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Making sense of experience : an autobiographical study

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MAKING SENSE OF EXPERIENCE: AN AUTOBIOGRAPHICAL STUDY

A Thesis

Presented to

the Faculty of the College of Education

San Jose State University

In Partial Fulfillment

of the Requirements for the Degree

Master of Arts

by

Jim Rohan

May 1996

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ABSTRACT

MAKING SENSE OF EXPERIENCE: AN AUTOBIOGRAPHICAL STUDY

by

Jim Rohan

This qualitative study concerns itself with one teacher's attempt to make sense of lived experience both inside and outside the classroom. The theoretical framework embraces a view of curriculum as autobiographical text. The methodology employed is a single case study which incorporates autobiographical methods of phenomenology, narrative inquiry, and critical autobiography to inquire into the meaning of curriculum. The data includes papers, audio and video tapes, and personal journals kept for a period of 14 years in which the teacher taught various subject matter content to different levels of students from preschool to adult. Reflection, both on self and practice, was the primary focus taken to analyze the data and to identify the underlying interests influencing thought and action. A view to seeing teaching as reflective of technical, practical, and emancipatory interests was assumed and evidence of these interests underlying teaching practice comprise the focus of the study.

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Chapter I

Introduction

the room is set
the environment prepared
the first day of school!
my back is sore from all the work that has gone into
getting ready for this day
parents have been met
materials and supplies ready
I too am ready
all is "go"
(Journal Entry, March 1987)

Development of the Research Focus

My primary interest in educational research lies in exploring aspects of my classroom practice with the intention of using the knowledge gained to improve my teaching and thus provide my students and myself with a richer environment for learning. In this way I can contribute to my professional growth, the growth of my students, and my personal growth. The link between the world of research in teaching and my own personal world of experience is the concept of self-study, the means of which is "reflection" (Connelly & Clandinin, 1988; Cruickshank, 1987; Parsons, 1991, 1993; Parsons, Matson, & Rohan, 1995; Schön, 1983, 1987; Sisto & Hillier, 1993; Yinger & Clark, 1981). In eastern philosophy and in some eastern religions, self-study through reflection is considered a method leading to enlightenment or inner peace. I have been a student of eastern philosophy, in particular yoga, for 20 years and a teacher of yoga for 19 years. As part of my ongoing practice I use reflection daily. One of the tools of self-study is the recording of reflection. This I have been doing in the form of journals, notes, and formal papers for the past 14 years, and these works comprise the primary data for my study. My study is a study of self which has as its base the intention of liberating myself from false notions of self, ignorance, and the violence associated with my own negative attitudes. In doing so, I become more true, free, and whole.

Philosophically, I approach the merging of my own individual consciousness in the universal consciousness principle.

In researching reflection I found it had a wide lineage in literature dating from the Greek philosophers through Dewey (1938) to contemporary thinkers. In 1992, having been a teacher for 12 years, I felt that my teaching and my understanding of teaching needed re-evaluation in light of my teaching experience. Was there some way to explain my personal epistemology of teaching? Did others share my interests, descriptions, and assumptions about classroom experience?

I heard a new word, constructivism, in one of my professional education classes regarding how students learn. Was this the epistemological understanding that I was looking for? I began in earnest to learn about constructivism and felt a need to apply it in my practice, first in principle through reflection on its meaning, and then in action through the adoption of specific teaching strategies and lesson plans. The data for this study includes this work in constructivism in the classroom. This is not to say that this research is about constructivist teaching. Constructivism provided an opening into the world of myself as teacher, learner, and subject and all the complexities that lived experience brings. This is where I begin.

This chapter introduces the problem, that of making sense of experience, by first exposing the connection between the world of experience and curriculum. Following this, I introduce the background, historical setting, and philosophical underpinnings of the research through an exposition of naturalistic research and current competing paradigms in educational research. At the end of the chapter, I detail the methodology through which I explore possible solutions to my thesis problem.

Chapter two discusses the literature pertinent to the study. I first explore foundations of the study through an exploration of competing paradigms in educational research, starting with positivism and leading to constructivism. In addition, a

discussion of naturalistic and qualitative research and different forms of constructivism are discussed. This leads to a discussion of the theory of cognitive interests and its relation to education and curriculum in general, and my own teaching in particular. Then, by looking at the field of curriculum development historically, an approach to understanding my thesis problem as centered in autobiographical methods is described. The chapter concludes with a proposal to look at two important themes in the data of the study: the development of professional confidence in my own teaching and the development of responsibility and autonomous learners in my students, and to look for evidence of three cognitive interests underlying my teaching practice.

Chapter three discusses the methodology of case study in general, and the nature of a single autobiographical case study in particular. Autobiography and narrative inquiry are discussed as tools supportive of my study and I conclude the chapter with a brief mention of how the data for the study has been analyzed, data which was gathered in personal journals, papers, and other sources encompassing my work in education over the past 14 years.

Chapter four examines the data from three distinct periods of my teaching--early, middle, and recent--for evidence of technical, practical, and emancipatory interests underlying my experiences in my teaching and my work as a teacher. In addition, two themes which emerged from my educational autobiography are examined in each phase of my teaching for evidence of an emancipatory interest. The chapter concludes with a summary and implications for further research.

Chapter five begins with a review of the findings of the study and is followed by a discussion of the assumptions and limitations of the study. The chapter concludes with a discussion of personal dilemmas associated with the study.

Experience and Curriculum

My study concerns itself with a fundamental problem in teaching practice: how to make sense of the myriad experiences that encompass a teacher's lived experience in and out of the classroom. Grundy (1987) suggests curriculum is that part of education in which there is little or no underlying philosophical base and proposes that educators at all levels look seriously at this shortcoming, encouraging us to take as a support our own personal approaches to education in general, and our own teaching in particular. In her book, *The Curriculum: Product or Praxis?*, she looks to the philosophy of Habermas for a foundation on which to base education and curriculum development. She borrows from his work the idea that knowledge acquisition and organization is based ultimately on the interests which guide its creation. These interests are technical, practical, and emancipatory. She shows how these knowledge-constitutive interests can be applied in education in general, and in classroom practice in particular. I adopt these interests as foundational principles upon which to base my understanding of my own teaching in this study and show how these interests apply to my teaching, experience, and understanding of self. The purpose of the study is two-fold: (a) to shed light on teaching practice in general, and (b) to develop a deeper understanding of myself as a teacher-learner.

Experience can be of persons (including one's self), places, or things and originates in the senses or the mind.¹ Although experience of things, such as setting up the classroom environment, getting to and from school, and doing non-school related activities such as watching television or reading a good book, occupy much of the life experience of a teacher, I chose to focus on a teacher's experience with others and self. The experience of persons is necessarily tied to that of places and things, but the role they play in my study is secondary. What is primary is the development of relationships

¹ For example, an apple. An apple can be experienced through seeing and eating but also different types of apples can be remembered as experienced in the past or imagined.

between teacher and student, teacher and colleague, and observations of and reflections on others and self.

The problem of making sense of life experience for someone outside of education is similar and might be expressed as this: how does one sort through the vast tangle of experience that we call "life experience" where experiences are intricately interwoven with each other? This most basic question of life is one which the human mind has sought to explain through philosophy and religion and is one upon which, through reasoned judgment, the human mind has based action in the world from the beginning of civilization. Aristotle's development of "topics" (Connelly & Clandinin, 1988, p. 83) was a way of categorizing the set of experiences that comprised the important issues of practical life in ancient Greece.

Regarding this same problem in educational research, Connelly & Clandinin (1988) refer to categories of educational experience as "commonplaces of curriculum" (p. 83). They cite one of the first uses of commonplaces in educational literature in the work of Joseph Schwab in 1962. They define them as "a set of factors or determinants that occur in statements about the aims, content, and methods of the curriculum" (p. 84). These commonplaces comprise a simple model for identifying curricular problems and include subject matter, milieu, learner, and teacher. Depending on the specific research focus, the commonplaces take on particular meanings. In my study, they are interwoven and take on meaning as a whole. Viewed in this way they comprise the parameters of my focus.

It may be helpful at this point to discuss some of the basic concepts and terms essential to this paper. The teacher is usually seen as implementer of curriculum for students. In my study, the teacher is seen as synonymous with the curriculum. Generally, learner refers to students. In this study, I consider the teacher as learner. Freire (1970) and Grundy (1987) use the term "teacher-student" to express the

dialectical nature of teaching and learning. Subject matter usually refers to a particular discipline or body of knowledge. Here it refers to the actual life experience of the teacher. The milieu usually refers to the context in which the other three commonplaces are situated. Here milieu is subsumed in the subject matter and all four are seen interwoven and comprise the realm of life experience.

The study is autobiographical in nature. The primary data for the study are 14 years of notebooks, personal journals, writings, audio and video tapes of my own teaching practice, and papers written while engaged in full time teaching in a private school (preschool through high school) in Watsonville, California, from September 1981 to January 1995. In addition to teaching, I was also engaged in undergraduate and graduate work at three institutions: Cabrillo College, University of California at Santa Cruz (UCSC), and San Jose State University (SJSU) from September 1985 to the present. The data from both my professional and university sources overlap. The latter includes philosophy of education papers and other class papers, projects, and other related material. In particular, during the time in which I was engaged in teaching a high school biology class in 1993, I took extensive notes, collected student work, and composed journals of ongoing practice and reflection on that practice.

The theoretical underpinnings of this research reflect a paradigm shift from a positivistic view of knowledge and inquiry to a naturalistic one. Numerous articles and books have been written on the replacement of discipline-based with action-oriented (Carr & Kemmis, 1986) and practice-based (Connelly & Clandinin, 1988) research, positivist with naturalistic approaches (Guba & Lincoln, 1985), and quantitative with qualitative methods (Glesne & Peshkin, 1992).

William Torbert (1981), in an article which decried the state of social science research operating under the positivist paradigm in the early '80's as failing to lead to any improvement in the educational system in the United States, states, "the currently

regnant model of social science [research] altogether neglects to study what is actually going on, that is, one's own action with others and the assumptions upon which that action is based" (p. 144). He and others (Connelly & Clandinin 1988, 1991; Grundy, 1982, 1987; Grundy & Kemmis, 1983; Pinar 1988; Pinar & Grumet, 1976; Schön, 1987) pose a model for research in the social sciences that (a) places researchers in positions of action as active participants in the situation being researched; (b) affirms that the researcher-researched relationship deserves to be studied; (c) observes that the framework and variables of a study change in the course of the study; (d) asserts interest is as much in knowledge uniquely relevant to the particular time and place of the experiment as in knowledge that is generalizable to others both inside and outside the study; (e) understands that one fundamental type of empirical instrument is a record of experience allowing participants and others to participate through their own interpretive frameworks in making sense of the situation(s) described in the data, and (f) believes that an important way of testing the validity and significance of social knowledge is to feed data back into the setting researched, studying how this influences further action. All components have reflection embedded into them and are significant in my study.

The methodological framework I choose as a basis for the study is a single-case study and encompasses narrative inquiry (Connelly & Clandinin, 1991) and autobiographical methods (Connelly & Clandinin, 1988; Davis, 1991; Parsons, 1991; Pinar & Grumet, 1976; Pinar, Reynolds, Slattery, & Taubman, 1995). The methods incorporate reflection-in-action and reflection-on-action (Schön, 1987) as tools to explore teachers' tacit knowledge of teaching practice and understanding of teaching experience.

Narrative inquiry is a two-fold process (Connelly & Clandinin, 1991). On the one hand I will be inquiring into the meaning of teaching practice using narratives of

experience as recorded in logs, journal, papers, and letters; that is, inquiry into narrative. On the other hand, parts of the final product of the study will be in narrative form reflecting inquiry into teaching practice.

The research partakes of phenomenology (Aoki, 1992; Pinar & Grumet, 1976, Van Manen, 1990) in that it is aimed at understanding the nature of the experience of teaching practice from the inside out. The research is interpretive as it draws on data from personal writings, audio tapes, and a videotape of teaching over the past 14 years in many different classroom and non-classroom settings. The work incorporates autobiographical writing as a tool for creating meaning from my teaching experiences. In the writing of the research study, the autobiographical portion was written after all the other data for the study was recorded and is included in its entirety in Appendix A. The literary genre of autobiography will be explored and will be discussed in a later chapter.

The use of a single, autobiographical case as a methodology is unique in naturalistic research. Except for Parsons' work (1991, 1993) which uses autobiographical writings to explore an evolution of thought from a feminist perspective and Parsons, Matson, & Rohan (1995) which additionally includes reflections of a college science professor and reflection on my own work, this is the only study of its kind that I am aware of involving an in-service high school teacher. Traditionally, case study has been employed as a methodology where there is a researcher and separate subject(s). Here researcher and subject are identical. Part of the value of this case study lies in the fact that the data I am using was gathered at a time when I was unaware of this research focus and, as such, was an honest attempt to put down my experiences, thoughts, and ponderings as a teacher. My persistent use of recorded data throughout my teaching over the past 14 years I can only explain as a continued search for meaning in my world of experience. This data appears in a form that can be analyzed and interpreted for the purpose of this study.

A main purpose of the research is to shed light on teaching practice as it relates to understanding myself. Some questions relating to teaching practice that I use as a means of uncovering meaning in my lived experience through this study are (a) What is the nature of a teacher's change process?; (b) What is the role of reflection in understanding teaching practice?; (c) What is the role of constructivism in teaching practice?; (d) What is the nature and role of knowledge-constitutive interests as they apply in education?; (e) How do I develop an understanding of my own intentionality in my lived experience both inside and outside the classroom?; and (f) How are the knowledge-constitutive interests helpful in developing an understanding of a student's role in taking responsibility for their own learning and for my own development of professional confidence? Asking and reflecting on each of these questions facilitated the development of understanding of my experience of teaching.

The particular area of teaching practice I focus on relates to the role reflection plays in understanding a teacher's change process. The particular area of subjective understanding is that of intentionality which functions both in my teaching and personal life, or, as I use the term, my lived experience.

Davis (1991) outlines four stages of the process which she says "are embedded in reflection" (pp. 9-15): disturbance, alternatives, confidence, and action. In my research I have defined similar components but explain them as: disequilibrium, a sense of bondage; possibilities, understanding the forces influencing bondage; responsibility, acceptance of duty to change situation; and action leading to emancipation. These components of the change process are not intended to be a definitive accounting of all teachers' change processes and are not linear. They occur in a circular helix pattern and are dialogic in nature, that is, there is a constant interplay of subject and other in the construction and development of meaning.

The following is an excerpt from a journal I wrote regarding the teacher's change process. The problem originated in the realization that our kindergarten students seemed to pay no attention to any of the materials that we, the teachers, expected them to.

