unit combined and integrated several content themes about village

life from different units. Through the design of learning activities, the teacher emphasized tasks that promoted student intellectual development as well as social skills in communication and group work. Students were asked to construct the study using village resources and interviews with villagers as main sources for learning. Throughout the learning process, students worked closely in their groups to generate questions, plan the study, actually observe places in the village, interview villagers, make notes during data collection, share and discuss data in their group (“sense making”), and write and present their reports to the whole class. To provide students with more authority in owning their learning, the teacher reduced her role to assisting and guiding students during the learning process. The teacher assessed student learning in a formative way and provided students the opportunity to assess themselves. The result of these student assessment strategies was to help individual students as well as to change her teaching.

Ms. Busaba’s teaching during the first pilot term demonstrated an effort to change the teaching and learning of “Life Experience” in a way that would make the learning more meaningful to her students. The next section discusses in more detail on changes Ms. Busaba made, how they were implemented and a discussion of what more the teacher needed to learn to continue improving her practice.

Initial Changes in Ms. Busaba’s Practice

Ms. Busaba was seen as a good teacher. Observations of her teaching before she attended the workshop showed that she was a strong content oriented teacher who was committed to helping students learn the right or correct information. In the two lessons initially observed as part of the base-line, Ms. Busaba planned her lessons by following the teacher’s guide and the sequence of content listed in the textbook. She explained the task to students, making sure they understood the process clearly. She monitored students according to the procedure in the assignment. She listened to student reports focusing on whether they provided the right information. Finally, she summarized the major points according to content in the textbook.

During the first pilot term, Ms. Busaba made an effort to change her way of teaching and learning in the area of Life Experience. The changes that Ms. Busaba made will be discussed according to the categories used about analyzing her teaching: curriculum and lesson planning, learning tasks, teacher's role, student's role, resources for learning, and assessment.

Changes in Curriculum and Lesson Planning. During the last part of the 14 day workshop, Ms. Busaba and her colleagues developed a new integrated unit "Our Community." The new unit drew on content theme listed in different units of the Life Experience subject area that related to everyday life and issues in a student's community. Ms. Busaba and her colleagues studied the content in detail as well as the learning objectives of each unit. Then they matched these with the learning approach and the goals of the SFEP project as they developed their new unit and designed learning activities that used the village and villagers as main sources for learning. Following the workshop, Ms. Busaba and her colleagues met once every two weeks to review and develop more details for their new unit. The group worked together to outline subunits, and to design learning activities. Then each teacher worked on specific details based on the situation of their local village and the capacity of their students.

In terms of curriculum development and lesson planning during the first pilot term, Ms. Busaba had moved away from being a curriculum implementer who always planned her own lessons individually towards a curriculum developer who worked collaboratively with colleagues in planning and developing curriculum.

Changes in learning tasks. From lessons observed during the base-line, students in Ms. Busaba's class had been assigned to work in groups, used real life experiences and searched in other ways for information to answer questions posed by the teacher, wrote a group report, and presented their group's work to the whole class. Those assignments required the use of critical thinking skills in analysis, synthesis and creativity.

In learning about “Our Community,” Ms. Busaba continued to assign tasks that helped students improve their critical thinking skills. This time, the teacher gave students more authority to choose what they wanted to learn when they went to the village and to design how to learn from this experience. This was different from the food lessons where students were asked to reach the right answers according to textbook. The nature of the tasks given during the food and the molding lessons were short activities that began and ended with each lesson. However, the tasks in the community study represented a continuing process. Students developed questions, tried their questions in the first round with villagers, made sense of information gathered, revised and added more questions to gather more detail, and wrote a full report.

Changes in the teacher’s role. Ms. Busaba played her role as a supporter of learning in all six observed lessons (two base-line and four pilot lessons). However, the aims of support were different between the two periods. During the base-line, she had the answers or the content that students would learn with her and planned activities to help students learn this content. As a supporter for learning to discover the right answer, Ms. Busaba directed, provided information, supervised, and monitored students during the process of learning. As a teacher, she controlled the content to be learned.

Teaching students in the “Our Community” unit with the learning approach emphasized by the SFEP project, Ms. Busaba’s goal was to help students learn to know their own village. The teacher did not have exact or complete details about the village that she expected students to write in their report. She did, however, have some ideas or a general outline of categories that students should explore in greater detail. In her lesson planning, Ms. Busaba focused on designing activities that would enable students to construct their own learning. Thus, in carrying out the role of supporter for learning, Ms. Busaba moved away from directing and monitoring students to find the right answer, toward designing, helping, guiding, supervising, and monitoring students to construct their own learning. By doing that, the teacher also added to her other roles that of being

a learner in how to better support students as they learned.

Ms. Busaba recognized her role in teaching had changed when she said “I usually play the main actor in my teaching. But now I give this role to my students to play.” In the effort to make changes in her teaching, she had reduced the role of directing and controlling what students should learn, and increased the role of designing, guiding, helping, encouraging, and supervising students to be able to learn on their own.

Changes in student’s role. During the first pilot term, Ms. Busaba’s students had been given more responsibility to design and manage their own learning process. This was unlike the base-line lessons where students were asked to follow a specific procedure to find the right information that matched the content in text. Student thinking seemed to be limited to specific content. In their learning, students played a passive role of receiving instruction.

In the unit about “Our Community,” however, the lessons required the students play the role of active learner in constructing their own understanding. In doing this, students had to design what they wanted to learn in the community, and how they would go about learning it. Through this learning process, students gathered data, made sense of information, wrote what they learned from their understandings, and shared their report to the whole class. Students also played the role of being a group member by participating and carrying out this form of learning. As a result, students were given more authority to design and carry out their own learning. As a result of students studying in the community, students moved from being passive receivers of instruction to active learners with authority and responsibility to construct their own learning.

Changes in the resources for learning. In the two observed lessons during the collection of base-line data, Ms. Busaba had students recall their knowledge from previous lessons. She used their knowledge along with her own explanation as a source for learning. In addition, real life experiences were drawn on as a way to elaborate factual content from textbook. All learning took place in the classroom.

During the first pilot term, Ms. Busaba began the process of changing sources for learning away from the textbook in the classroom to real life in the village. The village and villagers became key resources for learning.

Changes in assessment. Ms. Busaba expressed her earlier view of student assessment when she described her teaching as assessing student understanding at the end of each unit by using a test developed the previous year. If students did not do very well, she would re-explain the material to them again and re-test them until their scores improved. This kind of assessment was a one shot approach at the end and emphasized content recall as the learning product.

Assessing student learning in the unit “Our Community,” however, changed to focus on the learning processes constructed by students. Ms. Busaba changed her way of assessing students at the end of the unit to emphasize how students designed and implemented their own individual learning and how they contributed to group learning. The teacher moved away from a written test format to observing student action and participation. Every step students took through their learning activities was counted as a way to explain development and progression. The message of student learning changed from getting one right answer to making a reasonable argument.

Ms. Busaba’s teaching during the first pilot term demonstrated change in all categories that the SFEP project hoped for. In her teaching, she made a serious effort to become a curriculum developer drawing up an integrated unit about “Our Community.” The teacher, in her effort to make change, designed activities that provided students the opportunity to construct their own learning using the village and villagers as major sources for learning. Through the learning process, Ms. Busaba reduced her leading and controlling role to one that emphasized helping, guiding, and supervising students as they carried on their learning. The teacher gave authority to students to design and construct their own learning and focused the assessment on the learning process. For Ms. Busaba who was already seen as a good teacher, the changes that she made

during this pilot term seemed to be subtle rather than dramatic. However, teacher change is a long and continuing process. In the case of her teaching during the first pilot term, this change represented the first step. The process of change would teach Ms. Busaba much more.

Assessment of Change in Ms. Busaba's Teaching.

Ms. Busaba demonstrated her commitment and ability to change her teaching more toward the approach of the SFEP project. This section examines the initial changes that Ms. Busaba made during the first pilot term in terms of learning to teach, and what more the teacher needed to learn to improve her teaching further.

During the first pilot term, Ms. Busaba learned many things. First, together with her colleagues, she learned to develop her own integrated curriculum that emphasized using the village and its inhabitants as resources for learning. The teacher learned to improve her lesson plans by observing students as they did their tasks and from reflecting on what was happening in each lesson. Secondly in designing learning activities, the teacher learned by reflecting on her experience from the 14 day workshop and used these reflections to better adjust her teaching to fit her students' needs. Thirdly, the teacher learned to reduce her role on directing and controlling student learning. She became more guiding, helping, encouraging, and supervising of students in order to support them to do their own learning. By doing this, the teacher learned to increase the role of students in active learning. Finally, the teacher learned to use other kinds of assessment that emphasized process learning as well as knowledge and understanding. The new assessment was more formative than summative.

Ms. Busaba did very well on curriculum development when she tried to integrate content that could be learned in the village into the "Our Community" unit. The teacher demonstrated her ability to connect what students learned in the village to wider concepts listed in the curriculum and textbook. In designing learning tasks, Ms. Busaba made it clear that she had changed the nature of the given tasks from getting the right answer to discovering meaningful and reasonable

information. The teacher significantly reduced her role as a manager of learning and increased her role as a supporter for learning. By doing that, she intentionally changed the role of students from receiving instruction to a role of actively participating in the construction of their own learning. The teacher described clearly how student assessment had changed from one short test at the end to the use of on-going observation of student actions and reports.

She began to make important changes using this teaching and learning approach, given the amount of time she had, the in-service program she was involved with, and the on-going support she received. Some of Ms. Busaba's weak points, however, needed to be addressed through her own practice with the help of a supervisor. Others could be addressed by additional workshops and from other in-service programs.

Having analyzed Ms. Busaba's teaching during the first pilot term, I would now like to suggest areas where this teacher needed to learn more in order to improve further her teaching and learning. The most important area was increasing her understanding of what knowledge construction means, specifically what it takes for someone to construct his/her own knowledge and understanding. The SFEP project promoted the kind of learning that engaged students not only in mastering facts, but also in generating, exploring, conjecturing, reasoning, formulating, and solving problems. Knowing the process of knowledge construction is different from being able to recognize how it happens in student learning. Ms. Busaba needed help in how to examine and analyze student thinking and actions more effectively during the learning process. Until Ms. Busaba understood more clearly underlying objectives and how knowledge is constructed, she would be unable to adjust the learning tasks, the teacher's role, and students' role to support and strengthen her students learning.

The other area of needed improvement was to learn how to supervise learning better, including observing, probing, giving feedback and follow-up support for student improvement. While she observed students at work, gave them feedback based on her observations, and had

students assess their work, this feedback and assessment focused generally on what did not work and how it could be done better. Sometimes, students needed to discuss more in-depth why things worked as they did. Thus, the teacher needed to be able to probe for more detail and to help students develop such probing skill as well. During the four observed lessons, Ms. Busaba did not follow-up on student improvement as much. The teacher often reminded students to improve their group work but she did not really take into account whether students had changed and whether their improvement plan had worked. Ms. Busaba thought a lot about having students assess their own work, believing this would lead them to see their weakness and try to improve. However, the teacher showed no evidence of following up to see if improvement occurred.