An incidence of this change process occurred each year in the preschool/k program with Sarojani and myself. Each year when we would set up the environment, we put out less and less *stuff*. Even though we knew that there were some great manipulatives and games for them to learn from and have fun with, we felt that each group of students was a whole unto themselves. Rather than set up a whole environment based on our many years of practical experience, we found it more respectful of their needs as individuals and as a functioning community to restrict our (the teacher's) input into the environment and instead, let them speak to us about what it was they were needing or interested in. The room then at the beginning of the year was sparse. We added on to it each week and sometimes daily as we got to know the students. Each year we added less. The last two years we started the new year by saying we would only put out the first lesson of each of our learning areas. (Journal, 1994)

The ever spiraling helix gives the image of action as never complete and this is the intent. This feeling of never arriving at truth is not a negative; in fact, it keeps the mind as a *beginners-mind*; that is, open-minded in teaching for understanding and change. In this study, the action component consists of, among other things, an intervention of constructivist teaching strategies in a high school biology classroom in 1993.

Constructivism

The epistemology of constructivism played a significant role in the research and, in fact, the research focuses on the period from spring 1993 to summer 1994, in which I became acquainted with it, used it as a basis for teaching, and evaluated it in terms public and personal learning. In order to understand the affects of adopting a constructivist epistemology in the classroom, I will examine this period in detail. There are two themes I explore, one personal and the other professional, even though the narratives of experience blend the personal and professional experiences into one. The two most important themes in the study are the development of professional confidence

and my attempts to empower my students to take ownership in their own education. Both themes are shown to reflect emancipatory interests.

My background, physical setting, and time frame for the study are unique as are all teacher's individual circumstances surrounding their teaching. This fact implies personal biases, both cultural and personal, and engenders questions of validity and usefulness to other teachers. I acknowledge this and, in fact, these are integral and important aspects of any qualitative study. Lincoln and Guba (1985) suggest that validity and reliability become transferability in a qualitative study. So, rather than dismiss the research as just one person's fancy, it is my hope that readers will look at and reflect on the study and thus be able to understand it in light of their own teaching and private selves. I wish them to feel supported in their own ongoing attempts to make meaning of their lives, both in and out of the classroom. In particular, I hope the reader will question his/her own *personal baggage* in the form of hidden beliefs and assumptions about self and teaching practice. In chapters four and five, I find some answers to my thesis problem, but more importantly, in seeking to understand myself and teaching practice, I continue to ask questions as a way of keeping open to continued learning and guided toward continued understanding. Inasmuch as this is a study of curriculum, it is seen as a study of self. What could be a more enticing and gratifying study than a study of oneself with the hope of reducing some of one's emotional and mental baggage, and as Davis (1991) describes, empowering oneself with the hope of emancipation--emancipation for teachers and students from false notions and beliefs about self and practice which bind us and prevent us from experiencing our true nature?

I hope to uncover personal beliefs and, at the same time, feel that my search for meaning in my own teaching will be able to show other teachers a possible way of looking at their own teaching practice and, in essence, at themselves.

No understanding of teaching experience could possibly avoid an understanding of curriculum. What is it?, How has it been understood historically?, and How might it be understood now? It is to an understanding of curriculum that my research now turns.

Background of the Study

My research topic is situated in the broad context of curriculum studies. Over the past twenty-five years much has been written in the field as it has sought to reconceptualize itself, a process that is at once a dying and a rebirth of sorts, not of the same species in new clothes, but of a new species altogether. Figure 1 summarizes the approach I took in developing a context for research in self-study.

Reacting to the turmoil of the 60's, the majority of the educational establishment clung ever more ardently to the positivist paradigm. The *back-to-basics* movement surged. The result was research in education that intensified the dominant behavioristic and objectivistic paradigm and, when the hoped for solutions to society's problems didn't materialize, there was an outcry and a surge of national reports which focused on the breakdown of family, government, and especially education. The result was a further elaboration of underlying causes and mapping out of strategies for change. Although there were some who looked to the existing paradigm itself as a possible source of the problem, most framed these new solutions in the old paradigm. Certainly technology and the application of good science could lead the country out of its dark night. This was the positivist's motto, surfacing anew after more than two hundred years.

Gradually there emerged within the field of curriculum development a desire for a qualitatively different change. The time was ripe for a new birth. Curriculum, the notion of a body of knowledge to be mastered through the passive receptivity of the learner, and the idea of a learner as a "tabula rasa," or blank slate (Connelly & Clandinin, 1988, p. 4), were questioned. Curriculum development became curriculum

Figure 1: Context for Research in Self-Study

studies as the field was reconceptualized (Pinar et al., 1995). Naturalistic and qualitative research gained renewed interest and respect as a viable means of conducting social science research. In the hard sciences of physics and mathematics, the traditional positivistic paradigm was challenged and, according to Kuhn (1962), a new one was forming on the horizon.

The old paradigm supported an interest in the products of education. A change to a more naturalistic paradigm of educational research supported an interest in understanding not only of the educational process itself, but also of the student and teacher as important focal points of research. There was research and scholarship that argued for an understanding of curriculum metaphorically, as a text (a poststructuralist notion in which "experience and thought are interwoven" (Pinar et al., 1995, p. 404)) viewed from the perspective of history, race, gender, institutions, phenomenology, politics, and multi-national (Pinar et al., 1995). In particular, in relation to this study, a view of curriculum surfaced which sought to understand teaching from the viewpoint of the teacher by the teacher; that is, through autobiographical curriculum discourse.

My overall thesis problem is framed in this light: how does one makes sense of the myriad of experiences both inside and outside the classroom as it is lived by a classroom teacher? To reframe the question in terms of researcher as subject, I ask the following:

1. How do I make sense of my lived experience both inside and outside the classroom?
2. What is the nature of that lived experience?
3. How does an understanding of my own interests, values, and attitudes help me to make sense of my teaching experience?

Phenomenological Foundations

I use the term "lived experience" in the phenomenological sense. Pinar et al. (1995) describe it as the experience of "thought as it occurs in lived or 'inner' time" (p. 405). Knowledge (meaning making) for one whose goal is self-study, ultimately becomes knowledge of the self. But, one can only know one's self through the objects, be they concrete or abstract, of the mind.

Knowledge of self becomes knowledge of self as knower of the world, not just as a passive recipient of stimuli from the objective world, not as an expression of latent subjectivity, but as a bridge between these two domains, a mediator. (Pinar & Grumet, 1976, p. 38)

The meaning of lived experience is that which lays in the middle between the two. Thus, "objective constitution [becomes] the life of the subject" (Pinar & Grumet, 1976, p. 38). What is the nature of this experience? Phenomenology posits a pre-conceptual experience at the root of life experience. It can only be known through a thorough and deep looking at the intentionality which is at the root of experience and which determines experience. In other words, normally we experience the world through the various sizes, colors, and shapes of lenses which the ego--the sense of *I-am-ness*--uses to lay claim to experience as its own. The ego in expressing itself, does so through intentionality (conscious attention) and attachment to the objects of experience, which become the coloring the ego puts on experience. So, to uncover this pre-conceptual meaning one needs to look at the usual, commonsensical ways of understanding experience together with the underlying intentionality of the ego which shaped those understandings. By then "bracketing" (Pinar & Grumet, 1976, p. 52) that knowledge, we remove its influence on the ego which allows other possible ways to understand the experience. This, in and of itself, becomes lived experience which can then be looked at again in the same way, only more deeply; that is, at subtler intentionalities. Understanding develops in this process as meanings, intentionalities, and experiences

become known in succession. Finally, at each level of bracketing of knowledge, a different view of one's self and experience is known. One feels, at each stage in the bracketing, a heightened awareness as one experiences the present moment without the tainting of many layers of intentionality. One is left with the experience of "now points" (Pinar & Grumet, 1976, p. 38). To put it another way, one approaches a pre-conceptual understanding of self and life as one *lives* experience. One moves inward toward wholeness and emancipation from bondage.

The process is analogous to removing the layers of an onion, one by one. As we approach the center, we come closer to this pre-conceptual understanding. This approach to knowledge differs from objectivism in that it is the process that is important and liberating. The process is the goal just as the running of the course is both a means and an end in itself--to live the living of life. The layers themselves become important parts of the overall understanding. In and of themselves they represent an aspect of self, but as they become known, they generate at each step a further possible understanding. In this way we follow the course started by looking at the natural, the common, the taken for granted. Phenomenologically, lived experience is that experience which is at once aware of an object, (be it a gross object like an apple or a subtle object like the concept of energy) through the name, form, and meanings (known by reflection on the memory of experience in the past) associated with the object, but which seeks to know the object as a pre-reflective experience of subject contacting object.

Summary.

Chapter one introduces the problem, that of making sense of experience, by first exposing the connection between the world of experience and curriculum. Following this, I introduced the background, historical setting, and philosophical underpinnings of the research through an exposition of qualitative research and the current competing

paradigms in educational research. At the end of chapter one I detailed the methodology through which I explore possible answers to my thesis problem. I present in chapter two, the literature which gives a historical setting to the development of my thesis problem and my research into it.

Chapter II

Literature Review

I hear the rumbling and clanking of the school bus as it rolls over the pot holes; in low gear it whines down the drive. It stops. The door opens. The faces, the eyes, the smiles, the excitement. We walk up to the room together, some running ahead. I stop to chat with some expectant mothers who have brought their young ones to their first day. We wave good-bye and head up. We line up; I at the front of a long and twisting line. I welcome everyone together. I pause. I watch the little conversations. I pick out a few children who aren't chatting and ask "How are you (name)?" in a voice which is just loud enough for them to hear, but which does not distract the others who are talking. They answer; some shyly, some matter-of-factly. It's time to go in. I ask for their attention. It's quiet; all eyes are on me. It's the first of many quiet moments we will share during the year. So, I pause. I make my brief announcements. We will meet inside on the oval oriental rug which we were just given. The day has started. (Journal entry continued, March 1987)

In this chapter I lay the foundation for understanding my thesis question historically by looking at the literature pertinent to the subject and my proposed research into it. I first look to current competing paradigms in educational research, starting with positivism and leading to constructivism. In addition, a discussion of naturalistic and qualitative research and different forms of constructivism are discussed. This leads to a discussion of the theory of cognitive interests and its relation to education and curriculum in general, and my own teaching in particular. By looking historically at the field of curriculum development, an approach to understanding my thesis question as centered in autobiographical methods is described. The chapter concludes with a proposal to look for evidence of technical, practical, and emancipatory interests in my teaching and in the development of two important themes in the data of the study: the development of professional confidence in my own teaching and the development of student responsibility in their own learning.

Foundations

The positivist paradigm.

The theoretical framework for this research is rooted in a post-positivist paradigm, described by Lincoln and Guba (1985) as naturalistic inquiry.² According to Lincoln and Guba (1985) a paradigm is a systematic set of basic beliefs about the world, together with their accompanying methods for "taking hold of whatever can be known" (p. 15). Kuhn (1962) in his important book, *The Structure of Scientific Revolutions*, defines a paradigm as a central theory or theories, together with a research tradition set up to investigate phenomena and expand knowledge. According to Kuhn, based on his study of the history of science, science undergoes five progressive levels of change. The final level, referred to as revolutionary science, marks the emergence of a new paradigm, or world view, together with its research tradition.

The delineation philosophically between one paradigm and its successor is never fully complete and doesn't happen all at once. In fact, the influence of the original paradigm on people's thought and hence their actions remains remarkably persistent.

The positivist era is generally understood to have begun sometime in the eighteenth century with the emergence of a new form of thinking and acting that usurped Aristotelian science. When scientists, such as Isaac Newton (1642-1727), went from being passive to being "active observers," science passed into the positivist period (Lincoln & Guba, 1985, p. 19).

Lincoln and Guba (1985) define positivism as "a family of philosophies characterized by an extremely positive evaluation of science and scientific method" (p. 19). Schön (1983) described the heritage of positivism as "the rise of science and technology and a social movement aimed at applying the achievements of these to the

² The discussion of the positivist paradigm is based largely on the work of Lincoln and Guba.

well-being of humanity" (p. 31). It was initially thought and hoped that positivism could serve to help reform ethics, philosophy, religion, and politics in a positive way. Ultimately, however, positivism had its most profound effect not in reforming any of these, but in reforming scientific method (Lincoln & Guba, 1985, p. 31).

Positivism is characterized by the following basic assumptions: reality is single, tangible, and fragmentable; knower and known are independent; time and context-free generalizations are possible; cause and effect are temporally related in all situations; and, inquiry can and should be value-free. Positivism objectifies reality and posits human existence in competition with the natural world, using science, the knowledge of that reality and the process by which that reality is known, to gain control of and manipulate the natural world to human ends. Based on the foregoing assumptions, positivism subsumes (a) objectivism, the philosophy which posits reality exists external to the mind and knowledge of reality is based on observed objects and events; (b) empiricism, the view that experience, especially of sense impressions, is the only source of knowledge; and (c) realism, the philosophy that physical objects exist independently of their being perceived (American Heritage Electronic Dictionary, 1993).³

Post-positivism.

These assumptions proved inconsistent with the emergence of conceptual and empirical formulations from a variety of fields, including the sciences of physics and mathematics, and criticism from other disciplines as well. Lincoln and Guba describe

³ As I point out later, although a realist position lends itself to being included in the family of philosophies of positivism, a non-positivist could still embrace the realist position of an ontological reality existing outside the mind, but would differ from a positivist on how that reality relates to human knowledge.

some of the critiques of the positivistic paradigm that led to the consideration of alternative paradigms:

- (1) Positivism leads to an inadequate conceptualization of what science is.
- (2) Positivism is unable to deal adequately with two crucial and interacting aspects of the theory-fact relationship: the underdetermination of theory . . . [and] the theory-ladenness of facts.
- (3) Positivism is overly dependent on operationalism [the view that all theoretical terms in science must be defined by formal procedures], which has itself been increasingly judged to be inadequate.
- (4) Positivism has two consequences that are . . . unfounded: determinism [the view that every action is the inevitable consequence of antecedents that are independent of the human will . . . [and] reductionism [the view that all knowledge reduces back to one or more simple truths].
- (5) Positivism has produced research with human respondents that ignores their humanness, a fact that has not only ethical but also validity implications.
- (6) Positivism falls short of being able to deal with emergent conceptual/empirical formulations from a variety of fields. (pp. 26-27)

What emerged was a more naturalistic form of inquiry whose basic tenets were different. Lincoln and Guba list them as (a) realities are multiple; (b) knower and known are interactive, inseparable; (c) only time- and context-bound hypotheses are possible; (d) it is impossible to distinguish cause from effect; and, (e) inquiry is value bound. These tenets give rise to many characteristics of naturalistic research that are important aspects of my study: (a) inquiry occurs in a natural setting, (b) human beings are primary data gathering instruments, (c) attention and honor are given to tacit knowledge or "personal practical knowledge" (Connelly & Clandinin, 1988), (d) inquiry can proceed in a qualitative way, (e) a case study reporting mode is appropriately used, (f) inductive rather than deductive data analysis is applied, (g) data is interpreted idiographically (in terms of the particular case), (h) theory and design of the study emerges from (is grounded in) the data, (i) results of a study can be tentatively applied to other situations, and (j) criteria focus on trustworthiness rather than internal and external validity.

Constructivism: A Challenge to Positivism

An epistemological position that most reflects the tenets of naturalistic inquiry is constructivism. Constructivism is based on the notion that individuals, through their own interpretive frameworks, actively engage in meaning making through their experience of the environment and social interactions (Driver & Erickson, 1983; Driver & Oldham, 1986; Erickson, 1987; von Glasersfeld, 1989; and Parsons et al., 1995). Tobin (1990) writes, "Constructivism is a theory that assumes knowledge cannot exist outside the bodies of cognizing beings" (p. 30).

Von Glasersfeld (1992) points out that most of the world's great physicists have written papers supporting a constructivist position (p.172). This is not meant to imply that all within the scientific and educational research community are either constructivists or positivists. In fact, Matthews, in *Constructivism and the Empiricist Legacy* (1992) disagrees with both positions and cites others who do so as well. Other post-positivist positions include not only constructivism but radical feminism, post-modernism, and post-structuralism, to name a few.

Based on constructivist epistemology, learning becomes an active engaging of individual consciousness in meaning making. Constructivism insists that knowledge and knower are not separate; that, even though there may exist a reality independent of individuals (a realist's position), there are no truths existing outside *waiting to be discovered* by the mind; that theories about reality can never match reality; that human theories about the world are models that rely on language, a cultural phenomena; and, that all scientific facts, theories, or laws are only models of a way to understand the experience of the world that a group of individuals, for example scientists or a scientific research community, mutually accept. Von Glasersfeld (1992) states that objective

truth is replaced with viability, the capacity to explain or organize experience that, within acceptable probabilities, is coherent, consistent, and works.

Within the constructivist epistemology, there are several possible positions; for example Piagetian or developmental (Fosnot, 1993), sociocultural (O'Loughlin, 1992; Tobin 1990), and radical (von Glasersfeld 1992). According to Matthews (1992), "Constructivism is a heterogeneous movement. . . .[It is at once] contextual, dialectical, empirical, information-processing, methodological, moderate, Piagetian, post-epistemological, pragmatic, radical, realistic, social, and socio-historical" (p. 186). Even within each position, there are different interpretations and subtle differences--for example, early and late Piagetian (Fosnot, 1993). The various positions are distinguished not by their differences as to the notion that knowledge is constructed, but by differences as to which construction is the "better" (Nussbaum, 1989, p. 281) or most "viable" (von Glasersfeld, 1992, p. 170) model. Nussbaum (p. 281) states, "while all Constructivists hold that theories are bold speculations proposed by creative minds, they differ in the manner in which their supposedly better theory is to be selected."

The Piagetian or developmental constructivist position assumes that, while knowledge is constructed by individuals' interactions with the natural world, it proceeds in stages, from concrete to formal operations. With regard to education, teaching involves recognizing the particular stages of development of students and presenting information that forces them to question their own constructions and understandings in light of new, and possibly discrepant, information in order to help facilitate their moving to a higher developmental level. Any failure of students to achieve is due to a failure of the teacher to understand the proper developmental level or to the misapplication of logical operations (Nussbaum, 1989).

From a sociocultural constructivist perspective, individuals construct meaning based on values and beliefs which spring from an historical moment and are embedded in a society's or culture's language, values, and norms and are context dependent. In an educational setting embracing this position, meaning making develops through a dialogic and collaborative interplay of individuals interacting and communicating within the context of their scientific and educational communities. Tobin (1990) writes, "From a constructivist perspective, learning is a social process of making sense of experience in terms of extant knowledge" (p. 2). It is from these communities, which also include students, teachers, and school, that the students' science content is derived. Specifically, this content encompasses the particular view of science, the concepts, and the body of scientific knowledge of the particular time and place. Since all knowledge is ultimately based on language, knowledge itself is a social and cultural construction.

A radical constructivist position, although not denying that social interaction and language are powerful influences in the acquisition of knowledge, refuses to accept society as an ontological given (von Glasersfeld, 1992). Von Glasersfeld (1992), states that the word "radical" used to modify constructivism was really a response to "trivial" constructivism, a view he developed after seeing educators who outwardly talked about reform in education, but who continued to teach under the old paradigm and whose actions maintained the status quo. According to the radical position, the construction of knowledge as based ultimately on a set of power relationships--with control and manipulation of certain underprivileged and historically underrepresented individuals or groups a natural consequence. This power relationship is seen as inherent in all cultures and societies and times. A radical constructivist position also necessitates a working toward social change as an integral part of the view.

The three positions also envision a stance toward teaching and education based on an understanding of how knowledge is construed. The Piagetian constructivist position

suggests teachers seek out activities which facilitate "the kind of intellectual growth that leads to scientific reasoning, abstract thought, and formal operations as delineated by Piaget" (O'Loughlin, 1992).

Teachers under a social constructivist position would seek activities that strengthened learners' understanding in light of other's ideas, positions, and values through dialog and collaboration.

A radical constructivist would seek to develop the activities of the social/cultural position, but with insistence foremost on making students aware of the power relationship built into any construction of knowledge and working to change those relationships. This requires that individuals in positions of power acknowledge their power relations and work toward making those relationships more equitable through critique and action. The radical constructivist argues that the role of education is to make students aware of those relations, of how they restrict relationships with others and the natural world, and of how students can be empowered to take action for purposes of transformation and emancipation of themselves and of the society as a whole.

A sociocultural position acknowledges the notion of power and empowerment, but the primary focus is on developing understanding of other's ideas, positions, and values through dialog and collaboration. The position I take as a teacher of young people in this study is that of the sociocultural constructivist.

The Theory of Knowledge-Constitutive Interests

An important work which helps to make sense of constructivism as regards curriculum development is that of the contemporary German philosopher, Jürgen Habermas. He suggests that certain fundamental interests are associated with any construction and organization of knowledge. Habermas has asked a crucial question: How is knowledge constituted? Basing his work on a study of the biological evolution of the

human species with particular emphasis on language development, Habermas postulated three distinct interests which inform the acquisition, organization, and nature of what we call knowledge. He called them knowledge-constitutive interests and labeled them technical, practical, and emancipatory. The focus of his contribution is on intentionality, that is, the multi-dimensionality of interest or desire. Although his research was based on the evolution of the human species as a whole, it has implications for individuals and education as well. His theory offers a possible way to understand the organization of knowledge and the production of that knowledge both in a sociocultural and individual sense. The theory is important in its own right as a remarkable philosophical insight into human nature and evolutionary science, but, even more so, in directing attention away from inquiry into which philosophy, world-view, or epistemology is right, to inquiry into the interests which support a particular view.

Grundy (1987), writing on curriculum theory, suggests Habermas's philosophical theory be looked at seriously as a possible foundation for talking about, thinking about, and structuring curriculum. She argues curriculum is a socially constructed concept which does not exist a priori to human experience, unlike the concepts of atoms, molecules, etc. which have an a priori existence. As such, curriculum is disposed to the interpretation and values imposed upon it by the social setting in which it is employed. The implication for curriculum theory then is to try to understand how the beings who are using curriculum as part of their daily experience, that is, teachers, students, etc., are experiencing it. The theoretical foundation for curriculum, she suggests, is to be found in these beings' values, attitudes, and behaviors which support the experience of it. With this pre-supposition, Grundy then brings in Habermas as a possible theoretical foundation for curriculum.

Technical, Practical, and Emancipatory Interests

The technical interest engenders the acquisition of knowledge about objects and consists of the skills or techniques requisite in producing some pre-agreed upon product based upon some guiding *eidos*⁴ or idea. The type of relationship that is fostered is one of subject and object and emphasizes the subject's control over the object. The technical interest is product oriented (Grundy, 1987; Schön, 1983).

The practical interest, on the other hand, focuses on process, and the guiding *eidos* is the Aristotelian notion of "the good." Its principle focus is on the development of shared understanding and the requisite behavior is deliberative reflective action.

The emancipatory interest is viewed as an extension of the practical interest. The guiding *eidos* is still "the good," but one understands the impossibility of a consensus "good" or truth, given the nature of knowledge as existing in all cognizing beings. Understanding is always for the moment, dynamic, and multi-faceted. Even though an interest in emancipation requires that one necessarily work through practical constraints, it is not necessarily true that one naturally and automatically moves from a practical to an emancipatory interest over time. One understands that, while the practical interest is focused on the development of shared or common understanding, it is still possible for a group's consensual agreement to be wrong; that is, in the group's collaborative efforts to come to understanding, a position may be reached that has hidden inequities or injustices. One who is operating with an emancipatory interest is then always questioning the foundations for decision making, meaning making, and theorizing to see whether they contain hidden agendas. There is always a questioning, a willingness,

⁴ The Greek word *eidos* can roughly be translated 'idea', but the Greek concept encompasses an assemblage of English terms including such concepts as plan, pattern, design, recipe and concept. (Grundy, 1987, p. 20)

and a felt responsibility to act against any form of injustice or inequity that might arise in shared, collaborative, meaning making.

Curriculum Development

The central premise on which this study is based involves the understanding of curriculum (or more broadly education) as a metaphor for an individual's struggle to understand one's own life experience. It stands in opposition to the common interpretation of curriculum as something external to the individual, as a "collection of school materials" (Pinar et al., 1995, p. 16). In order to understand this interpretation of curriculum, an understanding of the history of curriculum studies (or curriculum development as it was originally called) is needed.

In *Understanding Curriculum*, Pinar et al. (1995) trace the historical development of curriculum, conceived of quite differently from the common interpretation of curriculum as the course of study offered by an educational institution. Curriculum, from Latin, means race course, and comes from the word, currere, which means to run; hence, the definition of curriculum as a course of study and schooling as the running of the course.

Dewey (1938) wrote of the necessity to redefine curriculum so as to include not only the meaning of curriculum as the subject matter to be mastered by a student, but the experience of the student in the educational setting as well. This necessitated the inclusion of both intended and unintended, and in-school and out-of-school experiences.

From its origins in historical discourses between 1828-1969, the curriculum field was marked by an emphasis on theory as opposed to practice; that is, on the development of certain types of curriculum materials to be used in schools, of necessary attitudes and behaviors of teachers to secure predefined objectives in students, and of a

positivist philosophical stance toward the nature of knowledge and the process of expanding knowledge.

With the paradigm shift associated with the development of a post-positivist stance in 1970-1979, the American curriculum field underwent a "reconceptualization of its primary concepts, its research methods, its status, and its function in the larger field of education" (Pinar et al., p. 12). In abandoning positivist assumptions, beliefs, and practices, many scholars and researchers in the field of education joined scientists, scholars, and researchers in many other fields so that the paradigm shift, the stage of science that Kuhn (1962) referred to as revolutionary science, occurred relatively swiftly.

From 1980 to the present, the curriculum field has been marked by apparently discordant views--understanding curriculum as primarily phenomenological, autobiographical, political, gender-focused, esthetic, poststructuralist, deconstructed, postmodern, theological, institutionalized, or racial text. The glue that held different interpretive frameworks together in opposition to positivism finally dissolved as the paradigm shift was completed and, in Kuhn's terminology, science became *natural*. In the effort to try to understand the field more substantially, that is, not just as anti-positivistic, and with the new paradigm asserting an interpretive rather than an objective reality, scholars and researchers began to actively focus upon different aspects of the dominant world-view based on personal experiences, beliefs, and assumptions about basic questions associated with the meaning of life. The perspective I chose in this study is a view of curriculum as autobiographical text.

Foundations of Autobiographical Study: Phenomenological, Literary, and Narrative Inquiry

Within the context of curriculum as autobiographic text, I employ a single case study (Bromley, 1986; Lincoln & Guba, 1985; Yin, 1989) methodology that uses

autobiographical (Pinar & Grumet, 1976; Pinar, 1988; Pinar et al., 1995) and narrative inquiry (Connelly & Clandinin, 1988, 1991) studies. The foundations for autobiographical study come from three sources: phenomenological, literary, and narrative inquiry.

Phenomenology.

The major figures in bringing autobiographical study to bear in educational research were William Pinar and Madeline Grumet. In *Toward a Poor Curriculum* (Pinar & Grumet, 1976) they present a method for understanding curriculum as autobiographic text based on "currere," the experience of curriculum. It is based on the philosophy of phenomenology and the notion that the I, the pre-conceptual experiencer, can only be known by: first, becoming aware of all objectively codified experience; second, becoming aware of the subjective responses to that experience; third, considering the two together in the present moment (situation); fourth, detaching oneself from that experience through an understanding that they are not the pre-conceptual experiencer; and fifth, becoming once again fully conscious of the present moment (situation). In this way, the pre-conceptual subject is uncovered layer by layer as one moves through to progressively subtler experiences of self and "objective constitution" (Pinar et al., 1995, p. 414), or the world of objects. The details of this methodology as explained by Pinar and Grumet (1976) and as proposed by me in my study are contained in chapter three.

This research focuses on myself as teacher, researcher, and individual and uses the data collected over a period of 14 years in the form of journals, essays, papers, and other personal documents. One strategy I employ to examine my past for themes, orientations, values, and beliefs, is to write an account of my life with an educational focus. This aspect of the overall case study is supported by the methods of *currere* and

narrative inquiry. In addition, as the final product, this study, is in reality a "re-storying" (Connelly & Clandinin, 1988) of lived experience by me within a specific historical time frame, it fulfills the requisite for being a literary autobiography and a narrative of experience (Connelly & Clandinin, 1991).

Literature.

The etymological meaning of autobiography is *autos* = self, *bios* = life or life span, and *graphé* = the act of writing (Olney, 1980). In order to understand how literary autobiography supports the methodology of autobiography used in my study, it is necessary to understand the historical development of "critical autobiography" (Davis, 1992) within literary autobiography.