As I mentioned earlier, during the first term, Ms. Busaba did her best to implement the teaching and learning approach of the SFEP project. It was her first step in making change and learning from her own practice in order to make these changes. Throughout the life of the project in the following two years, Ms. Busaba gradually continued to improve her teaching. The details of this improvement will be described and discussed in the next part.

Part III

Ms. Busaba's Continuing Efforts to Change Her Teaching

This part describes how Ms. Busaba continued to change her teaching from the second through the fifth pilot term of the SFEP project. The second and third terms were in 1994 academic year (May 1994- March 1995) and the fourth – fifth terms were in 1995 academic year (May 1995 – March 1996). The data used to describe and analyze the changes are from classroom observations and debriefings, exit interviews with the teacher and students conducted by two field workers on the project, my notes from field visits with the teachers and supervisors, and documents such as teacher lesson plans and student work.

Summary of Ms. Busaba's Teaching Terms Two-Five

In describing Ms. Busaba's continuing efforts to change her practice, I first summarize the learning activities that her sixth grade students did each year and relate these to the 7-step model suggested by the project. Then I discuss my analysis of changes that this teacher continued to make using the same categories as presented in the previous parts.

Activities During 1994 Academic Year (May 1994 – March 1995), Second and Third Pilot Terms

During the first term of the next academic year, Ms. Busaba had a new class of sixth grade students. She had them spend the term collecting data about the village in the past and in the present, using the four categories of the Kite Model: social life, economic, policy and management, and bio-physical environment. In the social life category, students had to find information about the way of life of the people in the village. This included information about social relationships, education, religious beliefs, and culture and tradition. The economic category focused on the way villagers earned their living and different types of occupations. The third category about policy and management focused on the administrative organization of the village: who played leading roles and what kind of rules and regulations existed at the community level. The bio-physical category focused on the condition and quality of the natural resources in the village and included trees, forests, water, soil, air quality and the weather. The Kite Model was used to categorize information. By gathering data in these four areas, sixth grade students could begin to take a wider view of their community and then begin to identify a specific problem that existed in their own village. The students went into the village about ten times to collect information. These experiences included informal data gathering at home and from nearby neighbors. The purpose of gathering data was to understand village life and the environment, especially the condition of the forest in the past and the present. Students were then asked to identify an environmental problem related to forest management, including deforestation. By the end of the first term, as a result of working with community members, the sixth grade students

decided to focus further study on the issue of deforestation as it affected the village forest.

Along with field study visits to the village to understand past and present environmental issues, Ms. Busaba organized the content that students needed to learn from the textbook in a way that enabled them to also learn it from their community as well. For example, in the lesson about plants (Observations 1 and 2 of this term) students were required to learn about reproduction. To study about reproduction, the teacher asked students to choose some plants that grew in the village. Moreover, she had students find out from villagers about the use of those plants and had them search for more information in various library books.

At the beginning of August, 1994, there was an unusual flood at the nearby river. Ms. Busaba took students to observe the flood and gave students four questions to think about: 1) What did you see at the river? 2) How did it occur and what caused it? 3) How do you feel about this? 4) How do you prevent this kind of flooding from taking place in the future? When students came back to class, they worked in their groups, sharing and summarizing their thoughts to report to the whole class. The teacher, in Observation 4, then turned to the topic of water. She related the actual water used to the water situation in the village by arranging for an interview with two knowledgeable villagers so students could ask questions about water usage in the village. The questions students asked focused on water quantity, water sources, water uses, water adequacy, water storage, and problems about water and actual solutions.

Ms. Busaba's teaching during this initial term of the school year (the second term of the project) touched on the first step of the 7-step model of the project. However, the data her students collected during this term were to be used in the second term as well.

During the second term of the school year, Ms. Busaba moved to the second step by having students study the issue of deforestation in-depth to understand the causes and the effects of the problem. By the end of the term, she had students ready to present findings to community members (step 3).

During this second term of the school year, students went into the village approximately 10 times to collect data on environmental problems and the effects of deforestation. Ms. Busaba, in Observations 1 and 2 of this term, integrated textbook content about families into the field study, so students could understand how deforestation affected the small unit of their family in the context of their village, town and country. The teacher introduced another way of using the Kite Model to analyze the causes and the effects of the deforestation problem. By doing this, in Observation 3 of this term, the teacher had each student review data where villagers talked about problems as well as their own thoughts about these problems. Students then worked in groups to write what they knew about the problems, each one on a small piece of paper. As a class, each group then examined each problem according to the Kite Model and put their findings on a large piece of paper in front of the whole class. Then the teacher had students discuss how each problem related to other problems. When students had all the information they needed and finished their analysis, the teacher and students then made plans to present the findings to members of the community.

The student presentation turned out to be a joint project between fifth and sixth grade students so each grade would be able to present their findings. For example, the fifth grade presented information about the history of the village while the sixth grade compared the past situation of the village to the present situation and then presented their analysis of the problem. Ms. Busaba and her class took a leading role in planning the presentation. Her sixth grade students made most of the charts that were presented, helped set up the exhibition, organized the conference room, and took notes on the presentation. During the presentation, one student from Ms. Busaba's class acted as the moderator in introducing the presenters who came from the fifth and sixth grade classes. The moderator also summarized each presentation. Students ended their presentation by inviting community members to participate in developing a project to solve the problem they had identified. Besides feeling impressed about what students had presented, the

presentation made community members feel that they had to commit themselves to helping students reforest village land. Consequently, the community members agreed to form a forest taskforce to coordinate with the school in thinking about possible alternative solutions. The school then closed for two months for the summer break, since no follow-up activity occurred during the next two months, the taskforce was not established.

Activities During 1995 Academic Year (May 1995 – March 1996).
Fourth and Fifth Pilot Terms

The new sixth grade students in Ms. Busaba's class already had some experience in doing a community study from fifth grade. They participated in the presentation about village history at the end of the previous year. Ms. Busaba, now with three terms of experience in implementing this teaching and learning approach, continued to move sixth grade activities towards all parts of the 7-step model of the project.

In the first term of the academic year, the teacher spent time at the beginning to have students review their fifth grade data. She also encouraged them to study the work of former sixth grade students. Ms. Busaba thought that the issue of "deforestation" was too board for students to study in-depth. She therefore had students go into the village three times to find out villager perceptions of problems related to trees and the forest in their community. After three field visits, the teacher asked students to summarize and group all problems suggested by villagers as well as from their own group discussions. Students came up with smaller and more manageable problems such as forest fires, declining forestland, and the cutting of big trees. Ms. Busaba wanted to involve villagers in selecting a problem for students to study in-depth, so she had students design a survey to get people's opinions. The sixth grade students work together developing the survey form and the teacher helped by typing the form and printing 250 sheets. She gave the forms to all school students to give to their parents. About 208 forms came back. Seven were incomplete, so, the sixth grade students had 201 survey answers to work with. Ms. Busaba had the whole class work together to summarize the data and put them into tables and

graphs. The teacher took this opportunity to integrate math into the assignment. The teacher also assigned each group to create their own graph to present to the class. Survey results showed that a majority of villagers were interested in having had students study in-depth the problem of “cutting big trees.”

Ms. Busaba and the other sixth and fifth grade teachers planned a forest trip for students and invited some of knowledgeable villagers to help give information about the trees in the forest. Since Ms. Busaba’s class now had a case study focus on why big trees were gone, she asked students to prepare questions to get information in four areas: the kind of big trees that had been cut, the reasons for cutting, the kind of trees left in the forest, and the present situation of the forest. Students spent a whole day in the forest near the village. When students came back to class, Ms. Busaba posed three questions for them to work on in their groups and then present to the class: What did you learn from this trip? How do you feel about the existing forest? What do you want the forest to be like?

Ms. Busaba continued to have students gather more information, analyze data, and write up their reports on the causes of cutting big trees and the effects of the lack of big trees. The teacher hoped to be able to have students report their findings by the end of the first term, but it turned out that she had to postpone the presentation to the following term. Hence, the sixth grade students ended their first term by learning why the big trees were cut, the effects of the lack of big trees in the forest, and thinking about alternative solutions to this problem.

The second term of this academic year was the last pilot term. Ms. Busaba wanted to organize learning activities to reach step 7 in the 7-step model. By doing this, the teacher would have to design an activity for students to report findings from the in-depth study to community members (step 3), study alternative solutions and select the possible one that fit with community (step 4), develop a plan/project for the chosen solution (step 5), implement the project (step 6), and evaluate the project to improve it (step 7).

Ms. Busaba started the second term with activity of preparing students to report their findings to community members. The teacher had students design an exhibition of their work. Ms. Busaba and other fifth and sixth grade teachers met to plan the organization of the meeting. The fifth and sixth grade students were all involved in the preparation. The purpose of this meeting was to present findings about the causes and effects of “cutting the big trees”, share some of students’ ideas about an alternative solution, and encourage community members to take action in solving the forest problem with students and the school. Consulting with her colleagues about the result of this presentation, the teachers hoped the community would now create a taskforce to work side by side with the school on implementing a project to address this problem.

About 40 villagers attended the presentation. This time only sixth grade students did the presentation. The first presenter reviewed data from the earlier presentation about the village in the past and the present and connected this information to the case study about why the big trees were cut. The presenter used pictures of the forest that she and her friends had drawn as well as a big chart. The second student presented several possible alternative solutions the sixth grade students had come up with. These were divided into two kinds: the alternative solutions for reforestation and the alternative solution that could be done on school grounds.

The alternative solutions for reforestation

- conserve all trees left in the forest
- grow more tree in the forest
- write up rules for using trees in the forest
- use religious beliefs to help protect the forest

The alternative to be done in school

- clean up school environment and grow more trees (school greening)
- improve the school garden
- improve the school’s plant nursery to provide seedlings to be grown in the forest.

Following the students' presentation, the teacher showed a videotape about social forestry projects. The teacher wanted community members to have some ideas to think about regarding a possible village project of reforestation. After that, community members were divided into four groups to discuss and propose possible alternatives to the whole group. Students were assigned to sit in each group to take notes on the discussion. Using the same process as in the classroom, each group of villagers sent a representative to the front to report on their work. Ms. Busaba summarized all reports on the blackboard and then encouraged participants to set up the task force to be responsible for forest issues. This objective was successfully achieved. Participating villagers formed a working group called "the forest committee" that consisted of 15 people. They elected a committee chairperson. The chair of this committee expressed his commitment to this work and promised that he and his committee members would talk with the rest of the community and come up with possible projects and continue to consult with school about such ideas.

Concern over how long it might take for the taskforce to work with other community members and come up with a collaborative project, Ms. Busaba and he colleagues decided to have students work on a small but manageable project on the school grounds and to involve students from all grades. In this way, Ms. Busaba could provide students the experience of developing an alternative project, implementing it, and evaluating results.