As a literary practice, the nature of autobiography has been hard to tie down and define. According to Olney (1972) all history, psychology, lyric poetry, and literary criticism are autobiographical in nature. They represent an individual's attempt to make sense of self as a means of making sense of the surrounding world. This making sense is accomplished through looking at the outer world for patterns and connections and then interpreting and attributing meaning and significance to them based on one's own particular inclinations, vision, and truth. In fact, Olney (1980) defines it as the marriage of self and the world the self interacts with. Seen in this way, all fields of knowledge are vehicles for self-knowing. This study then, as it is knowledge generating (if only to me), is inherently autobiography. As Nietzsche remarks, "Little by little it has become clear to me that every great philosophy has been the confession of its maker, as it were his voluntary and unconscious autobiography" (Olney, 1980, p. 9). This view agrees with a constructivist epistemological view of knowledge as socially constructed. We attribute "socialness" to knowledge even though it is inherently autobiographic, since each individual is inherently a social being. Indeed speech itself, according to

Habermas (Grundy, 1987), is evidence enough of our ability and need to be understood and to understand.

Olney (1980) presents an historical perspective on the nature, theory, and philosophical foundations for autobiography. He explains how there is not one agreed upon definition of what autobiography is, nor generally agreed upon point in time when autobiography started. "Everyone knows what autobiography is, but no two observers . . . are in agreement" (Olney, 1980, p. 7). The American Heritage Electronic Dictionary defines autobiography as "the biography of a person written by that person." Olney continues by stating the nature of autobiography requires only that it be an individual's telling of their own lived experience in some historical setting and that depending on the attention and twist one imposes on the elements that make up the word, that is, self-life-writing, will depend in large part how one defines, critiques, and fixes the origin of autobiography.

Necessarily then, the literary genre called autobiography is a nebulously formulated category encompassing such widely disparate writings as the Confessions of Augustine, T. S. Elliot's "Four Quartets," Carl Jung's Memories, Dreams, Reflections, Montaigne's "Essays," and Darwin's Autobiography (Olney, 1974). While generally listed as a subgroup of biography today, it subsumed the categories of "memoirs" and "confessions" after 1834 when the word was coined by W. P. Scargill (Olney, 1980, p. 5).

Depending on one's orientation, and with a twist on the meaning and significance of bios and graphy, autobiography can be seen as encompassing every discipline or, at the other extreme, non-existent! The rationale for considering it an all encompassing discipline is based on the orientation that all academic disciplines--for example, mathematics, psychology, history--have as their basis the experience of an individual(s) and that of the individual's *reckoning* of his or her lived experience in the

world of objects as taking on some significance, order, and meaning. In other words, the meaning one attributes to experience will necessarily encompass the truth, or essence, of that individual. In the words of Kierkegaard (cited in Pinar et al.), "truth is subjectivity."

For those who would consider autobiography a non-category or non-existent literary genre we must turn, citing Olney again (pp. 7-17) and Pinar et al. (1995), to the post-modernists: Derrida, Foucault, Barthes, Lacan, and Nèhlman; who, Olney says, see no reality in the text, the product of graphé, the third element in autobiography. They argue that the written text of the individual does not and can never truly represent the self, the individual. It is a creation which exists apart, separate, and unconnected to the self, the subject of all experience, and hence is unreal. Autobiography viewed in this way is thus just another "fiction of the self." Whether this criticism of autobiography as inherently fiction is valid or not, all agree that the central concern of autobiography is the self and the "consciousness or knowledge of it" (Olney, 1980, p. 23). This criticism of autobiography as fiction has been leveled at autobiography and one that has been substantially addressed in the literature. I address it here by referring to a post-positivist view that, whether fiction or not, it has order and significance, hence meaning, if only for me. In addition, from a phenomenological perspective, the telling of lived experience brings me closer to the experience of the pre-conceptual, or non-false, self.

In addition to the criticism just noted, other criticisms have focused on the clearly fictional nature of some autobiographical writing. An author may "slip into fiction" (Olney, 1980) and choose to incorporate some aspects of experience(s) that did not happen--for example, the remembering word for word an utterance made so far in the past that it could not be remembered with reliable accuracy by the author (notwithstanding one with photographic memory). Does this mean that the experience

did not happen?; . . . that the work is false? I think not. The author chooses to create the experience in his/her own way, to lend affect to the narration of the particular experience in a way that brings forth the meaning and significance peculiar to the author. The fact is that all writing of lived experience is a creative act, an interpretation peculiar to the author. How then does one distinguish the difference then between fiction and autobiography? The answer comes in intentionality. In fiction the intention is to represent truth through fictional characters, scene, setting, etc.. In autobiography the intention is to honestly represent a lived life history. Even though the author may use the techniques of fiction it does not make it fiction. In some cases, the author forewarns the reader of possible errors in memory of certain events, as in the preface to Augustine's Confessions. When this happens one might easily deny all of the work as essentially a fiction. But, as Olney (1980) points out, style correctly interpreted would allow for this departure from reality, for in that style the text will at least present an authentic image of the one who held the pen.

The last criticism comes from those who would intentionally deceive the reader, pawning off utter fiction as autobiography. Here we must impose an ethics to the writing of autobiography (Pinar et al., 1995), assuming that the author honestly represents the lived experience and does not intentionally try to deceive the reader. It is to this ethics that I strive in my work.

Olney notes that the bios of autobiography has been re-conceptualized in recent time to include not only the telling of one's life, but also the "psychic configuration of the individual at the moment of writing, the whole history of a people living in this individual autobiographer, or any combination of these and various other possible senses of 'bios'" (p.19). This has given rise to a critical literary focus in autobiography. When he refers to autobiography as representing "the history of a people living in this individual autobiographer," referring to the exposé of a distinct culture written in

individual characters from within, he references the advent of African Studies, Women's Studies, and American Studies. These writings offer a privileged access to an experience (African, black, female, or American) which no other type of writing can fully embrace.

The recent emergence of a literary critique of autobiography began according to Olney in 1954 with the publication of Shumaker's work, *English Autobiography: Its Emergence, Materials, and Forms*. This and other works in the 50's attempted to establish the emergence of an autobiographical consciousness in the culture and literature of the seventeenth century. More important than this emergence, for the purposes of my research, is the advent of a critique of autobiography within autobiography itself. The literary critique from outside about autobiographical writings has brought, with the work of Connelly and Clandinin in 1988, an evolution of autobiographical writing emerging in educational research. In the work of Davis (1991), Parsons (1991, 1993), and Connelly and Clandinin (1988, 1991), we see this most recent evolution focusing on critique of autobiographical writing itself. Olney (1980) points out that the nature of autobiographical writing lends itself to self criticism, is *self-reflexive* by virtue of the author being able to comment in the writing itself about what is happening in the very moment of writing.

My research differs from autobiography in the traditional historical sense in that, except for an in depth autobiographical account with specific attention to school experience in which I construct from past memories a narrative of my experience from school age to the present, the research itself focuses on data produced without the intent of incorporating it into any study. The use of autobiographic study in qualitative educational research is based on the work of Connelly and Clandinin (1988, 1991), Davis (1991), Miller (1988), and Parsons (1991, 1993), Pinar and Grumet (1976), and Pinar et al. (1995).

Davis's work centers on her graduate students' use of autobiography as a means to improving practice. She argues for its use in understanding teaching practice, especially as it relates to understanding the teacher as an historically shaped individual who operates in the social setting of the classroom in the institution of the school. Davis also refers to her students making use of their own autobiographical recollections and "re-storyings" (Connelly & Clandinin, 1991) of their past in their own qualitative research (Davis, 1992). Connelly and Clandinin (1988) suggest teachers use autobiography as a tool for reflection on practice and experience with the goal of creating, discovering, and uncovering meaning in their teaching practice.

Parsons (1991, 1993), like Davis's graduate students, uses autobiography in her own research. Unlike them however, Parsons uses autobiography as the sole data upon which she bases her research findings. Her work focuses on published writings and a critical examination or reflection on them to detail the evolution of her feminist stance over a period of time from 1985 to 1991. In addition, in Parsons et al. (1995), Matson and Rohan examine autobiography as their sole datum upon which to base their research in science teaching.

This present study is a continuation of these most recent developments in autobiographic study over the past ten years. Chapter three focuses on autobiographic methods of case study, the origins of which have a literary history, while the work as a whole I argue is autobiography.

Narrative inquiry.

In understanding autobiographical study, I employ narrative inquiry methods (Connelly & Clandinin, 1991). Here, as mentioned in chapter two, I adopt a two-fold view of narrative: phenomena and method. On the one hand the structured quality of my teaching experience can be interpreted as a life story or narrative. My journals and other writings are recorded in narrative form and the inquiry into my lived experience

will also, in part, be in a narrative form. On the other hand, narrative inquiry "names the patterns of inquiry" (Connelly & Clandinin, 1991, p. 2) by which this life story is studied. I use the narratives as recorded in my journals and other writings as data from which, through the process of narrative inquiry, I make sense of my teaching experience. Connelly and Clandinin (1991) write

The main claim for the use of narrative in educational research is that humans are storytelling organisms who, individually and socially, lead storied lives. The study of narrative, therefore, is the study of "the ways humans experience the world" (p. 2).

In chapter four I use reflection on my journals and other writings to investigate a change process that took place when I was introduced to the epistemology of constructivism as a theoretical foundation for approaching science teaching. The change process that I envision taking place is evidenced in my commitment to incorporating constructivism into my teaching practice through specific lessons and instruction. The subtle aspects of the change process, the effects personally and psychologically, I hope to uncover through a careful analysis of my work using the methods of *currence* and narrative inquiry. The change process that I identify is based on the work of Davis (1991). It is not unique in educational literature, but reflects my own attempt at making sense of my ongoing and evolving practice.

In this regard, I look for, in addition to the themes of the development of professional confidence and students taking responsibility for their learning, evidence of the knowledge-constitutive interests as set down by Habermas (Grundy, 1987). By using this lens initially to look at intentionality in my work as a preschool through high school teacher from 1981-1995, I open myself up for the discovery of hidden interests and desires, both personal and public, subtle and obvious.

Chapter III

Methodology

I question myself. I reassure myself as the shuffling of backpacks and lunches, and all the rest begins. I calm myself. I smile inside. I know the children and I will have a rewarding, enlightening, and enjoyable day in spite of all the chaos. This I know at the bottom of my heart. We've come in. So many things to put away. So many needs. But this is OK. This is life. My classroom is society, no different; a mini version, but a real part, nonetheless. We're part of it, connected to it, we're in it. The children will feel this. They will learn to ask for help. Not only from me, but from their peers and others. They will learn to help themselves. They will be respected, cared for, and loved for themselves as individuals, people, and human beings; as important and special as all others, including myself, their teacher. But, in fact, it is I who will probably learn the most from our coming together; for I too am part of this society called school. I too will learn how to be respected, respectful, contented, and happy. For education is for all of us. (Journal entry continued, March 1987)

In this chapter I discuss the methodology of case study in general, and the nature of a single-case autobiographical study in particular. Autobiography and narrative inquiry are discussed as methods supportive of my study and I conclude the chapter with a brief mention of how I chose to analyze the data for the study. Figure 2 summarizes the methodology, data and analysis, and findings of the study.

Case Study

The overall methodological framework for this research is a single-case study with emphasis on exploration (Yin, 1989) of my own lived experience as a teacher-learner both inside and outside the classroom. The following summary of case study as a research methodology in social science is derived primarily from the book, *Case Study Research*, by Robert Yin (1989).

Yin begins by describing case study as one of five main strategies in social science research which include experiment, survey, archival analysis, history, and case

Figure 2: My Methodology for Self-Study

study. Yin describes case study inquiry as that which

investigates a contemporary phenomenon within its real-life context . . . when the boundaries between phenomenon and context are not clearly evident . . . and in which multiple sources of evidence are used. (p. 23)

As a research methodology, case study contributes uniquely to knowledge of individual and social phenomena and allows investigations to "retain the holistic and meaningful characteristics of real-life events" (p. 14).

Yin describes three types of case study strategies: exploratory, descriptive, and explanatory. Depending on the type of research questions asked will depend the type of strategy used. I chose an exploratory case study strategy due to the exploratory nature of my research question. In asking how I makes sense of teaching experience, my study explores a possible way to answer this question by looking at Habermas's knowledge-constituted interests.

Yin describes four possible designs for case study: single-case, holistic; single-case, embedded; multiple-case, holistic; and multiple-case, embedded. Holistic and embedded studies refer to the unit of analysis and are either single or multiple. My design in single-case, holistic with the unit of analysis being my own teaching experience. Within this single unit of analysis, I will develop several sub-units. In particular, I will be looking at my teaching from three perspectives or interests: technical, practical, and emancipatory.

Yin lists five design components of a case study: the study's question(s); its propositions; its unit(s) of analysis; the logic linking the data to the propositions; and the criteria for interpreting the findings (p. 29). I have stated my problem of how to make sense of teaching previously, and, as regards the theoretical propositions in my study, which is exploratory in nature, there are no propositions. Hence, the logic linking the data to the propositions, becomes that logic and reasoning which support the categorization of my teaching experiences as technical, practical, or emancipatory. Yin

suggests that exploratory studies, since they lack propositions, have a stated purpose and that the criteria for judging the study a success be explicit. My study will be a success if it explores my teaching in a way that allows me, or others, to make sense of teaching experience. Specifically, the criteria for analyzing my teaching as technical, practical, or emancipatory, is based on an understanding of Habermas's knowledge-constituted interests as they apply in education (Grundy, 1987).

Some of the typical concerns associated with case study research in the past have been lack of both rigor and generalizability. Lack of rigor is usually meant to imply that the researcher in a case study lets his/her own biases dictate the interpretation and collection of data. Contrarily, as with the early ethnographies, the researcher is so cautious in the effort not to affect the data that he/she doesn't look for deeper meaning in the lives of those researched beyond superficial, circumstantial description, nor do they tell anything about how the researcher experienced the data. These early studies were uninteresting, readers of the research were bored, and no new knowledge was generated. "They originate[d] and end[ed] in the mundane" (Pinar, 1988, p. 138). As regards generalizability, Lincoln and Guba (1985) suggest a more appropriate outcome is transferability. The criteria they suggested for assessing a study's transferability is to analyze and decide whether the study (a) could reasonably have occurred and (b) whether the study could be useful to someone else in similar situation, that is, a teacher teaching.

I acknowledge the need to look for deeper meaning than just the superficial in my research and argue that biases, or more properly, personal beliefs, values, and world-view, whether hidden or known, are an integral part of naturalistic research and needs to be addressed. I not only admit biases exist in my study, but use them as a central focal point of inquiry as I am looking to uncover hidden agendas and inconsistencies in my teaching at whatever level they lie, be they in the data, in the analysis of it, or in my

personal and public life. Connelly and Clandinin (1988) suggest looking at metaphor, rules or maxims, theorems or principles, personal philosophy, and image to understand personal knowledge and uncover meaning.

The case for generalizability in the naturalistic paradigm has been addressed in literature where it is suggested that the criterion itself is indicative of traditional positivist research. I sketched this out briefly in chapter two of this study. Lincoln and Guba suggest replacing generalizability with the criterion of trustworthiness, while Pinar et al. (1995) suggest replacing it with "plausibility" (p. 560). The need for generalizability is important in a positivist paradigm as it is based on a correspondence between human knowledge and objective truth. From a social constructivist position, knowledge is socially constructed and there are multiple interpretations of reality. All interpretations are valid to the extent that they are viable (useful for some purpose) for those individuals generating the particular knowledge. Hence, the only criterion is whether the data and analysis were an honest attempt to generate understanding, or, to put it another way, Is the study trustworthy?; and, Is the narrative plausible? Thus, fulfilling the aim of engendering understanding, trustworthiness and plausibility become criteria to judge the validity of studies in naturalistic inquiry. As Glesne and Peshkin (1992) write

You can learn enough . . . [about different aspects of yourself] in a particular research situation to be able to make use of this knowledge and to be *responsible* [emphasis added] in reporting those selves to the readers of your work. (p.106)

Yin lists four different applications of case study inquiry, three of which bear upon my use of it as a methodology for my research:

(a) To describe the real-life context in which an intervention has occurred; (b) To describe and evaluate an intervention itself; and (c) To explore . . . [an] intervention [which] has no clear, single set of outcomes. (p. 25)

The intervention that I focus upon, situated in a particular time, place, and setting, provides an entry point from which to examine my own lived experience. The intervention was the adoption of a constructivist epistemology as a basis for action and reflection while teaching in a high school biology classroom. My research seeks (a) to describe the intervention and the real-life context in which it occurred; (b) to explore its effects both socially, in terms of students, learning, and teaching practice, and personally, in terms of personal beliefs, values, and world-view; and (c) to analyze the intervention so as to evaluate and explain insights gained.

By examining my own teaching practice through reflection, I was able in degrees to expose, understand, and act on my own intentionality in regards teaching on the one hand and my own personal search for meaning on the other. I began by looking at intentionality from the perspective of Habermas's knowledge-constitutive interests. With the understanding that teaching practice and teaching experience are intimately connected to my understanding of myself, I was able to use that knowledge, in an interpretive sense, toward greater understanding of myself as teacher-learner in the education process itself.

Within the overall methodology of case study the specific form of case study is an autobiographical one viewed from phenomenological, literary, and narrative inquiry perspectives, used here to inquire into the meaning of lived experience.

Autobiography

On the one hand, I will be using self-reflective, autobiographical writing as data for inquiry into beliefs, values, and dispositions towards teaching and learning especially as they relate to my own education. I use the term "education" in the sense that van Manen (1990) uses the term, which includes not only formal schooling, but all our relationships with children: as parents, as adult models of behavior, and as informal

occasions of experience with children. The data here is an autobiography with an education focus (Connelly & Clandinin, 1988; Davis, 1992). On the other hand, I incorporate an autobiographical methodology called *currere* (Pinar & Grumet, 1976, p. viii) as a way of interpreting lived experience. The method involves viewing curriculum metaphorically as autobiographical text.

Autobiography has proved a useful research methodology in phenomenology (Pinar & Grumet, 1976), feminist theory (Miller, 1988), personal practical knowledge (Elbaz, 1983; Connelly & Clandinin, 1988, 1991) and other ways (Pinar et al., 1995). I make use of it as a central, rather than peripheral, interpretive framework. Pinar and Grumet's *Towards a Poor Curriculum* (1976), a classic work in the area of curriculum reconceptualization, provides a method for interpreting curriculum as autobiographical text. My study, based on the notion of curriculum as *currere*, falls into this particular area of curriculum theory.

Curriculum means course in Latin and comes from the Latin infinitive, *currere*, meaning to run. Putting the two together, we have "to run the course." The usual way curriculum is interpreted is a course of study. As a methodology *currere* posits the course as our experiences in the world and the running of it as the experience of it as it is lived. As such, then, curriculum is reconceptualized as lived experience and it includes both experiences inside and outside the classroom from the point of view of the one experiencing.

The underlying theoretical framework of *currere* is rooted in phenomenology. Pinar and Grumet outline a process, which I adopt in my study, of four steps: (a) regression, (b) progression, (c) analysis, and (d) synthesis.

The first step is to look at my past experience in a reflective way. This step focuses upon my autobiography, written with an emphasis upon education, which I analyze in chapter four. Of this step Pinar and Grumet write

The first step of the method of currere is the regressive, the free associative remembrance of the past. We work to excavate the present by focusing on the past, work to get underneath my everyday interpretation of what I experience, and enter experience more deeply. (p. ix)

Autobiographical self-reflection allows a critical examination of past experience for values, beliefs, metaphors, and world-views on teaching, education, and teaching practice, as well as for insight into personal values, life goals, and beliefs. These insights can provide categories, themes, or referents (Tobin, Tippins, & Hook, 1992) from which an analysis and interpretation of the classroom data can be made. A description of change that took place in the classroom and in my experience is evident in the journals, class records, SJSU class notes, and other documents recorded during the period of time of my study. Experience and change are being studied not for their own sake, but to uncover, layer by layer, the nature and meaning of my lived experience during this time.

The second step is to reflect on the future, to try to understand my aspirations and goals through writing, meditation, and communication to others. This allows me to ascertain where I want to be heading. In the third step I analyze the first two steps so that I may understand myself more fully and be able to use that understanding to develop agency, voice, and ownership. Pinar and Grumet write that this stage includes both cognitive codification and intuitive insights. In the final stage, the present, I synthesize the information and choose what to let go of, redefine my aspirations, and live more fully alive and aware.

I choose again who it is I aspire to be, how I wish my life history to read. I determine my social commitments; I devise my strategies: whom to work with, for what, how. (Pinar & Grumet, p. ix)

Make it a whole. It, all of it - intellect, emotion, behavior - occur in and through the physical body. As the body is a concrete whole, so what occurs within and through the body can become a discernible whole, integrated in its meaningfulness. . . . Mind in its place, I conceptualize the present situation. I am placed together. Synthesis. (Pinar & Grumet, p. 61)

Narrative Inquiry

I use narrative inquiry (Connelly & Clandinin, 1991) to interpret journals and other data collected over a period of time from 1981 to 1995, especially looking at the period of time just before my introduction to a constructivist epistemological view of science and science teaching in a course of study at San Jose State University in 1993.

Narrative inquiry is a two-fold process (Connelly & Clandinin, 1991). On the one hand I will be inquiring into the meaning of teaching practice using narratives of experience as recorded in logs, journal, papers, and letters. This is inquiry into narrative. On the other hand, parts of the final product of the study will be written in narrative form reflecting inquiry into teaching practice.

One of the underlying assumptions of the research, which has its roots in eastern samkhya philosophy, is that the present moment is the only reality that exists. It contains all past modifications and all future potentialities. Both past and future exists simultaneously in the present. This view is similarly expressed by the phenomenologist Husserl, "[The present exists as] a series of 'now-points,' each expressing horizons of past and imminent nows, passing into retention or portention" (Pinar et al., 1995, p. 415). By studying my teaching experience with reference to particular times, places, and settings, I reconstruct through a narrative inquiry (Connelly & Clandinin, 1991) my past attitudes, values, and beliefs; and future intentions, goals, and aspirations. To the extent that my personal journals and writings story and re-story (Connelly & Clandinin, 1991) my past, they are in essence autobiography as well.

In order to develop a full understanding of my lived experience, it will be necessary to examine my prior epistemological stance in teaching of science and teaching practice. For this I will look to several philosophy of education and philosophy of science papers that I wrote between 1987 and 1992 while attending UCSC and SJSU. In addition,

since I will be looking for personal or affective change as well, I will need to examine any documents, letters, notes, etc., that I can find prior to, including, and following the course in constructivism that I took in 1992.

Data Sources

The data that I examine consists of (a) an autobiography with an emphasis on education written at the beginning of this study in 1994; (b) journals and other records from the period of time following my adoption of a constructivist epistemology in my biology classroom in 1994; (c) professional development papers written for classes while attending San Jose State University (SJSU), the University of California at Santa Cruz (UCSC), and Cabrillo College; (d) one audio tape of a lecture I presented as a speaker at a yoga retreat; (e) one video tape of myself teaching a lesson in a preschool/kindergarten class; and (f) other documents from 1981-1995 which have bearing on my research.

Data Analysis

Data analysis and interpretation of meaning will be two-fold, internal and external. First, I will be looking for ways to understand the experiences both inside and outside the classroom of myself as a teacher-learner. Second, I will examine certain aspects of teaching practice: self-knowledge, teacher change, role of the knowledge-constitutive interests, and the development of voice as I search, categorize, and story and re-story my lived experience through narrative.

In order to understand myself as teacher-learner I must look within to find intentionality. In doing so, I use the framework of Habermas's (1972) knowledge-constituted interests. These interests are technical, practical, and emancipatory as defined in chapter three. I am specifically looking to shed light on some of the sub-

questions of my thesis: Do I engage in emancipatory practice? Is there an evolution in my teaching from technical to practical to emancipatory? What are the data that suggest technical, practical, and emancipatory interests were functioning and on what basis is this interpretation warranted?

Constructivism as an epistemology and foundation for teaching and learning in science has several forms which I presented in chapter two. All forms of constructivism, while different from one another in various ways, see learning as ultimately beginning with the individual--what specific knowledge in a topic area the individual already possesses, the learning style(s) of the individual, and the personal practical knowledge (Elbaz, 1983) the individual possesses. The knowledge so constructed is socially tempered and becomes discursive as this knowledge is communicated, generating meaning and understanding. The learner is not one who is seen as an empty cup or *tabula rasa* , but one who actively engages in constructing his/her own meaning through interpretations of life experience (Pinar et al., 1995). Lakoff and Johnson (1980) suggest that these interpretations are metaphorical in nature.

Phenomenology offers the idea of a dialectic in explaining the relationship of one's self to one's experience of the world. Seeing the acquisition of learning as coming from within each student necessitates finding out what student's already know, which is plenty when we consider the experiences students acquire prior to their entry in the classroom. Here one can view a students' curriculum as a metaphor for a teacher's curriculum, that is, students are actively engaged in constructing meaning from their experience of the teacher's curriculum. The student's curriculum of necessity incorporates some or all aspects of a teacher's curriculum, but generally includes much more. (Sometimes it is referred to as the hidden curriculum--hidden from teacher and/or student.) It also includes student to student interactions which the teacher may not be privy to. The teacher is making sense of her/his experience in much the same

way. That is, while the teacher's curriculum includes the "lesson" for the day, it also includes the students' reactions to all parts of the lesson experience which feed into the lesson in a dialectical way, a two-way flow of energy.

Freire (1970) uses the terms teacher-student and student-teacher as a way of expressing that both teacher and student are equally important, empowered, and engaged in meaningful learning experience. The experience both partake of has certain givens and similarities: the classroom facility, setting, certain curriculum materials (student's text book/teacher's edition text book), and the classroom milieu.

I realize at the outset that looking at one's own teaching practice for evidence of motives, values, and interests underlying my work as a teacher-learner is problematic due to the nature of the inquiry, autobiography. The reader may feel that I have skewed the data to read something that it is not, and this is a reasonable concern. However, writing about it and putting it out for public review is what autobiographical research is about. For it is only through dialogue with others and a continual questioning of one's own practice, which necessarily includes self-reflection as a crucial step in the process, that true discovery of self can happen. It seems, then, that one never arrives, or is truly liberated, but is constantly in the process of arriving. Notwithstanding the problematic nature of autobiography in interpreting one's own work, I will do as anyone engaged in honest research strives to do. I will be true to the inherent ethics of research itself: to not knowingly misrepresent the truth. By identifying my interests, both subtle and explicit, present and hidden, I will generate knowledge about myself as a teacher and thus, to some degree, make sense of my teaching.

Summary.

Chapter three discussed the methodology of case study in general, and the nature of a single, autobiographical case study in particular. Autobiographic methods of

phenomenology, critical autobiography, and narrative inquiry were discussed as means for making sense of experience and I concluded the chapter with a mention of how I propose to analyze the data for the study. Chapter four will present the data and analysis of my self study through an examination of three distinct periods of my teaching for evidence of technical, practical, and emancipatory interests.

Chapter IV

Data and Analysis

Know thyself.
(Plato)

Thought in its primary state is shot through with feeling and intentionality.
(Abbs, 1974, p. 3)

This chapter begins with a brief history of my teaching assignments for the past 14 years. The major delineations include five years, 1980-1985, of teaching preschool/kindergarten and is termed "early teaching." This was followed by seven years, 1985-1992, when I taught equally at both preschool/kindergarten and middle/high school levels. This second phase is termed "middle years" and parallels a journey of professional growth at the university level. The last three years, 1992-1995, when I began to work predominantly as a middle/high school teacher, is given the name "recent teaching" and includes my work with high school biology students and parallels the development of a research focus for a master's degree. These delineations are given the headings: (a) early teaching, (b) middle phase, and (c) recent teaching. These three phases of my teaching are examined with respect to the interests motivating the generation of knowledge, understanding, and action as a teacher.

The emphasis of this chapter is on the examination of these data sources for evidence of the three interests: technical, practical, and emancipatory, described in chapter three. Since the data is being viewed through this lens, I follow the personal history section with a continuation of the discourse started in chapter two, on the knowledge-constitutive interests as they apply to my own teaching with specific reference to Grundy's work in applying these interests in an educational setting.

The remainder of this chapter consists of an examination and analysis of the specific data sources in each period. These sources include journals; school lesson plan books; notes to myself and others; papers written for classes and while attending San

Jose State University (SJSU), the University of California at Santa Cruz (UCSC), and Cabrillo College; one audio tape of a lecture I presented as a speaker at a yoga retreat; one video tape of myself teaching a lesson in a preschool/kindergarten class; a portfolio of class notes, student work, and, reflections concerning a distinct period of time in my teaching when I adopted a constructivist approach to teaching in a high school biology class; and, finally, an educational autobiography which was written at the start of this study which is included in its entirety as Appendix A. The chapter concludes with a summary of important points and implications for further research.

Personal Teaching History

I received my Montessori teaching certificate in June 1980 and began teaching in September 1980 at Mount Madonna School's preschool/kindergarten. Mount Madonna School opened in 1979 with the kindergarten as part of a combined K-2 class and no preschool program. The preschool/kindergarten program began in one small room with approximately ten children ages four to six. The following year I was joined by my wife, Sarojani, and two and three year old students (taught the previous year by Sarojani at a separate site) as we began the first of 13 years of team teaching.

In 1987, I began teaching part time in the middle/high school. The following is a summary of my middle/high school teaching in the middle and recent phases of my teaching: high school mathematics, 1987-1992; middle school math, 1989-1995; high school biology, 1989 to 1995; chemistry and physics rotated with biology on a three year basis, 1989-1992; a combined math/science class for sixth and seventh grade, 1994-1995; and a class in self-awareness, encompassing reflection, relaxation, and concentration, advanced placement calculus, and physical education, all for 6-12 grade students, 1994-1995.