Ms. Busaba had the sixth grade students develop plans to implement the school greening project by involving students from all grades. Students decided to use the same group color that the school used for sport activities. There were five groups and each had their own color. Each group consisted of students from every class. Ms. Busaba emphasized that her students needed to play a key role in planning and evaluating the project. The teacher used classroom activities for students to plan the implementation of the project by having each group write a plan and then implement it with their colored group. After a while, the sixth grade students, during class

activity, summarized and assessed what had been done in the implementation phase (Observation 1 of Term 5) Ms. Busaba asked students to identify the problems or obstacles that needed to be resolved to improve their work (Observation 2 of Term 5)

Before the end of term, the teacher had students reflect on their experiences with this learning approach and then write about what they learned in terms of content knowledge, process learning, behavior/manners, and other topics. The teacher had each student think individually, then share their thoughts with the group, and then had each group develop a report. As each group reported to the class, Ms. Busaba listened and took notes. At the end of the lesson, the teacher with help from students wrote a summary on the blackboard:

1. Content learned
 - Village history in four categories of the Kite Model
 - Village in the present in four categories of the Kite Model
 - Changes in the village
 - Real problems that exist in the village
 - The need to overcome the problem from the villagers' perspective
2. Learning process
 - Group process
 - Problem-solving process
 - Planning process
 - Data management process
 - Integration process
3. Behavior/manners
 - Confidence to speak and presenting idea
 - Accept opinions of others
 - Good manners in communication

- Show responsibility for doing your duty

4. Others

- Wider view of social activities
- More interaction with outsiders
- More positive attitudes toward nature and school

(Observation 3 of Term 5)

Ms. Busaba was told that there would be visitors from nine provinces coming to her school to learn about this approach to teaching and learning. So she planned to present what students had summarized as lessons learned from the previous class for the visitors. The teacher asked students to think more about what they did when they used this approach to learning and how they carried out some of the activities. Each group then presented ideas developed from their group work (Observation 4 of Term 5).

Ms. Busaba expressed her feelings that during this term many extra activities had been accomplished at the school. The teacher wanted students to work more on assessing the implementation of the project and to be able to actually solve the problem. But there was no time to do that. She could only have students think about how to improve the situation. They could not implement a project in the community. She did have them implement and evaluate a small project on the school grounds. However, the teacher thought that she would be able to have her new sixth grade students in the following year carry out a project in the community. (Exit interview with Ms. Busaba at the end of Term 5 March 26th, 1996)

Analysis of Ms. Busaba's Continuing Changes

Ms. Busaba's teaching during the two academic years following the first pilot term demonstrated the kind of hard work required to plan and organize learning activities for students to meet the 7- step model. She also provided careful support for her students during the learning process. In discussing the teacher's on-going change, I will use the same six categories that were used in analyzing her initial changes: curriculum and lesson planning, learning task, teacher's role, students' role, resources for learning, and assessment.

Changes in Curriculum and Lesson Planning

This project helped me understand the Life Experience curriculum a lot better. In the past, I only looked at it roughly, not in detail. This was because we all had well-finished lesson plan to follow. So there was no need to study the curriculum. But this project did not provide any lesson plans for us. Moreover, the supervisor forced us to develop our own lesson plans. So we had to get together and help each other to develop the lessons plans. The supervisor helped to guide us in this process. Regarding the lesson plans themselves, they are also different from what we used to do. Before, we made them quite general, but for this project we had to put in many details. By doing as the project asked us, I feel that I now understand more about the curriculum and am able to develop my own lesson plans. (Exit interview at the end of Term 3 March 14th, 1995)

This statement reflected Ms. Busaba's continuing desire to understand the Life Experience curriculum, the importance of working with her colleagues to study the curriculum, and learning how to break the curriculum down into learning activities. Reading and analyzing curriculum objectives and designing study visits in a way to help students reach the objectives was something that the teacher had never done before. This was also the case for developing the curriculum together with other colleagues. In terms of lesson planning, Ms. Busaba's comments described a teacher more engaged in developing her own lesson plans. This had the effect of reducing the use of polished lesson plans provided by the provincial office. The lesson planning process moreover continued to change from following the manual to collaboratively working with colleagues to develop more appropriate lesson plans that fit with students and the community.

The SFEP project emphasized real life learning. The project encouraged teachers to maximize the use of available community resources. When developing curriculum and planning the lesson, project teachers were asked to try to connect as much of the textbook content as possible to community life. Ms. Busaba's teaching during the four pilot terms demonstrated her continuing effort to use real situations in her students' learning. For example; teaching about plants (Observations 1 and 2 of Term 2), Ms. Busaba encouraged students to brainstorm about plants in the village and then she used local plants as examples to teach about the plants reproduction. In the lesson about the family, she had students go into the village to interview three kinds of families: rich, average, and poor, about their ways of life, occupations, and outside support (Observations 1 and 2 of Terms 3). The data that students gathered about families in their village could be connected to the content in the textbook. Such information could also be used for village history. In the family lesson, the teacher began to use real families rather than just textbook example. Taking students out of the class to study the flood (Observations 3 and 4 of Term 2) and to visit a forest nearby (Observations 5 and 6 of Term 4) are examples of real life study that Ms. Busaba designed for her sixth grade students.

Preparing students to report their findings to community members was the biggest step for students in this regard. It was not a simulation or role playing exercise, as students had done in the past, but an opportunity to demonstrate their learning to adults and to invite villagers to participate in developing solutions. The planning implementation, and evaluation of the project that Ms. Busaba organized during Term 5 demonstrated how she continued to provide more real life learning for her students.

Ms. Busaba, in her planning of the community study lessons, integrated other subjects such as math, art, character development, and Thai language. For example, she had students do a survey about the most interesting problem villagers would like sixth grade students to study in-depth (Debriefing after observation on August 2nd, 1995). In this activity, the teacher developed

student writing skills by having students develop a survey question and form and developed their math skills by having them summarize statistical data using tables and graphs. When students went into the village, Ms. Busaba developed their social skills by emphasizing good behavior and manners when interviewing villagers. Student presentations of community study findings integrated most subjects. For these presentations, students wrote reports (writing skills), drew pictures and decorated exhibitions (art), developed graphs, tables, and village maps (math), welcomed the villagers into the meeting room (character development), and presented the findings (speaking skills). Moreover, the teacher developed social skills through group work.

Ms. Busaba improved her ability to integrate the curriculum as terms went by. Her deeper understanding of Life Experience curriculum, her experience planning lessons, and her students' improved process skills all helped Ms. Busaba reduce her anxieties about student test scores on the provincial exam. These experiences convinced Ms. Busaba that integrating the curriculum and focusing on real life learning in the community made learning more meaningful to her students. In the final interview, she said:

In the first pilot term, I was so worried that my kids would not pass the exam and would not be able to take the entrance exam to secondary school. This was because I thought that I would need to spend too many Life Experience hours on this one project. I did not think that learning from the field study could be related to any textbook content. In the third year of the project, Term 4-5, I began to feel more comfortable as I discovered that most things that students learned through the project were in the Life Experience curriculum. The present curriculum emphasizes that students need to learn more from their community. And I came to realize that having students learn from real life makes more sense and means a lot more to my students than focusing on details in textbooks that are either too general or too far away from them. I think, when learning any concept, students should use what they already have in their community first. Then they can expand their knowledge by using the textbook. (Final interview June 29th, 1996)

The above statement shows continuing change in Ms. Busaba's thinking and understanding about the Life Experience curriculum in terms of integration and real life learning. Ms. Busaba's understanding of the curriculum after the pilot phase of project had ended was that the curriculum did not take place in a short period of time, but was a continuing process. By the end of the pilot phase of the project, in terms of continuing change, Ms. Busaba had become a

curriculum developer who was confident enough to plan her own lessons maximizing the use of community resources.

Changes in Learning Tasks

Even in the first pilot term, Ms. Busaba made an effort to change her learning tasks from those in which students passively received and followed instruction to tasks that promoted active participation. Students moved from listening to teacher explanations on how to find information in the textbook, from following the teacher's directions and answering questions at the end of the lesson, to a project that involved them, in designing what to learn and how to learn it, participating in gathering data, making sense of data, presenting findings, and writing reports based on their own understanding.

Between the second and fifth pilot terms, Ms. Busaba continued to design tasks that promoted intellectual work and interpersonal skills in deeper and more complex ways. According to the 7-step model of the project, student analysis would become deeper and deeper as they moved through the steps. For example, in gathering, analyzing, and making sense of data. During the first pilot term, Ms. Busaba had students develop questions and gather data to understand life in their village from the past until present. Students analyzed data by categorizing information and they reported the village history using the four categories of the Kite Model as the basis for their reports. In the second pilot term, the teacher used similar tasks with the new sixth grade students to get them ready for a more complex task in the following term. In the third pilot term, Ms. Busaba deepened the analysis task by having students categorize information into four categories and then examine the relationship among the four categories of data to understand and write a report on the causes and the effects of the problem. By the fourth pilot term, Ms. Busaba was able to move the activity more quickly on in-depth study. By the fifth term, the last term of the pilot phase, Ms. Busaba put her effort to designing the tasks of implementing and evaluating a solution.

Ms. Busaba's continuing effort to change the learning tasks according to the 7

step model can be demonstrated in Table 6.1:

Table 6.1: Ms. Busaba's Continuing Change of Learning Tasks According to the 7-Step Model

Academic year	Pilot term	7-Step Model						
		1	2	3	4	5	6	7
2 nd term of 1994	1							
1995	2							
	3							
1996	4							
	5							

Step 1. Collect data about the village to identify environment problems related to trees and forests.

Step 2. Select a problem with community members and study in-depth.

Step 3. Report the findings to community members and encourage them to think about alternative solutions.

Step 4. Study the alternatives with community members and select the possible solution that best fits with community.

Step 5. Develop a plan for such a project with community members.

Step 6. Implement the project with community members.

Step 7. Evaluate the project and make changes to improve it with community members.

Table 6.1 shows that the curriculum for this new kind of learning was organized so that student analysis became deeper and deeper as they moved from one step to the next. However, the changes that took place in Ms. Busaba's class affected more than the curriculum. The teacher herself was also developing her ability to organize the kind of learning. What Ms. Busaba did

with these learning tasks demonstrated her own improved ability to organize more complex and intellectually challenging learning.

Changes in the Teacher's Role. Ms. Busaba was known as a good teacher who put forth great effort to help her students. In the first pilot term, Ms. Busaba's teaching demonstrated that she was a thoughtful and caring teacher. She planned field activities and then supported, prepared, supervised, and helped students through the learning process. By doing that, Ms. Busaba began to have students develop confidence in making their own choices in what they wanted to learn in the village and then designing how they would go about learning it. The teacher provided the opportunity for students to do their own learning while observing and providing support. During the first term, she had already changed her role from an instructor of learning to a supporter of learning. This continuing change in her role reflected improvement beyond what had already occurred during the first pilot term.

During the following four pilot terms, Ms. Busaba continued her supportive role for student learning. In the process, she learned to improve this role. For example, she spent considerable time having students plan by setting up study objectives, developing questions to get the most information, setting up roles and dividing responsibility, and identifying informants. More than before she came to realize the importance of getting students ready to learn in a different way. Ms. Busaba mentioned in the final interview about the difference between field study activities before the project and during the project:

Before participating in the project, I also had my students go into the village to get information. I never planned the details of this kind of field study process. I just took my students into the village and only had them focus on certain kinds of information. Teaching the community study project, I came to learn that it's important to have students plan their field study in advance. Students need to set a clear goal and they should be prepared to gather several related aspects of information in one visit rather than just getting one specific thing. (Final interview on June 29th, 1996)

Realizing the importance of preparing students before going into the village, Ms. Busaba continued to improve her support role by having students assess their field work according to

their plans and encouraging them to improve their future work. The teacher assessed their efforts in part by giving feedback from her observations (Observations 1 & 2 of Term 3, Observation 2 of Term 4, and Observation 2 of Term 5).

Continuing to improve this support role, Ms. Busaba, at the same time, reduced her lead role and emphasized a more active role for students. For example, she had students conduct a survey to find out what problems most villagers would like students to study (Debriefing after Observation 4 of Term 4). In this activity, the teacher supported students by typing the survey form and duplicating about 250 copies. Then she helped students distribute the survey to all students in the school to take home to their parents. When information came back to the school, the teacher helped students interpret the data by advising them on how to use tables and graphs that they had already learned about during their math lesson. Besides supporting students in this activity, Ms. Busaba also coordinated with villagers to let them know what students were doing and asked them to support the activity by filling out the survey forms.

Another examples of Ms. Busaba changing to a more supportive role was shown when students presented to community members. Ms. Busaba had students plan the presentation, create the exhibition, and set up the room. She helped students by providing materials they needed and by working with students in thinking about what findings to present and how. During the presentation, Ms. Busaba and other teachers helped students sequence the meeting by moving display charts and projectors, controlling the amplifier to make sure the speaker worked, and preparing lunch for community members. What Ms. Busaba did during this activity demonstrated the emphasis she now placed on her support role.

Ms. Busaba made sure that every student experienced this process of learning. She had each student write up his or her findings in a notebook before sharing these with other group members (Observation 2 of Term 3, Observations 2 & 6 of Term 4, and Observations 1-4 of Term 5). After coming back from the trips to see the flood and the forest, she had each student to

reflect on the experience and express their thoughts in writing (Observation 3 of Term 2 and Observation 6 of Term 4). The teacher, in improving this support role, designed the task so each student reflected on the experience, wrote from his or her perspective, and then shared their understanding with group members to create a group learning experience. Findings were then shared with the whole class. By providing an opportunity for students to construct their own learning and understanding, the sixth grade students in Ms. Busaba's class truly impressed the visitors who came to learn about this teaching approach. After observing and listening to the students' presentation, the visitors commented:

What students have presented to us reflected what they have really done themselves. If they did not do it, they would never have been able to do this fantastic presentation. This can not be a showcase. It is a real thing from real experience. (Comments from UNICEF's Education Coordinator).

Who said students at this age could not do this? We just saw sixth grade students from a small school in a remote area present their learning. It was wonderful and it really convinced me that students have the ability if only the teacher is able to provide opportunities and appropriately support them. Students can make a difference. (Comments by the Director General of the Curriculum and Instruction Development Department in the Ministry of Education).

These two quotes refer to student abilities to construct their own learning and understanding and to the consequences of doing the work themselves. They also suggest the importance of the teacher's role in helping students do their work.

Changes in the Students' Role

The role of the student in this project is different from the past. Before attending the project, students received instruction from teacher. Even though I took them out to study in the village, I designed every step for students to follow. In this project, I only stimulate my students to plan their own learning. For example, when I took students to the forest nearby, I had them think of what they wanted to learn in the forest and then design how they wanted to learn it with their group. I began to change my feeling about the students role during the second year of the project. I used to think that having students do things on their own would not help them to learn anything. Now, I realize that if I want students to learn by themselves, I have to let them think and plan first before conducting their learning process. (Final interview with Ms. Busaba on June 29th, 1996)

Ms. Busaba's statement characterizes the changing role of students from the teacher's point of view. She sees students as planners, designers, and decision makers in their learning

process. In discussing changes in the students' role, I emphasize the expansion of learning activities and the role that students played during the learning process.

Student learning during these four pilot terms, Terms 2-5, was a continuing process of deepening their role as active learners in constructing their own learning. During the first pilot term, the sixth grade students had begun to change their role from passive receiver to active participant in learning. In Term Two, the new sixth grade students practiced similar roles as the sixth grade students from Term One. However, they extended their active role to study in-depth the problem they began in Term Three. They deepened their analysis by looking at the cause and effects of deforestation on village life. At the end of Term Three, students took a new step as they moved from just reporting findings to the whole class to also reporting findings to the community.

Terms 4 and 5 were the last academic year of the project. A new group of sixth graders was asked to complete all activities of the project. They took a leading role in designing and constructing a survey of 250 villagers. When a problem was identified, they planned and developed objectives for an in-depth study. Then they designed the steps for the study. After that, they went into the village to gather data. Coming back to the classroom, students played the role of analyst by examining data in-depth, interpreting them, and then writing up their findings. Students then extended their role to one of professional reporter by presenting findings to community members. During this activity, students were introduced to the role of lobbyist as they invited villagers to participate in solving the problem. Students then planned an alternative project to be carried out on the school grounds. In this activity, students played the role of decision maker by choosing the strategy and planning the implementation. After the project had been implemented for a period of time, students evaluated it by developing criteria and tools, writing up their results, and suggesting improvements. By the end of Term 5, students were able to reflect on these learning experiences as well.

Besides performing the above roles in constructing their own learning and understanding, students continued to play a role as members of their groups. In this capacity, students played various roles: listener, information provider, note taker, and report presenter.

By the end of the project, students who were the product of this approach to teaching and learning, continued their active role by forming a youth club and carrying on similar roles over the next few years as they tried to solve the deforestation problem.

Changes in Learning Resources

Ms. Busaba's teaching during Terms 2-5 demonstrated her continued use of the community as a major resource for student learning. In analyzing changes in her use of resources for learning, I would like to discuss the variety of ways she used the community for student learning and the changes in Ms. Busaba's views toward the community as a resource for learning.

During the first pilot term, Ms. Busaba took students to study in Ban Reumjai village and used villagers and their way of life as a major learning resource. From this experience, she came to see the community as an important and necessary resource. In Term Two, Ms. Busaba used plants in the village for students to learn about plant reproduction. She also used a natural event (a flood) to inquire about the causes and consequences of flooding, and used this event as an opportunity to link flooding to the problem of deforestation.

During Term Three, Ms. Busaba had students learn from villagers about the causes and effects of deforestation on the natural environment, the community and other living things in the village. Moreover at the end of the term, the teacher invited community members to attend the students' presentation.

In Term Four, Ms. Busaba again used villagers by having students survey them about issues related to forestry and the problem that students should study. The teacher used the nearby forest to help students learn about the variety of trees, local tree and plants use, different forest products, and animal life in the forest. In these activities, Ms. Busaba invited knowledgeable

villagers to come along to provide information and to answer student questions.

During Term Five, Ms. Busaba had the sixth grade students not only present their findings to community members, but also sit with community members during a group discussion about possible solutions. During that time, students observed and took notes on the process and the results of the discussion. By doing this, the teacher used the actual group discussion for students to learn in a real setting.

Ms. Busaba's teaching during Terms 2-5 demonstrated a variety of ways of using the village and villagers as main resources for sixth grade students to learn Life Experience. By following students into the village and observing them during the learning process, the teacher continued to learn more about the village and the different ways villagers could help students. By the end of the project, Ms. Busaba realized how much knowledge and ability members of the community had. She also felt she had much more detailed knowledge about villager expertise. During the final interview, Ms. Busaba commented about the community as a resource for learning:

Community people have a lot of knowledge that can benefit student learning. The knowledge that community people have is the same as knowledge as in the textbook. In some areas, the people have deeper knowledge than the textbook. Knowledge from the textbook is fixed but knowledge from community people varies with experience. Learning from community people, thus, provides more kinds and forms of knowledge.

Knowledge in the community can be learned from textbooks, but if a teacher can figure out a way to have students learn from the community, I believe that students will learn even more. This is because community people have a wide range of knowledge and experience to give to students. (Final interview with Ms. Busaba on June 29th, 1996)

The above statement indicates her deeper understanding of villager knowledge and villager ability to help students learn. As she supervised students in the field, she got to know the villagers better and could see the difference between textbook content knowledge and practical knowledge from villagers. The second paragraph of Ms. Busaba's statement represents her view about the richness of villager knowledge. She came to believe that it was equivalent and in some areas even deeper than what was presented in the textbooks. Most of all, Ms. Busaba insisted that

a teacher needed to change both her role and the students' role in order to make effective use of community resources for learning.

Changing Assessment

During the first pilot term, Ms. Busaba began to make changes in her assessment by focusing on the learning process and the knowledge and understanding of students. Assessment included both individual and group products. Teacher, students, and community members jointly contributed to the role of evaluator. The focus of assessment moved beyond content learning to student skill improvement, reasoning, and understanding. Besides quizzes and tests, observations and student works were used as assessment tools. The timing of assessment moved away from the end of the unit to cover the entire process. The changes that Ms. Busaba had begun to make in terms of assessment were essential and touched on an important feature of the SFEP project. Thus, in discussing Ms. Busaba's changes in assessment, I focus on evidence of her continued use of, and improvement in her strategies for student assessment.

During Terms 2-5, Ms. Busaba continued to use her new approach for student assessment. She observed students working individually as well as in groups. She began to balance assessment scores between knowledge outcomes and the learning process:

My assessment of student learning is divided in two parts: student knowledge and student action or behavior in the learning process. The assessment of student learning was different than what I used to do in my assessment. Before, I only assessed students by using quizzes or tests. I found out that assessing the process of student learning helped me understand my students a lot better. Each student has different strengths. Some of them are good at memorizing content while others are good in others ways. Balancing these two forms of assessment provides the opportunity for students to have their strengths counted. Last term, one of my students asked his friend why a student with a very high score on the test only ranked number 6 in the class. The other student said that was because he seldom helped others work in their groups and he was not a responsible person. (Exit Interview with Ms. Busaba at the end of Term 3 on March 14th, 1994)

Ms. Busaba's statement illustrates how she changed her view of student assessment away from focusing only on student test scores to also looking at how well students did during the process of learning. Changes occurred when Ms. Busaba began to realize that students had

different strengths and weaknesses and that student process skill had improved considerably with this new learning approach.