Starting in September 1994, I stopped teaching in the preschool/kindergarten program transferring my energies entirely to the middle/high level. This ended the 13 year collaboration in that program with my colleague, partner, friend, and wife, Sarojani. The following is an excerpt from a letter Sarojani wrote titled "A Public and Loving 'Farewell'" regarding our work together in the classroom.

Initially, I was not needed to assist in the 1-3 grade because there were not enough students to warrant both of our salaries. . . . So, in 1980 Premdas [me] "birthed" the first kindergarten class of Mt. Madonna School with approximately 12 wide-eyed and wonderful little beings. He "sanctified" the ground in what is now the first and second grade classroom. There was a floor, ceiling, walls, a cupboard, and a sink. Premdas built shelves, tables, chairs, footstools, ABC boards, tire swings and other outdoor play equipment. We duplicated by hand many of the essential Montessori lessons and purchased piece by piece the others through school moneys.

There was magic in the tall grass up there and within the classroom so devoted to the natural unfoldment of the child. Premdas had, and has, a very special way with children. He sees them for who they are, takes the time to listen to them and guides them with gentleness, truthfulness and understanding.

We had the chance to parent and teach simultaneously when our son was 2 1/2 and came with us to school each day. It was a golden time. . . .

The program was expanding. We were developing educational philosophy along the way. [Premdas] was always questioning how to improve on what was, experimenting with new ways, always keeping the welfare, sacredness, and respect of the child as a guiding intent. Well, the school grew and so did its need for highly qualified upper grade teachers in the areas of science and math. . . . And now this year he is leaving our pre/k program devoting full time to the middle school instruction. (1994)

The Three Interests in Education

Grundy (1987) begins her book, *The Curriculum: Product or Praxis?*, with a rationale for adopting a philosophical foundation for curriculum studies based on the values, attitudes, and behaviors which support a teacher's experience of curriculum. With this presupposition, as I pointed out in chapters one and two, Grundy brings in Habermas's knowledge-constitutive interests as an organizational framework for this foundation.

Technical interest.

The technical interest (a) guides a subject toward the realization of some product based upon a pre-agreed idea or *eidos*, (b) employs technique or skill to attain the goal, and (c) fosters a relationship of subject and object which emphasizes the subject's control over the object. In education, the product sought after is generally some tangible outcome specified (usually prior to instruction by an outside expert and adopted by a teacher or school system) in the goal statements of a lesson plan. The subject is the teacher and the object over which she/he has control is the student. In examining the data for this study, the notation "T-prod," "T-skill," and "T-control" were used to denote these aspects of the technical interest.

Practical interest.

The practical interest (a) is process oriented with a guiding *eidos* of "the good" (Grundy, 1987, p. 62), (b) employs reflective deliberation in order to develop understanding of each unique situation so that *right action* (i.e. action supported by the values of the learning group, rather than sanctioned by rules or conventions from outside) can be taken, and (c) fosters a relationship of subject and object emphasizing shared understanding and collaboration. In education, the shared understanding may be a stated outcome of a lesson plan and may have a tangible product, but this product is not the main focus. It may involve students having some voice in generating curriculum, assessment, or other aspects of the class, but only insofar as it fosters overall understanding of the good. In examining the data for this study, the notations "P-process," "P-reflect," and "P-under" were used to denote these aspects of the practical interest.

Emancipatory interest.

The emancipatory interest shares those aspects of the practical interest which focus upon process rather than product and shared understanding and collaboration rather than a subject's control over an object, but with some important distinctions. In the emancipatory interest, the guiding *eidos* of the good is seen as problematic since it does not address those situations where consensual agreement and understanding among participants creates injustice, unequal power relationships, and bondage resulting from ignorance. Participants acting with an emancipatory interest, stated phenomenologically, are always ready to question the "natural attitude" (Loney, 1982, p. 19), the taken for granted, the common-place (Loney). Hence, their reflective deliberations develop a "critical consciousness" (Grundy, 1984, p. 130) able to identify deep-rooted ideological (political) and hegemonic (social) beliefs and attitudes. The guiding *eidos* in the emancipatory interest is positioned somewhere between the technical and practical in that a specific principle is chosen (technical), but the principle is considered to have universal application (practical). Examples of such principles in my study include equality, the development of autonomous learners, enlightenment, self-awareness, liberation, and a self-disciplined mind.

Another important distinction between the practical and emancipatory interests is the intention that subject and object not only work together for shared understanding and collaboration, but that both teacher and student become teacher/learners, that is, students both learn from and teach teachers and teachers both teach and learn from students. This implies a reciprocal relationship in which teachers not only have the opportunity to develop their own voice, but also help facilitate the development of voice in their students. The ultimate responsibility of knowledge generation is placed within the learning group rather than outside it. The focus of learning for teachers and students

embracing emancipatory ideals is any and all of the important life issues which occupy their consciousness. The emancipatory interest is both an interest in personal and universal emancipation.

In this study, with its emphasis on self-study, the examination of my teaching for evidence of the three interests becomes, in-and-of-itself, self-study. The aim of this self-study is an intentional effort to liberate myself from false notions of self, ignorance of the nature of self, and negative attitudes toward self and others. In doing so, I hope to become more truly free and whole. Philosophically, I approach the merging of my own, separate, individual consciousness with universal consciousness. In this way, the overall aim of this study of my teaching reflects an emancipatory interest.

In a classroom setting guided by an emancipatory interest, a sensitivity is maintained for any possible compromising of values, beliefs, or self-esteem in the group (teacher included) as the group progresses in degrees toward its goal, emancipation. Where the setting involves students having some voice in generating curriculum, assessment, or other aspects of the class, a similar sensitivity is maintained toward respecting the rights and values of others, both within and outside the group. This does not mean that the teacher just lays down and lets the students do whatever they want. The teacher has an equal responsibility and duty to construct a learning environment based on his/her interpretation of the necessarily unique situation. This is the meaning of negotiation of the curriculum. When there is an overriding conflict between a student's desires and the teacher's judgment as to what is best for the class, the bottom line is that the teacher has the final call.

In examining the data for this study, specific themes were chosen as focal points, reflective as they are of the notion of an emancipatory interest. These themes include (a) students taking responsibility for their own learning, (b) the development of self-awareness and self-understanding in students' lives, (c) the development of self-

awareness in my own life, and (d) the development of professional confidence in myself. The notations "E-s/resp," "E-s/a," "E-S/A," and "E-P/C" were used to denote these aspects of the emancipatory interest in examining the data for the study. Notations for all three interests were written with highlight pen on the data itself or, in the case of tapes, recorded separately.

Early Teaching

Journals.

In examining the data in the early teaching phase, I found many examples of each of the interests at work in my teaching, thinking, and writings as recorded in journals. The earliest pieces of data include reflections and notes recorded while working with students in the preschool/kindergarten in 1981. At the end of the second journal entry (cited below), I find an emancipatory interest reflected in my belief that students be given opportunities and be expected to assume responsibility for their own learning by first assuming responsibility for their actions (a theme which appears often throughout the data of this study). "After they clean up their mess [lunch tidying, cleaning the eating areas, and putting away their lunch boxes], then they can have free play" (Journal entry, January 22, 1981). The theme of encouraging and allowing opportunities for the development of student responsibility becomes a primary indicator of an emancipatory interest in my later work with high school biology students. Additional operative emancipatory interests, here reflecting self-awareness and self-understanding, are discernible as both entries give an account of the morning's activities in which students engaged in physical exercises and a guided visualization, in part, in preparation for a trip to an old folk's home in our community.

8 kids - [. . .]

Hard day-No listening, they acted totally in an undisciplined way.
Morning. Exercises in prep. for production at old folk's home.

[. . .]

Each child will do one pose.

Meditation--Atomville-Atom Om

[. . .]

Rehearsed "Wizard of Oz"

After lunch pictures of thanks, Christmas and Circus performance

Clean up and responsibilities [student's do their jobs]

Hike (Journal entry, January 14, 1981)

Rehearsal for singing at Watsonville Manor-snow[!]

Tried going out at 9:45 for a few minutes of free play in the snow. As a result they worked till 11:45

11:45 Free play

12:05 Lunch

12:25 Mats, clean-up, lessons, [. . .]

2:00 Magic

2:10 Leave, free play

After they clean up their mess then they can have free play.

(Journal entry, January 22, 1981)

It is clear that this class (as well as others at Mount Madonna School) engaged in community service. The reason the class incorporated community service as part of the curriculum was to give students the opportunity to understand that school is not a separate entity existing apart from the larger community in which it is set. This goal goes beyond a practical interest in understanding the value of education in that it seeks to emancipate students and teachers from preconceived notions of schooling and learning as occurring only in a fixed setting, involving a fixed number of individuals, and taking place at a fixed time. In addition, students are given the opportunity to give back to the larger community, thus enhancing the development of community in the social sense. These aspects of the learning situation interpreted here were indicative of an emancipatory interest.

Here also is shown that students early on in my teaching were exposed to methods of introspection and self-awareness through techniques of breath control, physical exercise, and guided visualizations. A guided visualization is a specific meditation (mental focus) in which the mind is concentrated on the words of a speaker, either outer or inner. In this journal entry, I, the outer speaker, present ideas to the students in the

form of a story, Atomville⁵, where one idea leads to the next. In this way the mind is engaged in a specific activity, that is, following the words of the speaker, which reduces the mind's own mental chatter. The mind becomes more one-pointed and so is induced to reflect back on itself. By the practice of guided imagery, the mind becomes more conscious of reflecting, both "on-action" and "in-action" (Schön, 1987), while engaging in activities in the classroom and, ultimately, in the world. The act of purposely engaging students in guided imagery with the intent of offering opportunities to practice reflection and develop insight into one's self is indicative of an emancipatory interest since it develops the awareness and habit of reflecting on one's own actions. It is only through deliberative reflection that one is able to continually question one's own motives, actions, and behaviors for possible hidden agendas, ignorance, prejudice, inequities, or inconsistencies in one's own beliefs and values. Hence, deliberative reflection allows one to go beyond understanding of the *thing at hand*, to realizing the implications of actions, attitudes, and behaviors of one's self and others for the purpose of transcending these limitations. This is the meaning of enlightenment according to Grundy (1987, p. 112).

A technical interest was evident in these early pieces of writing in the use that was made of a fixed schedule or plan of the day. A goal statement, such as, "to develop a mind, disciplined through a prescribed schedule, which is thus able to control the actions of the body," however, is indicative of a practical interest. That is, the goal statement suggests a *good* upon which all would agree. The goal statement is rooted in the belief in child development theory that children work best when they know what to expect and have a routine to follow. By fixing a schedule which includes a balance of physical, mental, and rest periods, a student's mind becomes more productive, his/her

⁵ Atomville, or atom Om, is the first guided visualization that I developed specifically for this class. It is included as Appendix B.

emotions and physical body are more in balance, and the mind, body, and emotions develop in an optimal way. A goal statement then, in-and-of-itself, can be interpreted as predominate in any one of the three interests. By looking at how a goal is ultimately viewed however, that is, from subjective-objective and student-teacher perspectives, and reflecting on the action which would support its fruition, one will find that only one interest, according to Grundy (1987), will predominate. Here, I consider the prescriptive schedule as reflective primarily of a technical interest. It is based on the underlying intent of control of the environment, had a specified fixed goal, and was enacted without the intent of having the students understand the underlying reasons for such a routine, which would be beyond the grasp of students at this age.

A practical interest was evident in the recording of lessons students were given each day and in which they had differing degrees of success. The recording of who did what lesson, when, and the learning that took place allowed me to better assess students' progress, better understand their development, and better understand their thinking. It also allowed me to be able to speak meaningfully to a student, students' parents, and administrators with regard to a student's progress and development. I considered the process of recording students' lessons as an opportunity to reflect on them individually. Through writing about our interactions, I was able to generate understanding of students, the learning process, and of my own teaching. Hence, the inclination towards seeing the recording of these lessons as indicative of a practical interest.

The recording of lessons reminded me that students at this level were given both individual and group lessons in various avenues of instruction, such as mathematics, science, art, practical life, language, etc.. Presenting and grouping lessons along the lines of discrete disciplines, as is traditional in most classrooms, reflects a technical interest in having students develop skills in the various academic areas. It allows teachers to be seen as experts able to dispense knowledge to willing students. In this

technical view of learning, a subject, the teacher, is seen to be in control of the objects, the students, the knowledge, and the leaning environment. It also, however, reinforces the belief that these disciplines exist separate in function and nature in the real world, were developed in isolation from one another historically (are also a-historic and a-political), and, in fact, can be taught separately in the classroom.

The grouping of lessons in this way also reflects a practical interest in that understanding and collaboration were at the heart of students' learning their "lessons" (the formal presentation of materials and subject matter). It was accepted that the materials present in the room and the formal lessons presented to the students using these materials were important for laying a strong foundation in the acquisition of language, thinking skills, and problem solving, necessary prerequisites for the living of a productive, responsible life in our present democratic society. I was operating under the assumption that parents of students supported this view. The good of society, a practical interest, was being served. The organization of knowledge into discrete subject matter disciplines was accepted as the best way to embrace this good. This idea of presenting lessons in discrete discipline specific avenues, as I point out below in discussing the "middle phase," was ultimately seen, however, to most reflect an emancipatory perspective.

Other writings.

The last piece of work which I explore here from the early phase of my teaching is an article I wrote for a community newsletter on the philosophy of discipline in the classroom. The article appears in its entirety as Appendix C.

In the article, *Freedom vs. Discipline in the School*, I set out to explain my view of discipline as it pertains to freedom in a preschool/kindergarten classroom. The underlying theme in the writing is the development of autonomous learners, reflecting

an emancipatory interest. Grundy (1987) suggests that the emancipatory interest will predominate in those curriculum situations in which students "negotiate the curriculum" (p.123) through the development of voice. Development of voice can occur only when students (a) are able to understand that learning occurs through the faculties of their own minds through motivation and effort, (b) take responsibility for their own learning, and (c) act in ways that secure their learning. At the level of the very young student, the development of voice follows the development of autonomous learning which, as explained in this article, develops from self-discipline and freedom.

Discipline plays an important part in securing freedom. Not teacher or adult imposed discipline, but self-imposed or self-discipline.

[The] exploration of the [lessons in the learning environment] by the child can happen at any time, since the child is free to choose his own work and activities. When it does occur the child will be exercising his will power, thus strengthening it. Because of the innate qualities of the materials, the child's concentration will improve and get stronger, and a feeling of success and accomplishment will arise in him. Since his freedom has not been violated he becomes more self-directed and hence independent. (Newsletter article, 1984)

Summary.