Using observation as an assessment tool and examining student work, Ms. Busaba came to appreciate more and more the improvements that students made during their own process of learning. Moreover, the products of student work from group presentations and written reports reflected considerable understanding. As a result, Ms. Busaba made another change in student assessment by dividing assessment into three parts: students action/behavior, student work, and tests. Ms. Busaba's anxiety about students test scores eased as she came to see the benefits this learning approach had on the lives of her students. As she said in the final interview:

During the first year of the project, I was very worried that my students would not get a good score on their final test. This was because the district developed the final test and compared student test scores among schools. If students in any school got a high test score, it meant that school had good teachers and smart students. Now, those feelings are gone. I am confident in what I have seen happen to my students. I know my students very well and feel positive that they will be able to apply their experience to their lives. I don't think test scores are very important. What is more important is whether students will be able to use their knowledge and experience to improve their lives. This is because not many of my students will continue their studies after lower secondary school. Most of them will stay and help their parents work in the field. Therefore, helping students to learn in and from their community will be more important to them, since they will be able to apply the learning experience to improve their lives in the community. (Final interview with Ms. Busaba on June 19th, 1996)

Ms. Busaba's comments not only reflect continuing changes in her views about assessment, but also a clearer understanding about educational objectives for her students. As a teacher who always cared about student learning, Ms. Busaba began to see a kind of learning experience that could benefit her students.

Another aspect of change toward student assessment occurred as Ms. Busaba began to see a difference between multiple choice and essay tests:

I think the most appropriate test for my students using this learning approach is an essay test. This is because in an open-ended question, students may have different answers and can express their thoughts and reasons to support their argument. Multiple choice questions permit only one answer. If students have different ideas, they tend to choose the one that makes sense to them. They do not get a good score because their answer does not match the “correct” one. Therefore, I have been using essay tests. (Final interview with Ms. Busaba on June 29th, 1996)

Ms. Busaba’s comments illustrate how much she understands the relationship between teaching and assessment. She is willing to stand up in a conservative teaching culture to change when she realizes that this change will benefit student learning. Ms. Busaba created another kind of assessment by having students write their reflections about their own learning as a way to understand student understanding. By the end of Term 5, she spent a few hours having students reflect on their learning experience and write about it. Reflecting on and writing about a learning experience provided an opportunity for students to review and summarize what they had experienced. This activity not only provided valuable assessment data, but it also provided the opportunity for students to exercise the process of constructing their understanding.

Ms. Busaba demonstrated her willingness to continue to change during Terms 2-5. She moved away from following the teacher’s guide to developing her own curriculum to confidently planning her own lessons and organizing learning activities for students. Ms. Busaba continued to assign learning tasks to students that deepened their intellectual development as well as their social and interpersonal skills. She was willing to reduce her lead role and increase her support role. By doing that, Ms. Busaba gave students authority to construct their own learning and understanding. She took into account the process by which students learned and created a more equal role for student assessment.

Next Step for Future Development

Ms. Busaba’s teaching during Terms 2-5 demonstrated continuing and subtle changes in her practice. Unlike Mr. Pornchai, whose practice changed dramatically during the project, Ms. Busaba’s earlier teaching had several important features of effective teaching: plan lessons in

advance, relate real life to learning, pay careful attention to students, involve students in the discussion, help them during the learning process, emphasize group work, assess students to make sure that everyone understands the content, and help the weaker students. Those features of Ms. Busaba's teaching continued during subsequent pilot terms but in different forms. Ms. Busaba changed fundamentally her thinking about teaching and student learning. These changes were the result of her efforts to learn from her own practice and from her students. Ms. Busaba's case demonstrates that change requires both time and support. Ms. Busaba's changes occurred over the course of 5 consecutive terms, 2.5 academic years, augmented by a series of staff development programs and continuing support activities. Ms. Busaba even felt there was more to be learned:

I need to learn more on every topic. I think my vision is still narrow, I want to learn to understand more about the national curriculum from the Ministry of Education to be able to apply and use it with my students. Sometimes, I think I know a lot about something, but when I learn more about it, I realize that my knowledge is still very little. For example, I used to think that I knew a lot about forests from attending several workshops. Later on when the project organized another forestry workshop and had all of us stay in the forest for two nights. I realized that I had a lot more to learn. In terms of community dynamics, I also wanted to learn more about how to solve problems and how to work effectively with community members. I think what I have learned so far is more general and that is why I need to learn specific knowledge that fits with problems in the community and helps me to work better with community members. (Final Interview with Ms. Busaba on June 29th, 1996)

These comments suggest Ms. Busaba needs to continue learning more content knowledge to help her organize learning activities. She also expressed the need to learn more about how to work with villagers and the kind of solutions that fit with the village.

Besides indicating her need to learn more, there is more in other areas this teacher needs to learn. The first is action research. During the course of her teaching, Ms. Busaba never experienced any kind of research activity. In fact, the closest encounter she had was when she learned how to do a case study during the 14-day workshop. Understanding more about doing research and being able to conduct action research by herself would help her better understand how to develop good questions, ways of collecting data, how to analyze data, and how to write a

report. If Ms. Busaba had this understanding, she would be able to help her students gather better quality data and be able to find ways of organizing more activities to help students learn.

The second area has to do with knowledge construction and student-centered learning. Quite often in interviews Ms. Busaba made comments to the effect that, “This learning approach fits the subject of Life Experience because it promotes learning by doing. But I’m not sure it will fit with subject like math that emphasizes theory,” and “I think this kind of learning is best for my students because most of them are not able to continue their studies after lower secondary school. So having them learn about their community and how to solve community forestry problems will help them improve their lives.” These two kinds of statements suggest that Ms. Busaba still did not completely understand the core concept of students constructing their own learning and understanding regardless of what the subject matter is. The SFEP project chose to study the issue of deforestation. Students needed to understand village life and the process of change. They needed to understand the causes and effects of the problem so they could come up with an effective, manageable solution that fitted with the context of the village. The process of learning they used, however, was something that could be used in any subject area, since the major purpose of schooling in the eyes of the SFEP project was to learn how to learn.

The third area where Ms. Busaba could learn more has to do with supporting student work. Ms. Busaba always tried to help students when she saw that they had difficulty. She did several things to help, such as making a task card for each student so everyone could easily read the instruction. She served as a role model as she helped students understand better how to work in groups. She always had students assess how their groups worked in the field and how they might be improved. Sometimes she asked questions to get students familiar with a kind of questioning, so that they might use such approach in their field study visits with villagers. It seemed that Ms. Busaba had done a lot of work in thinking about helping students. What she did not do very much was to follow-up her work by studying the results as an ongoing process.

During observed lessons, Ms. Busaba always had students assess their fieldwork as well as group work, and she also gave feedback from her own observations. However, there was no evidence that she discussed with students any improvements that might have resulted from her earlier feedback or assessment. Although Ms. Busaba introduced various kinds of assessment tools during the pilot period that helped her to know students better and in different ways, she could have helped students improve more effectively if she had deepened her understanding of this supporting process.

From having worked as a supervisor and project coordinator with Ms. Busaba for three years, I was impressed with her devotion and commitment to her students' learning. Being the only female project teacher never led Ms. Busaba to feel shy or hesitant to participate in discussions with other project teachers. In fact, Ms. Busaba always took a lead role in making change and in helping other teachers to change. Ms. Busaba's approach to teaching was always one step ahead of the others. In her school, there are two fifth and sixth grade classes. All four teachers were in the project. The teacher in one of the fifth grade classes is more active than the other. Students in Ms. Busaba's class always came from the inactive teacher's class. However, when those students emerged from Ms. Busaba's class, they became examples of advanced students in this learning approach. Ms. Busaba's story convinces me that if a teacher is willing to work hard enough to help students learn, students can make difference, regardless of their background experience. In 1997, Ms. Busaba was appointed by the National Education Commission as a national model teacher. This is the most prestigious an honor a teacher can receive. Her responsibilities are to continue improving her teaching and to extend her experience to other teachers. When Ms. Busaba learned of this award, she expressed her feeling that without this project and the learning experiences it provided, she would never have achieved this honored position.

Chapter 7

Findings and Implications

Overview

This study examined a particular approach to professional development and its impact on teacher learning. This approach was implemented in the context of a project attempting to promote radical changes in teachers practice in the area of environmental education. To do the kind of teaching envisioned by the project, teachers had to change the curriculum, learning tasks, resources for learning, their own role, the role students played in learning, and assessment. To effect such changes, a professional development model consisting of an intensive initial workshop and a range of follow-up support activities was developed. The workshop gave teacher first-hand experience with a new way of learning which they were then expected to provide to their own students. It also helped teachers learn subject matter knowledge which they would teach to students in the same participatory approach. Follow-up support and guidance activities helped teachers work out problems which came up as they implemented this new approach in their own classroom.

There were three kinds of follow-up activities; one-on-one supervision consisting of on-site observation and subsequent conversation with the teacher, group discussion at teacher meetings, and end of term seminars where teachers received continuing support and developed more subject matter knowledge. Supervision helped teachers with situated problems that arose from practice. Teacher meetings developed teachers' capacity to continue improving by working together and by creating an infrastructure which allowed this to occur. My work focused on follow-up support in the classroom and on promoting collegial interaction. Both activities were part of the larger structure of the intervention.

In this study, I devoted two chapters to describing the intervention and conceptualizing its underlying assumptions. One chapter focused on the workshop and the other on the follow-up

activities. I also examined what happened to the teachers after they went back to their classrooms and attempted to put the new approach into practice. I developed in-depth case studies of two teachers, examining their learning over time to see what problems they encountered, what their teaching looked like and how supervision and collegial support contributed to the changes they were making. In this final chapter, I summarize the study and discuss what I learned. I also provide recommendation to three key groups involved in teacher development: policymakers, teacher supervisors, and teacher educators.

Findings

The findings deal with the content and process of teacher learning, and the role that professional development played in such learning. There are two sets of findings. The first set is about learning opportunities for teachers as they made fundamental changes in their practice. These professional development opportunities include a “Teacher-as-Learner” working, supervisory support and guidance, and teacher meetings. The second set focuses on the process of teacher learning as they made changes in their teaching. It examines the following questions: What did teachers have to change? What did teachers find especially difficult about making change? How did the process unfold over time?

Learning Opportunities for Teachers Making Fundamental Changes in Their Teaching

This first set of findings focus on the special contribution of different components in the professional development intervention including learning from a “Teacher-as-Learner” workshop, learning from supervisory support and guidance, and learning with and from colleagues.

The Value of a “Teacher-as-Learner” Workshop

In previous chapters, I described and analyzed the nature of the initial workshop and its impact on teachers’ practice. The “Teacher as Learner” workshop gave teachers first-hand experience in the kind of learning that they were expected to provide for their students. This

workshop provided two kinds of learning: direct experience in doing a field study and an integrated approach to learning subject matter in relation to real world problems. The reason why it has to be this particular kind of workshop is because of the kinds of changes that the SFEP project asked teachers to make. These changes represented a radical departure from current practice. Teachers were asked to do things they never did, saw, or experienced before. Just telling teachers about the new approach was not likely to be effective in motivating teachers to undertake such changes or in helping them visualize what they involved. If teachers did not experience this learning approach, they were not likely to realize its power or believe it was possible to implement. By doing it themselves, teachers could see from the inside what this kind of activity involved.

In this section, I discuss the value of the workshop to teachers in learning to change their practice. I argue that the workshop proved to be a valuable experience for teachers in two respects: it provided them an image of a new approach to teaching and learning and it expanded and deepened their understanding of key subject matter knowledge.

The workshop helped teachers visualize and understand what learning could be like using this new approach. By providing first-hand experience in doing fieldwork, the workshop had teachers do something that they had never done before. This experience helped teachers understand how it felt to be a learner developing his or her own study. It also convinced teachers that this kind of learning was possible, powerful and valuable. Giving teachers opportunities to design, plan, and carry out their own field study helped them begin to change their views and beliefs about learning. Being a learner helped teachers imagine what a different kind of teaching and learning could be like.

The workshop also helped teachers expand and deepen their subject matter knowledge in forestry concepts, social forestry projects, science, and social studies by connecting such knowledge to real life situation instead of just acquiring more facts. Alternatively the project

could have just given teachers material to read and brought in lectures to present new information. Instead, the project alerted teachers to real life situations in local villages so they could see the relevance of new knowledge. Then the project introduced facts, concepts, and a framework to help them make sense of such real world problems. Lectures were used sparingly. They served to expand knowledge in connecting to real village situations that existed in the lives of teachers rather than just providing teachers information disconnected to the real world. Instead of starting with a lecture and then assigning teachers the task of applying concepts, the few lectures that were provided came after a series of brainstorming sessions so they served to widen and deepen subsequent teacher analysis. By offering an integrated and meaningful way of learning subject matter in relation to real world problems, the workshop helped teachers see the usefulness of such content. The process by which teachers expanded and deepened their subject matter understanding was different from a transmission model. Having teachers first apply the Kite Model to make sense of the data they had collected in the village meant that teachers were more interested in and receptive to a summary lecture on the uses of the Kite Model than would have been possible under the traditional form of staff development. In this respect, the workshop changed their ideas about learning, provided a new view of teaching and powerfully expanded and deepened their subject matter knowledge.

These outcomes seem related to specific features of the workshop. This is not just the value of any workshop but rather of one that is intensive, takes place over time, and enables teachers to experience first-hand the kind of learning that they will later provide to their own students. While the workshop proved valuable to teachers in at least two ways, there were other components of change where the workshop proved less valuable. The workshop motivated teachers to try a new approach to environmental education but it did not completely prepare teachers to pull this off. One thing that the workshop did not accomplish was to provide clear guidance to teachers about how to carry out their new role in the classroom. Teachers left the

workshop with images of new student activities, a new kind of curriculum, new ideas about where knowledge comes from, and new ideas about how learning can take place. But they did not fully understand their role and what they would need to do to implement such change successfully. Enacting a new role requires a different kind of support which is what the second component of the new staff development model provided. This component included supervisory support and guidance, and teacher meetings.

The Value of Supervisory Support and Guidance

Supervisory support and guidance played a different but equally important role in teacher learning and change. Supervisors helped teachers clarify their role in guiding student learning. They served as a mirror, helping teachers see more clearly what was going on in their teaching and helping them think about what they need to do to improve the quality of student learning. They also stimulated analysis and reflection.

Even the best workshop cannot teach teachers everything they need to know when they return to their classrooms and begin trying out a new approach. Putting what is learned into practice represents a different problem and requires a different kind of support. The supervisory support and guidance system was designed to help teachers overcome problems associated with implementing what they learned from the workshop. Supervisory support and guidance helped teachers implement a new approach to environmental education by working on problems as they arose in a particular lesson and by focusing attention on questions that came up once they were teaching. In trying to make large and fundamental changes in practice, the supervisor support and guidance system was purposely designed to help teachers continue these efforts to change their practice.

Firstly, supervisors helped teachers answer question and solve problems that inevitably came up as they tried out something new. Supervisory support was a means to help teachers adapt the new learning experience to their practice. Through one-on-one supervision, supervisors were

able to draw teacher attention to specific issues that needed to be improved. These included helping students participate more effectively during group work, helping students ask better questions to get better answers, and helping students connect field data to content in the textbook. While improving these areas, teachers also learned to ask more questions as well.

When the supervisor came to observe my teaching, she focused on areas where I need to improve. This was very helpful to me. Sometimes, I did not know what my problem was. But the supervisor knew and explained it to me. Having a supervisor come to my school regularly helped me a lot. Sometimes when I got stuck and did not know what to do with my students, I could go right to the supervisor for help. (Mr. Pachern 3/15/95)

Once I was stuck on how to integrate mathematical concepts into the issue of deforestation. The district supervisor helped me by guiding me to think about using graphs to present findings about areas of deforestation. (Mr. Pornchai, 4/18/97)

As the two teachers' statements suggest, the supervisor helped them deal with problems that arose as they applied the new approach in particular lessons. These problems did not surface in the workshop when teachers were planning their lessons. They only emerged once teachers started teaching. They also appeared because this kind of student-centered teaching was so different from the one that teachers were used to using in their teaching before this project. This approach called for teachers to pay attention to what students were thinking, understanding, and confused about. It emphasized the teacher's need to focus on improving the quality of the learning experience for his or her students. Again teachers were asked to think and to perform as they had never done before. Having a supervisor in the classroom watching the teaching and learning process unfold and then talking about how to make it better, helped teachers go beyond just providing the same activities. It helped them develop a habit of thinking about the quality of student learning. By doing this, supervisors helped teachers get inside their own teaching and learn to understand and perform their new role. These kinds of challenges required another pair of eyes.

Supervisory support and guidance helped teachers learn to become more analytical about their teaching by looking more carefully at what was happening and trying to figure out what to

do to enhance student learning. Every time a supervisor observed a lesson and talked afterwards with a teacher, the supervisor asked the teacher to look back over their teaching and examine the relationship between what the teacher wanted students to learn and what students seemed to be learning. By examining what they had done in a particular lesson, teachers improved their analytical thinking, their skills in diagnosing their own teaching, and their ability to learn from their own teaching. In the process they became more reflective practitioners. Supervisors helped teachers move to a new level in their practice.

The supervisor helped me to learn from my own teaching by asking questions that led me to think about my own teaching. This reflective thinking led me to look in more detail at a particular event. By examining this event in more detail, I noticed things I had not thought of before. (Ms. Busaba, 4/18/97)

The Value of Teacher Meetings

Learning with and from colleagues at the school level also helped teachers form their own learning communities where they shared and discussed their practice. This component of the professional development strategy accomplished things that the workshop and the supervisory support did not and could not do. It enabled teachers to use their colleagues as resources in refining their practice. It helped teachers create and develop the infrastructure of their own learning community. It changed teaching from being an isolated activity to something teachers could work on together. The workshop provided the opportunity for teachers to start sharing and working together. The real sharing and working together on practice, however, took place during the teacher meetings.

Through the activity of teacher meetings, teachers were given the opportunity to talk about their practice. Supervisors could not be present all the time to give advice and organized such meetings. By helping teachers develop the habit of talking with fellow teachers about their practice, the project helped teachers form their own learning communities where they could continue to help one another make changes.

In the past, teachers were mostly alone by themselves. We had never really talked or consulted each other about our practice. We just stayed in our own classrooms and organized teaching in our own way. Never at any time did we ask each other about teaching and learning. When we met, however, we mostly talked about things other than teaching. After attending the project and having a chance to meet and talk with each other in the meetings, you know, we never had time to talk about anything except this teaching and learning. Even during lunch time in our school, we only talked about our teaching such as: What did you do with your students? Did you have any problems? How can we solve such problems? From then on, whenever we met each other, formally or informally, we always talked about teaching and learning. (Ms. Busaba, 4/18/97)

About the idea of teachers meeting together, when I first heard about it, I just could not imagine why we had to meet this often. After we kept meeting for a while, it made a lot of sense and was useful to us. I found myself looking forward to this meeting to talk and hear about my own and others' teaching. Later on, it turned out that whenever we met, we just talked about our teaching. (Mr. Bumpen, 4/18/97)

Statements from Ms. Busaba and Mr. Bumpen emphasize the utility of such teacher meetings in helping teachers learn from one another. They also suggest that such meetings helped teachers create their own learning communities to continue conversations about how to improve their practice. The notion of reflection, of helping teachers see themselves teaching and continue learning with and from colleagues while doing their teaching, represented a key contribution of the follow-up system. Such learning experiences could not be provided in the workshop, but only when teachers started to practice in their own classroom.

The "Teacher-as-Learner" workshop played a key role in providing first-hand experience for teachers in learning to do fieldwork and to expand and deepen their subject matter understanding. These experiences helped teachers visualize the new learning approach and provided an image of the new teaching. At the same time, it helped teachers begin to change their views and beliefs about teaching and learning. An analysis of the follow-up support system, however, showed that there are some things that teachers can only learn in the context of practice. Supervisory support and guidance helped teachers alter their ways of thinking about their role and what they did as they taught. Teacher meetings helped teachers learn from each other's practice. These two forms of follow-up work proved to be strategies that can help teachers learn in a situated, contextualized way. These follow-up activities helped teachers see the value of having

someone observe them and talk with them about their work and the value of sharing experiences and problems with other colleagues. The follow-up support system met a real need of helping teachers enact a new role, something the workshop did not and could not address.

What Did I Learn about the Nature of Teacher Learning and Teacher Change

The second set of findings has to do with insights about teacher learning as teachers struggled to make fundamental changes in their practice. Having experienced working closely with teachers for a semester and continuing to support them in subsequent semesters, I learned two main things about teacher learning in the context of change. First, both practice and beliefs have to change. Second the process of change moves from a surface to a deeper level. In order to talk about the nature of teacher change and learning, I will talk about what it is that teachers have to change and what they do during process of learning to change. I will use the in-depth cases of two teachers to elaborate my points.

Changing Practices and Beliefs

When we try to bring about fundamental changes in teaching, as expected in the SFEP project, both how teachers think and what they do are considered as key components of teacher change. Teacher change, thus, involves not only changing practice, but also changing ideas and beliefs. In such a system, teachers have to change not only what they do with students, but also how they think about teaching, how they understand their role, and how they think about learning. Such changes involve transforming beliefs as well as transforming practice.

The process of change is incremental and developmental (Fullan, 1985). For SFEP project teachers, learning to be proficient at something new and finding meaning in a new way of doing things required both time and effort (Guskey, 1986). Unlike substituting one set of books for another or making changes suggested in a curriculum manual, changing teaching occurs through a process of learning.

Changes in practice. Mr. Pornchai and Ms. Busaba changed their respective approaches to teaching. They had students do different kinds of activities in the field, used a different kind of curriculum, and focused on different resources for learning. During that term, teachers focused on the new unit “Our Community.” Students from these two classrooms, as well as other classrooms in the project, developed interview questions, planned visits to villages, gathered data, made sense of data, and wrote up reports to present to the whole class. The teachers were told throughout the workshop that this new kind of teaching and learning should focus on students as a center of learning. They were also told that teachers in this approach had to provide the opportunity for students to do things by themselves. The teachers, therefore, gave students almost total responsibility to construct their own learning. They had difficulty determining what role they should play in helping students learn. They said to students, “Do whatever you think.” “There are only right answers.” “There are no wrong answers.”