These early writings set the stage for an analysis of my teaching and thinking in the following periods by exposing the three knowledge-constitutive interests at work in my actions and thoughts at this time. By citing specific examples of each of the three interests and showing how these examples are interpreted as reflecting one of the three interests, I have detailed a process whereby the rest of the data can be analyzed. In addition, I have also pointed out the necessity of reflective deliberation in determining when actions, behaviors, or thoughts are motivated by a particular interest. I have also tried to show, implicitly, how the process of determining the predominant interest is not as easy as it might first seem.

In analyzing the rest of the data, I have found it meaningful to look primarily at the emancipatory interest underlying my teaching and thinking, as this is most

reflective of the stated goal of this study as a whole. This is not to say that discovering other interests is unimportant. In fact, the other interests come up each time I reflect on a piece of data. With each piece of data I asked myself "How does this data represent a technical or practical interest?" In general, when these other interests do come up, it is usually related to the foregoing exposures of these interests in these early pieces of work. That is, I find the technical interest the predominate interest underlying my teaching and thought in those instances where I have designed and taught lessons to students when I felt students incapable of understanding the full significance or rationale underlying the learning. Here I have maintained a hidden agenda from the students, albeit for altruistic reasons. This technical interest was naturally more operative at the early childhood development level and was generally absent from my teaching later on at the high school level, with one exception. The technical interest was also seen operative in the recent teaching phase of this study when I initially chose to adopt the traditional lecture, demonstration, and test format in high school science classes as the predominant learning mode. In general though, in the middle phase and recent teaching I eschewed hidden agendas in principle while engaging in curriculum practices emphasizing the learning process over product and understanding over development of technique. This movement toward a practical interest continued and was maintained in those situations where I felt unable or unwilling to try to move the learning situation to an emancipatory level due to my own fear, ignorance, or laziness on the one hand, and to non-acceptance of this move by my students on the other. The practical interest was seen as compatible with the other two interests while the technical interest was seen as wholly incompatible with an emancipatory interest.

The themes of self-awareness and self-control through visualization exercises continued throughout this "early phase" of my teaching in journal entries from September 1982 through January 1984. Appendix B contains over fifteen visualizations

that I used with students during this period. Taken as a whole these teaching practices reflect a conscious effort to develop self-awareness in my students through the development of themes in the visualizations which reflect the different life experiences of the students in my class. They also allowed me to grow as a teacher/storyteller and allowed me to develop professional confidence in my teaching. Hence, these visualizations, which I continue in my present teaching, represent an ongoing emancipatory interest at work in my teaching.

Middle Phase

This phase of my teaching contains notebooks, journals, lesson plan books, and papers gathered while engaged in teaching in both the middle/high school and the preschool/kindergarten and while taking university level courses for professional development. In this section I have restricted my focus to three piece of writing, alluded to in the previous section, as reflective of an emancipatory interest involving my thinking around the setting up and teaching of lessons in traditional, discrete disciplines. As mentioned previously, the discernment of an underlying emancipatory interest was initially masked by a superficial account of the factors specific to the situation and was ultimately disclosed through an ongoing process of deliberative reflection. The data encompasses writings relevant to a situation involving setting up the preschool/kindergarten learning environment with lessons from several traditional disciplines of knowledge including language arts, mathematics, science, music, and art, and some non-traditional learning avenues specific to a Montessori classroom, a classroom in which I am a certified teacher. These non-traditional avenues included sensorial development and fine motor development through practical life exercises.

One possible interpretation of creating a learning environment with lessons reflecting traditional discrete disciplines is to foster understanding of the discipline as a

whole (practical interest) and develop skills (technical interest) in the respective disciplines. Indeed, the lessons in each of the areas did lend themselves to the development of specific skills appropriate to the different learning areas. Through the application of technique--by (a) the students, for example learning to pronounce the letters of the alphabet, phonemes, and then whole words, and (b) the teacher, through keen observation and an understanding of phonics theory--success in learning how to read, albeit in only one way, could be achieved. This interest assumes the teacher has accepted the curriculum planners' and theorists' prescription for this mode of learning language.

Another possible interpretation of creating a learning environment with lessons reflecting traditional discrete disciplines is to foster understanding of the discipline as a whole (practical interest). A teacher might seek to develop a shared understanding of the purpose of the discipline as a whole. For example, the purpose of language development lessons is the attainment of a shared vocabulary and modes of speech so that society can sustain the multifaceted cultures which comprise it over time. The good of society is fulfilled by having members that are more able to contribute meaningfully to its own evolution over time, thus ensuring its survival. The good of the individual is fulfilled by providing an increased opportunity for that individual to understand and to, at least theoretically, partake in at least some of the events which shape society over time.

With regard to both these interests, I did subscribe to a phonics system of language acquisition to help foster the development of specific skills in each of the traditional subject disciplines, as reflected in the journals I kept at this time. There is also evidence that the quality of the interaction (the significance of process), that is, the means of generating meaning, the depth of understanding, and specific difficulties regarding learning styles, was important. Hence, the interpretation of the knowledge generated was viewed as also indicative of a practical interest.

The setup and teaching of the lessons in subject specific disciplines was ultimately deemed however, as evidenced by the data, primarily reflective of an emancipatory interest. This interpretation depends on the presence of several key emancipatory principles in my work and thinking at the time and my present understanding of the Habermas's knowledge-constitutive interests as applied in education. The interpretation and development of meaning is here again seen as dependent on deliberative reflection.

The data from which these principles are discerned consists of (a) a final paper submitted at the completion of a course in poetry taken at Cabrillo College in 1985 which was a response to the question "How has your understanding of poetry changed as a result of your work in this class?"; (b) a final paper submitted at the completion of a course in educational philosophy at UCSC in 1987; and (c) a paper written for an independent study project in mathematics at UCSC in 1987. Taken together these writings support an interpretation of the setting up of the learning environment in the preschool/kindergarten as predominantly reflective of an emancipatory interest. In addition, each writing is also analyzed individually from the perspective of the three interests.

Poetry and philosophy papers.

The circumstances surrounding the taking of the poetry course involved a mixture of practical and technical interests. I initially signed up for the course in order to fulfill the English requirement for graduation from UCSC. This reflects a technical interest in completing the course to accomplish a pre-defined goal. The course was seen as an object upon which to act, action taking the form of papers, homework, and attendance. Success was seen as being able pass the course with a high grade while still being able to spend time with my family and teach in the classroom. The practical

interest was reflected in my choice of topics in the English department which would qualify for transfer credit. I choose poetry over other courses due my fascination with it as an art form. I hoped to develop an understanding of poetry historically through readings of different poets. By developing a shared understanding of poetry as a part of the culture of our society, the good of society would be served. Hence, superficially my interests were both practical and technical.

In analyzing the philosophy paper in which I offer a rationale for teaching the branch of mathematics called "number theory" in the mathematics classroom, I found it provided an insight into a practical interest I held regarding mathematics teaching and curriculum. I argued for the teaching of number theory due to its historic development and that it offered the possibility of uniting a splintered mathematics curriculum. It was written partly in response to the way traditional mathematics curriculum is taught, that is, as a smattering of disjoint subject matter skills.

The importance of mathematics in our society today cannot be underscored enough. The study of mathematics itself fosters the development of such cognitive skills as problem solving, creative thinking, concentration, and logical thinking, in addition to directly affecting the daily lives of all its members whether of a professional or lay capacity. A basic understanding of mathematics is essential to all, especially as the complexity of our society and world increases daily. But many people grow up hating mathematics for one reason or another. A return to the teaching of mathematics from a holistic, process, and developmental approach [number theory] would undoubtedly help change this for the betterment of individuals, society, and the world. (Educational philosophy paper, 1987)

Upon a deeper analysis of these two data sources, however, several underlying principles were seen to be at work which were reflective of an emancipatory interest which superseded the other two interests. The first principle is the understanding of poetry as a creative expression which ultimately becomes a liberating experience for both the poet and the reader.

The poet is from a special mold of experienter. He is driven to express his experience, feelings, emotions, and, in essence, his inner self, in the form of poetry in much the same way as artists of other disciplines are driven to expression in their own particular art form.

Poet and listener in reality can become . . . witnesses to the creative power that is in all of us.

[This idea] regarding the poet and listener alike, correlates exactly with the development of [liberating] consciousness as realized in the practice of meditation. (Poetry paper, 1985)

A second principle is the understanding of traditional, knowledge specific disciplines as reflecting an inherently liberating spirit and hence existing as creative acts. A teacher then with this insight would necessarily approach the teaching of these disciplines as a creative process with an interest in this liberating quality.

Each subject or developmental area would be taught as a creative process. . . . The term *creative* [emphasis mine] . . . means that it puts students (adults) in touch with some aspect of the infinite potential energy or power residing within each of us, provides a means of expression of that potentiality in meaningful ways, and, finally, provides a continued open channel from which to draw upon as one's field of knowledge expands. (Educational philosophy paper, 1987).

Another principle is reflected in the addition of non-traditional learning avenues in the learning environment. Through the non-traditional learning avenues of sensory development, visualization, and fine motor development through practical life exercises it was my hope to be able to reach all students, in particular, those who had developed alternative learning styles and who were intelligent in other ways.⁶ Other principles were the development and encouragement of a safe social environment which respected the rights of the learning group and the view of the teacher as facilitator of learning, one who holds no hidden agendas and helps students find and develop their own voices.

The role of the teacher . . . would be primarily as a facilitator of learning. His/her primary responsibility would be: (1) to provide an environment rich in developmental materials; (2) to work to insure a climate where positive social skills can be developed; and (3) to provide a safe and stable environment wherein the child's emotional needs could be met. . . . Hence, the nature of the child as physical, emotional, cognitive, social, and spiritual being are addressed, integrated, and brought into play in a harmonious and holistic way. (Educational philosophy paper, 1987)

⁶ Howard Gardner speaks of seven intelligences: linguistic, logical, interpersonal, intrapersonal, spatial, musical, and physical.

Mathematics paper.

The last principle relates to an understanding of the nature of the liberating experience itself and of "critical social theorems" (Grundy, 1987, p. 111). A critical social theorem is a set of ideas that serves as a paradigm through which experience can be judged as authentic; that is, as emanating from one's own values and beliefs rather than from outside sources. The nature of a critical social theorem is its applicability to the members of a society as a whole as opposed to only a few or a single individual.

In the process of reflective deliberation, which is dependent for its insight on the existence of critical social theorems, one juxtaposes experiences encompassing the "natural attitude" with ideas which question the nature of those experiences. One is then able to identify ideological (political) and hegemonic (social) beliefs and attitudes which are influencing one's experience. When--and only when--this happens, is one truly free to choose to give up those beliefs, attitudes, and behaviors which resonate discordantly with one's own inner knowing, or to shift one's inner knowing. The knowledge is thus liberating, while action based on this knowledge is emancipatory (Grundy, 1987). Grundy suggests Freud's psychoanalytical theory and Habermas's theory of knowledge-constitutive interests as examples of critical social theorems.

Two sets of ideas, which I adhered to at the time and which I now suggest as central to an interpretation of this writing as reflecting an emancipatory interest, are the phenomenological experience of the pre-conceptual self and the samkhya experience of universal consciousness. These two philosophies posit the existence of states of being which are inherently free, hence liberating. In samkhya, higher states of consciousness arise due to engrossment of the mind on some object, resulting in reduction of egocentric or self-serving desires. One experiences the object without attachment, as it exists in itself. Phenomenologically, as expressed in chapter three of this study, one approaches

the experience of pure being, the pre-conceptual self, through a bracketing of the taken-for-granted.

It was these ideas which supported an interpretation of my teaching as emancipatory; that is, I felt that providing a variety of traditional, discipline specific, and non-traditional learning avenues coupled with an awareness of their liberating potential as a creative act, had the potential to bring a student to a state of engrossment. The variety of traditional, discipline specific, and non-traditional learning avenues which I sought to include in the classroom and the learning experience itself as a creative act, provided those objects of and a situation conducive to engrossment. Certainly, the visualizations cited previously could also provide objects of and avenues for engrossment.

The last datum, a mathematics paper, argued that the experience possible through an engrossment in mathematics as an object can lead to the experience of pure being, the pre-conceptual self, helping one toward enlightenment.

The study of mathematics is a valid means of . . . disciplining the mind. Mathematics, being the language of . . . nature, is a valid 'object' of concentration. Mathematics is a valid 'object' of concentration which can lead to the development of higher consciousness. (Mathematics paper, 1987)

If possible for mathematics (a discipline specific field of knowledge), then, as I argued earlier, this possibility of enlightenment, freedom, or the experience of pure being is not dependent on the experience of mathematics alone, but is the nature of the creative experience itself in whatever discipline, traditional or otherwise.

Summary.

The three papers I chose to represent the middle phase of my teaching support the interpretation of my teaching as reflecting predominately an emancipatory interest. The circumstances surrounding the setting up of the learning environment in my classroom

which I detailed in early teaching became the focus of the analysis in this middle phase. I have discussed how, through reflective deliberation and an understanding of critical social theorems, the emancipatory interest superseded the other two interests as the primary factor influencing the generation of knowledge both in the classroom and in my university work.

Recent Teaching

The last section, recent teaching, encompasses the years 1992-1994. It includes the most diverse forms of data: video tape, audio tape, a collection of class notebooks, personal journals, and student work relating to a specific intervention of constructivist teaching in a biology class, university work, and my own educational autobiography. The main focus is on the dual themes of developing professional confidence in myself and the development of autonomous learners and, hence, voice in a group of biology students during 1993-1994. Both themes reflect an emancipatory interest at work in this phase of my teaching.

The circumstances surrounding the creation of my educational autobiography reflect an intentional attempt to uncover factors about myself and my teaching that affect the ways I teach and act, both positively and negatively, inside and outside the classroom. The autobiography was written for a graduate level class in education at SJSU in 1994 and was, in part, a response to Abbs's (1974) and Connelly and Clandinin's (1988) suggestion to do so as a means to improving one's understanding of self as a first, necessary step to understanding one's teaching. Through the writing of the educational autobiography I discovered much about myself including several themes which had import with regard to values, beliefs, and conflicts in my teaching and understanding of self. The themes emerged from ongoing reflections and discussions with my thesis advisor regarding the significance of my educational autobiography. Two of the themes

seemed important enough to pursue further as they had ramifications for my daily work with students and my own self development.