This above three sentences represented how teachers initially thought about their role in this new approach. Providing such an opportunity for students to learn by themselves meant giving all the responsibility to them to do whatever they wanted and supporting them by saying everything students did was “all right.” In fact, teachers needed to develop some criteria to help students accomplish their tasks such as discussing with them what a good question was like, or what the components of a good report were or what an effective presentation contained. Such a learning experience was not and could not be provided during the initial workshop.

Supervisory support and guidance, however, helped teachers deepen their thinking about their role. In the beginning, teachers concentrated on helping students work more effectively in groups, ask better questions, and give better feedback. Over the life of the project, the two teachers continued to improve their ability to support and guide student learning by asking students to give reasons, by promoting discussion as a way to clarify questions, and by giving substantive feedbacks, rather than just encouraging students to do whatever they wanted. The

teachers also changed how they understood their responsibilities in making decisions about what and how to teach. Data from the two in-depth cases showed these two teachers were able to develop an integrated curriculum and make lesson plans that fit with students and their village. Statements from these two teachers demonstrated change from what was said in the teacher's manual and content listed in textbooks to making their own decisions on what and how to teach and developing their own lessons to integrate content and field data.

Before attending the project, I used to plan the lesson on every subject in one notebook. I just listed them in the sequence of a daily schedule that my students would follow. With this project, I planned the Life Experience subject individually in a separate notebook. I found it helpful and convenient to make notes after teaching and to review the previous lessons. I will do the same thing with my other subjects' lesson plans this coming year. Planning lessons on "Our Community" unit helped me learn to develop my own lesson plan by myself. I learned to think about students' capabilities and planned the lesson accordingly. (Ms. Busaba, 12/22/93)

Before attending the project, I used to teach each content area according to the sequence presented in the textbook or manual. Now I don't think it is necessary to follow that sequence. It has to be flexible. When my students go into the village, I look and see if any content in the textbook can be learned during this time. Then I just bring it up and discuss it with them in connection with their field study. I try not to worry whether this content is listed to be taught in the second term. Another thing, I reduced some details regarding content that are not necessary to the students' lives and added more details in areas that relate to the real lives of my students. For example, in forestry, the textbook focuses on having students learn about the kinds of forest as well as forest regulations. I think it would be more useful for students to understand about the forest and the relationship between the forest and human beings. Therefore, I added that. In summary, my teaching has covered all content areas but at different levels of detail and in a different sequence. (Final Interview Mr. Pornchai, 7/3/96)

In terms of changing practice, these two teachers seemed to go through two stages in their learning to make change. The first stage involved a surface enactment of a new activity. The second stage involved a deeper level of learning in which each teacher moved from just going through the motions of getting students to do a new activity to paying more attention to the quality of student learning to make it a more productive experience.

Changing their views about teaching and learning. Before the project started, Mr. Pornchai and Ms. Busaba thought about teaching as a means to provide information to students and to make sure that they learned the content in the textbook. For these two teachers, learning

meant receiving information provided by the teacher and from the textbook. This view of teaching and learning represented a traditional kind of teaching and learning that most teachers provide.

I think of teaching as an honorable career that people respect and admire. The good teacher should love and care for students and pay attention to teaching in order to help students learn. In your teaching, you need to provide knowledge to your students and make sure that they learn all the content in the books, so they will be able to continue on to secondary school. (Baseline interview Mr. Pornchai, 8/1993)

In my teaching, I always said to my students that they should follow what I teach but not follow what I do if that does not seem good. I want my students to receive all good things, do all good things, and live in a good society. I thought about being a teacher ever since I was young. If I had to choose it again, I would still want to be a teacher. (Baseline interview Ms. Busaba, 9/24/1993)

The experience of experimenting with a new approach to teaching in their own classrooms for one semester (the first pilot term), these two teachers showed that their views changed from only providing and receiving textbook information to providing support for students to do their own learning in their community. Learning this way helped students improve their speaking, listening, and writing abilities as well as learning more about their own village.

In learning this way, my students improved their speaking and writing skills a lot. Students felt more confident to express and to act, and learned to work in groups. Students had a chance to find information in the village by themselves. They had direct experience which was better than having the teacher tell them all the time. This way of learning also made inactive students do more things in their own learning.

With this way of teaching, my students developed an increased role for their own learning. They went into the village to collect data. Before that, they developed questions and made appointments with villagers. When they came back to class, they worked together making sense of data gathering and wrote report. In all these activities, I did my role as guide and helper. The good thing is that playing these new roles gave me more time and opportunity to observe each of my students in their learning process. (Exit interview Mr. Pornchai 6/17/1994)

In the past, I used to have students learn from villagers but not in this much detail. I invited villagers to come and talk to students. Even though the present curriculum emphasized the use and benefit of local study, we did not really understand what that meant. Therefore, I focused most of my teaching on the content in the textbook. When I had to organize a local study, I just invited villagers to talk with students. I did my teaching to help students pass the exam. When the project came to this school and I had a chance to teach in this new approach for a term, I learned so many things.

I used to think the local knowledge that students had was very little. I never thought that knowledge my students learned from villagers in their community would be things they could really apply to their lives in meaningful ways. After using this new approach for one term, I could see that my students improved a lot. I thought this kind of teaching emphasized more the process of learning than the content. But I began to realize that using the process provided by the project, I could have my students learn all the content in the curriculum as well. (Exit interview Ms. Busaba 6/13/1994)

Mr. Pornchai's statement shows that his view about teaching and learning had changed.

In his new view, student learning went beyond receiving information to gathering and making sense of information and then constructing new understandings. Learning this way provided the opportunity for all students, including inactive students, to do their own learning. Learning in a new way gave teachers the opportunity to watch their students learn individually. Ms. Busaba, moreover, changed her view about field study from just having students listen to what the villagers said to gathering and making sense of data from the villagers. In addition, she expanded her views about the nature and the value of local knowledge and where such knowledge came from.

During the first pilot term, the two teachers made important changes in their practice and in their thinking; however, such change were at the initial stage. Following these two teachers through subsequent terms of the project showed that making change was not that easy. In the next section, I discuss the difficulty teachers experienced in learning to change. Again I will refer to data from my two in-depth case studies.

What was Hard for Teachers in Making Fundamental Changes

As teachers moved from a more traditional to a more student-centered approach, they initially were unsure about what their new role should look like. Teachers seemed to know what they were not supposed to do, e.g. , they were to stop being the source for all information; they were to stop relying only on the textbook as a source of content. But what teachers were supposed to do to support student learning was not so clear. During the first pilot term, teachers went through the steps of getting students to do field work. Teachers made a careful plan and laid out

activities for students to do in the field and throughout the unit. While students were working on their tasks, however, teachers mostly watched students do their work without intervening. This first stage of making change I call “change at the superficial level.” Teachers used all the knowledge and experience from the workshop in helping them make change in their own classroom. Once they started their own teaching, however teachers found difficulty playing their new role to help students learn.

The next stage was to get teachers to look beneath the surface of student experience to focus on the quality of student learning and to adjust their teaching. This way of learning unfolded over time. It was not specifically the result of the workshop, nor was it specially the result of the follow-up support system. It was a combination of doing their own classroom experimentation with help from supervision, learning more in subsequent seminars, trying out more in their own classrooms, and sharing experiences with colleagues. It seems, therefore, that teacher learning is a process that takes place over time and requires multiple inputs to continue and be sustained. This second stage of learning requires a different level of understanding which I call “moving from a surface understanding to a deeper level of understanding.” Teachers need help to learn how to examine their own teaching in relation to the quality of student learning. They need help in integrating field data with content in the curriculum for one subject and across the other subjects. They need to learn more about forests and other science and social concepts.

After five consecutive semesters of continual follow-up support and guidance activities, both teachers showed that they were able to move beyond just providing new learning activities to deepening their role of supporting and guiding student learning. First, they helped students ask better questions and paid more attention to listening and taking notes. Second, they helped students participate more in group work. Third, they gave students feedback that focused on the quality of content rather than just on how they performed. Fourth, they learned to summarize content from student reports and relate this to the curriculum rather than just writing on the

chalkboard what the textbook said. Finally, these two teachers showed that they were able to design their own integrated curriculum.

In the process of making these changes teachers needed to change both their practice and their ideas. The process of learning to make such change involved moving from a first stage of superficial change to a second stage. In this stage, they deepened their role of supporting and guiding student learning.

The in-depth cases of Mr. Pornchai and Ms. Busaba show that the workshop experience helped them plan and implement this new approach to teaching and learning. When they changed their teaching and saw what happened to student learning, their view of teaching and learning began to change. Being able to experiment with this new kind of teaching in their own classroom and having a supervisor to help them by observing and discussing particular problems in a specific lesson enabled them to go beyond surface changes to deeper changes in their role. These changes made it possible to help their students more appropriately. By sharing experiences with colleagues during teacher meetings and helping one another solve specific problems in their practice, teachers learned to develop concrete strategies related to their practice. As a result of continuing such meetings, teachers started to form their own learning community. Also learning more in subsequent seminars helped them strengthen and deepen subject matter knowledge needed to teach environmental education using this approach.

My study focused on the impact of the professional development intervention on teacher learning and change. In fact, there were other factors that contributed to these changes such as student engagement and community support.

Increased student engagement proved rewarding and motivating to teachers. Some teachers saw that students had abilities they had not seen before in the old form of learning. This confirmed their faith in the new teaching approach which led them to continue making the effort to change their practice.

Some teachers also had initial concerns about this approach, fearing their students would not do as well on end-of-year tests needed to advance to the next grade. As Ms. Busaba noted:

During the first year of the project, I was very worried that my students would not get a good score on their final test. This was because the district developed the final test and compared test scores across schools. If students in any school got a high test score, it meant that school had good teachers and smart students. Now, those feelings are gone. I am confident in what I have seen happen to my students. I know my students very well and feel positive that they will be able to apply their experience to their lives. (Final interview Ms. Busaba 6/19/1996)

When Ms. Busaba saw how her students changed and developed as a result of this approach to learning, her belief in this kind of teaching was strengthened and she was more willing to continue the process of change. Ms. Busaba's change process shares similarities with Guskey's model of teacher change where he argues that change in teacher beliefs are likely to occur only after changes in student learning outcomes become evident (Guskey, 1986).

Active community participation in the project also encouraged teacher change. This component provided important emotional support for teachers and motivated them to continue down the path of change. Other contributions had to do with teacher involvement and their freedom to make decisions. As one teacher put it:

It's not easy to make change, even up to this point. For me, I still have not completely changed my views and my teaching. Part of me still thinks in the old way. Like I said it's not easy. But in terms of changing as much as I have, besides the support system, I think the factors that helped me the most were the flexibility and participatory management of the project, and the freedom and autonomy that we were given to design strategies on our own. (Bumpen 4/18/97)

Implications

This study speaks to several audiences. Policymakers are one, especially those connected with Ministry Of Education (MOE) and the Office of the National Primary Education Commission (ONPEC) who allocate resources for staff development programs and decide their content and organization. A second audience includes the supervisors who implement staff development and provide subsequent supervision, and the practitioners of staff development. A third audience is staff of the SFEP project itself. Implications deal with

four main topics: 1) needing to change the system of staff development in Thailand;
2) transforming the role of supervisors; 3) expanding the project to other schools; and
4) deepening current changes.

Needed Changes in the Thai Staff Development System

For teachers to make fundamental change in their thinking and practice, at least four kinds of learning experiences are necessary. Firstly, teachers need to experience the same approach to learning that they will subsequently use with their students. Simply telling teachers about the new approach is not enough. In this project, the opportunity to experience new forms of learning played a key role in changing teachers' thinking and practice.

Secondly teachers need to deepen their understanding of subject matter knowledge to be able to provide worthwhile learning activities that fit with students and the context of their community. They need to deepen their knowledge of content, developing frameworks for interpreting real world problems, learn how to integrate concepts across different disciplines, and relate field experiences to the curriculum. To gain knowledge needed to teach for understanding, teachers must encounter this knowledge in meaningful ways. Subject matter is an essential domain of knowledge. Teachers need deep and flexible subject matter knowledge to create multiple representations and to help students make connections among ideas and between concepts and their world. (Shulman, 1987; Ball, 1988; Mclaughlin & Talbert, 1993)

Thirdly if teachers are going to make fundamental changes in their teaching, they need on-site help in the classroom. Teachers need on-going support and guidance to help them reflect on their teaching in order to go beneath surface change. In this study, the intensive workshop contributed in important ways to the initial implementation of the project in the classroom. At the same time, problems and issues arose once teachers began teaching which required help in order to make deeper, more substantial changes.

Finally, teachers need collegial support. They need the opportunity to learn with and from their colleagues at the school level. The process of change involves a process of learning. Learning from peers involved sharing concrete, authentic, personal experiences of how students were benefiting from the approach in this professional development program (Dyasi, 1997). Learning from colleagues meant that teachers shared and discussed the act of teaching and then developed more concrete lesson plans (Little, 1987). Learning this way provided teachers emotional and practical support (Featherstone, 1996). Providing teachers the opportunity to learn with and from one another showed that teachers were able to form their own learning communities. These also played a role key role in encouraging and supporting teacher learning to change practice.

In Thailand, staff development programs rarely offer teachers such learning opportunities. Rather, the staff development system provides the maximum amount of content in a minimum amount of time. It uses a traditional approach of just giving information to teachers, offer almost no follow-up support to help teachers learn to implement a new approach, and provides no opportunities for teachers to meet and learn with and from each other. If any follow-up activity occurs, it normally takes the form of inspection to see if teachers are doing their work rather than the form of helping teachers make change. Staff development programs, moreover, typically represent one part of a package for change that emanates from the central ministry office down to those responsible for organizing staff development in a local area (Sykes, Wheeler and Floden, 1997).

The SFEP project was no different in terms of how the staff development program was initiated. It came from the central office. The difference in this project was in how project staff thought about helping teachers make change. If the Ministry seriously wants to change teacher practice to improve student learning, the staff development system needs to undergo a fundamental change. The professional development intervention has to fit with the

reform vision and ambition. Based on this study, I recommend the following:

- Provide teachers with the same learning experiences they will be expected later to provide to students.
- Provide teachers the opportunity to deepen their understanding of subject matter knowledge and how to integrate content across disciplines.
- Provide teachers with the opportunity to learn through classroom experimentation, observation and discussion.
- Provide opportunities for teachers to learn with and from colleagues.

Changing the Role of Supervisors and Other Possible Support Staff

Key to implementing these principles will be making changes in the role supervisors and other support staff play. This study showed that supervisors in the project could modify their traditional role. During the workshop, supervisors planned, organized, and facilitated activities. In the classroom, supervisors observed and discussed particular lessons with individual teachers to help them learn from their own teaching. Supervisors also organized teacher meeting so that teachers could share experiences and help each other solve problems.

While this study showed that supervisors played a key role in helping teachers change their teaching, data from the overall SFEP project showed that many other demand on project supervisors prevented them from spending sufficient time supporting project teachers (e.g., by visiting classrooms and organizing teacher meetings). So the question remains as to whether the workload of supervisors can be sufficiently changed so they can spend more time helping teachers learn to implement new approaches to teaching and learning. If supervisor support is a critical component in helping teachers learn to teach in a new way, perhaps another change might be to provide clerical support staff to help supervisors with paperwork, so they could have more time to provide assistance to teachers.

The formal function of ONPEC supervisors is already to help teachers improve their practice. The question is what role supervisors should play in providing effective help to teachers. Data from project teachers show they initially viewed supervisors more as

performing an inspector role rather than as providing a support and guidance role. Project teachers also indicated that they would feel most comfortable sharing their thoughts and experiences if they were treated as colleagues. Moreover, this study shows that helping teachers learn in the context of their own practice is especially important for promoting fundamental change. In performing their new role, the data suggest that supervisors should observe how the new approach is implemented in the real classroom and then talk with teachers about what they see. By doing this, supervisors also become learners. By interacting with teachers as colleagues, they create a sense of trust that allows teachers to open up, share their concerns, and continue to change their practice. Changing supervisors' workload to allow them to focus effecting on helping teachers by working with them at the school level is one component of improving teaching and learning. But what if this is not possible or if only marginal changes can be made? Could other staff besides supervisors help teachers in their school?

In fact, there are staff at the school level whose roles include providing on-site support and guidance to teachers. For example, academic school cluster teachers and school principals already work at the school level and one of their functions is to support teaching and learning. The reality, however, is that academic cluster teachers are also regular teachers in their own schools. This means they also have teaching responsibilities. If they work in a larger school that has extra teachers, they might have some limited time to visit other schools in the cluster. If they are from a small school with a limited number of teachers, it is very difficult for them to leave their own classroom during school time. It is possible that academic cluster teachers from larger schools could learn to help colleagues make classroom changes while the ones from small schools could help by making his or her classroom as a learning demonstration class for other teachers. School principals are not required to teach, but have many administrative duties. In small schools, moreover, principals help by teaching

some subjects such as religion or moral ethics. Can principals provide teacher support and guidance? One lesson from the SFEP project is that active principals tend to tell teachers what to do rather than helping teachers analyze their teaching and learning “in and from their practice.” Since principals seem to be the most available person at the school level, it may be useful to focus more attention on helping them learn to support teacher learning and teacher change in ways congruent with this project’s approach. A revised in-service program for principal should emphasize this role.

The above suggestions focus on the existing system of support for teachers that already exists in ONPEC’s present structure. From this perspective, the need is to strengthen the staff whose role already is to help teachers improve their teaching. Another alternative to help teachers could possibly come from the population of teachers themselves. As mentioned earlier, for teachers to make fundamental change in their practice, they need another pair of eyes to help them go beyond superficial change to deepen their role by focusing on the quality of student learning. They need someone to help them learn to study their own practice by observing their teaching and talking to them after that. Finally they need someone to arrange and facilitate a meeting for them to share their experiences and problems with other teachers. This can be done by using project teachers who already have such experiences as a “mentor teacher” for other teachers. Also outstanding teachers from all regions of Thailand could be selected as mentor teachers, educated in this approach, and then placed temporally in specific locations. Their responsibilities would include observing a limited number of classrooms and facilitating teacher meetings at the school level. These mentor teachers would also work collaboratively with district supervisors and academic cluster teachers to share what happened at the school level and to plan for future teacher support. As teachers formed their own learning communities, such mentor teachers might then move to other locations

that needed help or return to their school and continue their mentoring work in nearby schools.

As with any idea, there are also problems. Even though such mentor teachers can give more time to help teachers learn in the context of their practice, they remain teachers, not supervisors. Leaving supervisors alone because it is harder to change their role and emphasizing the creation of mentor teachers may lead to another problem. Although the position of supervisor is not an administrative one, supervisory work that focuses on organizing staff development programs does allow supervisors to play a powerful role in influencing teacher thinking and action. This powerful role needs to be addressed so it does not conflict with a mentor teacher's role. Perhaps one answer might lie in showing what this new mentoring role might look like and letting people examine the consequences of such a role for helping teachers. This might help to convince supervisors, principals, and academic cluster teachers to commit to make such a change.

Some Ideas about Expansion

The two in-depth cases presented in this study show that changing teacher practice takes time and continuing support. In the process of learning to make basic change, teachers need close and continuing support and guidance. In terms of project expansion, there is a need to create an infrastructure of support and guidance to help teachers new to the project learn to implement this approach in their own setting. New teachers need concrete examples of what the project looks like when it is implemented appropriately as well as opportunities for interaction with supporters and new teachers. In this way, these two communities can expand naturally in ways that fit with their individual contexts. Therefore, in thinking about expansion, I recommend the following:

- Identify and prepare a support team that understands the new role and make sure that this group has enough time to work with new teachers.

- Give equal attention to the two components of the professional development model: the “teacher-as-learner” workshop and follow-up support and guiding activities.
- Develop an infrastructure to support and guide teachers at the school level.
- Use project teachers and classrooms as resources for new teacher learning.

Deepening Changes in Teachers’ Practice

The in-depth cases of two teachers show that they have made fundamental change in their practice. It also shows that these two teachers still need to learn more in order to provide the best learning opportunities for students. Project teachers need to continue learning more subject matter content and more about their role in helping and supporting students. They need to continue learning to develop a habit of examining and reflecting on their practice and finding ways to improve their teaching. Moreover, they need to learn to deepen their agenda of sharing and problem solving with their colleagues to move to a more complex analysis of their teaching. As the project expands to other schools, these project teachers will also be involved in helping other teachers learn to make fundamental change. Other project staff such as principals and supervisors also need to learn to improve their role in supporting teachers. Thus there is a need to support and strengthen current project staff by helping them to:

- Deepen subject matter understanding
- Learn how to perform their role more effectively
- Learn how to help other teachers

This study focuses on teacher learning as a way to change teaching practice. It recommends a particular professional development model to promote fundamental changes. The implications of this study relate to the content and the process of teacher learning as teachers change their practice to promote improved student learning. If expansion of the SFEP project is to occur and be effective, other areas will also need to be examined and

strengthened. These include improving strategies for community participation and for involving other governmental agencies. Since these areas are outside the scope of this study, I will not go beyond pointing out the importance of attending to these factors as well.

The findings and recommendations from this study parallel studies of professional development and educational reform in other countries. In the past, when policy makers thought about reforming education, they focused attention on the infrastructure of the school, curricular materials, and new kinds of assessment. They expected changes to happen through one-shot workshops that delivered new information to teachers. Today reform-minded researchers and teacher educators recognize that fundamental changes in student learning require serious attention to the content and process of teacher learning. This, in turn, depends on serious and sustained opportunities for teachers to deepen their subject matter knowledge, expand their images of good teaching and get support from colleagues and other educators to make change in their practice (Shulman, 1987; Ball & McDiarmid, 1990; Lampert, 1998; McLaughlin & Talbert, 1993; Little, 1987; Sykes, Wheeler and Floden, 1997).

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