This section deals with these two themes, one public and one private. The first part concerns the development of professional confidence in my teaching and incorporates data sources from an audio tape of a lecture I presented at a yoga retreat; a video tape of myself teaching a lesson in the preschool/kindergarten; notes, journal entries, and writings for university classes; and my educational autobiography. The development of professional confidence, is for me, the foundation upon which I develop my voice as a teacher. Facilitating the development of voice in my students, the second theme, is attended to by first looking at the development of autonomous learners and finally the negotiation of the curriculum. The data related to this theme consists of my work with ninth and tenth grade biology students and my reflections on this work in my journal, notes, and university papers written at this time. These dual themes, focusing on self and others, find unity in the emancipatory interest of developing voice.

The development of professional confidence.

Developing professional confidence is seen to comprise three parts: (a) becoming confident with subject matter and my role as a facilitator of learning in a learning situation, (b) acknowledging mistakes and taking responsibility for shortcomings in attitudes and behaviors, and (c) taking action based on values and beliefs and assuming leadership roles. Through the development of professional confidence I am free to develop my voice authentically, that is, take control of the direction of my life based on my own values and beliefs unencumbered by attachment or aversion to my own past or to others attitudes and behaviors. The development of professional confidence is presented in five situations, two involving work with peers, two involving work with younger students,

and the last my work with high school students. In addition to seeing this theme in my recent teaching, it permeates my work from early teaching to recent teaching.

Upon reflection upon my first teaching experience with young students as recorded in my educational autobiography I remembered a crisis of confidence that arose as we considered the alternatives to our best laid plans for teaching a morning recreation class at a local church. My teaching partner and I had already established a feeling of trust that morning through our interactions with the children when we began to feel that the plans we had developed *wouldn't fly*. Could we abandon our previous plans and just trust the situation and our own reactions to it, being confident in our feeling that it would turn out all right no matter how chaotic the learning environment became?

The first morning the children were loud and noisy and everything my friend and I had planned went "out the window." We decided to let go of it and let them lead us. We wound up making up a lot of new games and did some movement and art activities interspersed. And so began my teaching career with younger students. (Educational autobiography, 1994)

From the data it is clear that I had succeeded in developing a degree of professional confidence: I felt confident with subject matter: playing cooperative games and doing movement and art activities; I felt confident in my role as a facilitator of learning in the learning environment; I took responsibility for possible shortcomings by deciding to let go of our agenda and trust the situation; and I took action (deciding to teach in the first place) based on the value I held for community development of recreational activities for children and by assuming a leadership role as teacher and role model in this situation.

Later on, in a teaching situation involving my peers, I once again placed myself in a leadership position by volunteering to present the introductory lecture for a learning community at a yoga retreat. The audio tape of a lecture I presented at the yoga retreat records my assumption of a leadership role in a learning community, facing my fear of

public speaking. The fear of public speaking reflected a deep seated anxiety which I had from early childhood.

Part of the significance of . . . [being slapped across the face in front of my fourth grade peers by my teacher] for me now is that I have worked through the fear of being in front of a class or group of people and now accept it. Whether it was that experience or just my own personality at the time, I now don't shun the opportunity to act, present at workshops, nor teach in front of students, peers, or whomever. In fact, I tend to seek out situations which allow me to face my fears rather than hide from them. (Educational autobiography, 1994)

In the audio tape I can be heard to make a mistake, admit the mistake, and then continue on with the lecture. Whenever I would listen to the tape and hear that part of the tape where the mistake was about to come up, I would actually have a physical response of anxiety. In keeping a journal throughout this period of time, I was able to work through it by assuming responsibility for it and realizing the underlying intention in presenting the lecture in the first place. The interest I had in presenting was to assume a leadership role in the learning community and thus participate in the ongoing evolution of learning. I realized and accepted, at least in my mind, that assuming a leadership role is not always easy and comes with a cost. The cost here was the initial anxiety, the ensuing embarrassment, and the process of coming to resolution through an understanding of the situation as a whole.

This situation reflects an emancipatory interest in liberating myself from the fear of public speaking by taking responsibility for removing this fear through action which I felt could reduce or transform it. This interest is the reason why I have made a conscious effort to be placed in situations where I have had to face my fear. This process has developed professional confidence which ultimately has replaced the fear, liberating me from it.

In a similar way, the video tape I made of my teaching in 1992 served the same purpose and had a similar result. In this situation I set up a video camera in the preschool classroom and taped an activity with my students. I chose to video tape myself

so that I could use it, in much the same way as I would use the educational autobiography--that is, to learn about myself through teaching and as a teacher.

After setting up the video camera in the room, whenever I would press the play button, I would get anxious; the same anxiety that I would occasionally feel when I had visitors observe my teaching in the classroom. In watching the video at home I was surprised to see--what I perceived to be--shortcomings in my interactions with the students. A similar anxious response was felt whenever I came to certain parts of the video where I felt I could have acted more responsively to the students. I was able to come to grips with this feeling again through a process of reflection in my journal writing and through sharing the video with my classmates and professor in a course I was taking at SJSU at the time. The class commented very positively on the video. My professor commented to the class during the video that this was not the manner of a novice teacher. She pointed out many instances in the video where I had acted quite appropriately. This had a very positive affect on understanding the value and place of self criticism. It allowed me finally to "take what you can learn from the situation and let the rest go."⁷ Underlying the learning in this situation was the realization that I was again choosing to expose possible shortcomings in myself as a teacher and as a human being, in order to be able to transcend the limitations associated with the possible disclosure of them through the development of professional confidence.

The development of professional confidence through an acceptance of a necessarily incomplete mastery of subject matter knowledge evolved over time, having particular significance later on in my work with students in high school science classes. In my educational autobiography I write about teaching a class with my peers for the first time. Initially, I had the feeling that teaching subject matter knowledge meant teaching

⁷ This is a statement which my wife and I heard from our school principal and which comes up often in our sharing of classroom experience.

what you loved, where the distinction between teacher and learner was necessarily blurred. I felt, naively, that teaching involved assuming no responsibility for the development of a relationship. I soon found out that, indeed, there is learning that happens for both student and teacher; there is a difference in relationship between teacher and student based on the underlying interest supporting the generation of knowledge; and that the learning experience from each perspective is individual and necessarily different. From a teacher's perspective, I felt a responsibility to my students to be honest in my presentation of myself as *knower of truth*; that is, to disclose the nature of my prior and present experience in the subject matter and also that I was teaching to learn as well as to facilitate their learning. I realize now that by disclosing the nature of my experience in the subject matter and my underlying interest in initiating a teacher-student, student-teacher relationship, what I was saying to the students was that they needed to take responsibility for their own learning and that they needed to develop the motivation and effort based on their own underlying interests in the learning situation. By disclosing my subject matter experience I was allowing myself to learn in the teacher-student relationship, implying that students could make significant contributions to the learning community both as student of learning and as teacher; and was taking responsibility beforehand to secure the best possible learning environment. In short, I was facilitating the development of voice in my students and myself which reflects an emancipatory interest.

After returning to Virginia I began teaching yoga. It all happened informally and quite unexpectedly. First one friend asked if I would teach him, then another. They told their friends and before I knew it I had a weekly class of about five people. This was my first teaching role as an adult that I can remember. I liked it, although I felt a tremendous responsibility. It was here that I first remember the idea of being a facilitator, a coach, rather than a teacher. I felt that I wasn't there to fill them up with my knowledge, but rather that we were learning together and could share our common experience of the practices. (Educational autobiography, 1994)

The last instance of the emergence of professional confidence relates to my work with high school science students and, in particular, a group of ninth and tenth grade biology students I taught in 1993-1994. Professional confidence became an issue at this level due to a perceived lack of subject matter knowledge on my part and a discomfort in teaching older students. In my educational autobiography I describe the circumstances surrounding my decision to take up high school teaching in general and high school science in particular. In short, I chose this field of endeavor to *help out*. There was a need in the school and I felt a desire to assume that teaching position. With regard to experience with the subject matter, I was not a science credentialed teacher although I had training in the sciences in courses taken at the university level. I struggled with having to respond to questions in science with "I don't know" even though I had been able to do so in mathematics classes at the high school level. It was as though I felt I had to make up for my lack of a credential by knowing every question. It became an issue in a science methods class I was taking at the same time at SJSU. In the class there seemed almost unanimous consent that teachers without science credentials had no business being in a high school science class. I was able to find closure in the situation through my own reflections and with the help of several situations that occurred at the time.

The first situation involved the same science methods class. We talked about the nature of science and implementing a curriculum with meaning and relevance to students. In a position paper I wrote for a graduate level class at that time I question, ". . . how to teach/implement a science curriculum that has meaning/relevance?" In the paper I cite the importance of three important curriculum issues: understanding the nature of science, scientific literacy, and an integrated curriculum as a means of developing understanding of these issues. There was some support expressed for this position which, in effect, said that while having a degree in a field was important, it was possible to teach without it; that even more important was not science content

knowledge, but students developing literacy in science and understanding the nature of science through building on prior knowledge. My underlying interest was in providing students with an opportunity to study science in a way that was reflective of my perception of their needs. Through wanting to develop a curriculum in this way, I was expressing an emancipatory interest in their having a better possibility to develop voice in their lives through a class of this type.

An emancipatory interest was also evident in a disclosure I made to the students in my high school class at the beginning of the year regarding my experience of science content knowledge. In this disclosure I explained my experience and background in science and science education and told them there would be questions that I would not be able to answer, but that I would do my best to come as prepared to class as possible to engage in the learning process with them. Through this disclosure I was taking responsibility for possible shortcomings, being forthright in my communication, and affirming my commitment to action based on my value of biology specifically, and science education in particular.

The development of professional confidence was a goal that I had been striving for throughout my teaching, especially as a beginning teacher, even though I was not fully unaware of it at all times. Once I identified it in my educational autobiography, I realized that I had been engaged in it in an ongoing way from the very beginning of my teaching. The five instances of its emergence here detail the beginning of an ongoing process of development based on emancipatory interests.

Facilitating the development of voice in students.

As I mentioned in the early teaching section of this chapter, it is my belief that the development of voice can occur only when one (a) understands that learning occurs through the faculties of one's own mind initiated and guided by desire or interest, (b)

takes responsibility for one's own learning, and (c) acts in ways that secure learning. One develops responsibility for learning through self-discipline as pointed out in the early teaching section of this work. One becomes aware of underlying interests motivating learning--and is thus able to strive for change--through self-awareness. One acts in ways to secure learning through effort and continued reflection on its value to oneself and/or the learning community.

In this section I discuss facilitating the development of voice in my students. The data is seen to comprise, as it did in developing my own voice, the whole period of my teaching experience, from my earliest teaching as recorded in my educational autobiography to recent teaching. I present here two instances of it, one early and the other in recent teaching. I begin with the early teaching experience.

The first morning the children were loud and noisy and everything my friend and I had planned went "out the window." We decided to go of it and let them lead us. We wound up making up a lot of new games and did some movement and art activities interspersed. And so began my teaching career with younger students. (Educational autobiography, 1994)

My mentor teacher once told me three important aspects to becoming a good teacher: love the children, understand child psychology, and teach discipline. All three seem necessary for the development of autonomy in learning and hence, voice. In the situation above, my partner and I let go of our agenda--although not completely--to allow a space for the students to participate in the development of their own learning. By allowing an opportunity for them to participate in the development of their learning, we were able to help facilitate the development of their own voice.

The last instance of facilitating the development of voice in my students comes from the high school biology class I taught from 1993-1994. The data involves a paper I wrote for a class in constructivism, a published work entitled *The art of reflecting in a two-way mirror: A collaborative autobiographical study by three science educators* (Parsons et al., 1995), and class notes, student work, and journal writings.

In the constructivism paper I write about the adoption of constructivist teaching practices in a high biology class from 1993-1994. These practices were the outgrowth of questioning the learning taking place in the classroom, how I might be part of the problem, and how I felt a need for change. In chapters one and three of this study, I described the intervention that took place in the classroom. The biology class was going well enough by most standards, but I was unsatisfied with the level of students' commitment to taking responsibility for their own learning. I felt that my actions, attitudes, and behaviors were part of the problem. I believed that at the high school level, students should be exposed to and understand some of the important issues facing the larger society (whether or not they are issues of importance for them), be motivated learners, and have some sense of their own issues around learning in general, and science in particular. In my classes at SJSU that year I learned about constructivism. I decided to introduce constructivist practices in the classroom as a way of acting on my commitment to the value I held for these new understandings. I was forthright in communication by pointing out to them the whole development of thought and perception which caused me to want to change the way the class was going. I also expressed a desire for them to look at the level of responsibility they were taking for their learning and invited them to contribute to the development of the curriculum.

As I describe in the published work, I developed concept mapping and metaphorical thinking activities as a way to address different learning styles and intelligences and we began a field study experiment which involved moving out of the regular classroom and into the *redwood forest classroom*. These actions were not met with consensual agreement among the students. In fact, there was some resistance initially to each of the strategies. The move out of the classroom and our continued use of concept mapping and metaphorical thinking activities resulted from our negotiation of the curriculum and involved an ongoing dialogue with the students throughout the rest of

the school year. These intervention strategies reflect the theme of encouraging and allowing opportunities for the development of student responsibility and are emancipatory in nature.

As a result of the intervention, I felt students were able to see learning in a new way, one that required a commitment on their part to taking responsibility for their own learning. I also felt in them a sense of pride and accomplishment at having participated in the development of their own learning, and, hence, the development of their independence and voice.

Summary

It became obvious to me early on in examining the data for the study that I had a wealth of information and that my original goal of examining this data for evidence of the three interests would be realized. I was able to show all three interests at work in my teaching. Sometimes they worked alone, sometimes in concert together; sometimes I was aware of my underlying interests while engaging in actions both in the classroom and out, and sometimes I was unaware.

With such a wealth of data to survey, I ultimately chose to focus almost exclusively on the emancipatory interest, identifying underlying values and beliefs that I hold dear in my heart as guiding principles in my life. In addition, in order to simplify the analysis of the data, I chose to examine in detail a few specific data entries from each period, rather than trying to examine all the data in lesser depth. It was my feeling that a few detailed examples would allow me to tell my story more meaningfully and would make it easier for the reader to grasp the overall thesis of the study which is an inquiry into self. It was also my feeling that examining the data in this way would allow the reader a clearer understanding of the process of their own self-inquiry.

In the final chapter, I discuss the implications of this study for further research. I look at it from three perspectives: individual, teacher, and teacher education.

Chapter V

Findings and Implications

love the children
 teach discipline
 understand child psychology
 (Unpublished letter from Baba Hari Dass, 1981, in response to the question
 "What makes a good teacher?")

In the final stage, the present, I synthesize the information and choose what to let go of, redefine my aspirations, and live more fully alive and aware. (Pinar & Grumet, 1976)

This chapter begins with a brief review of the findings of my study and is followed by a discussion of the assumptions and limitations of the study. I then discuss the implications of this study on further research from three perspectives: teacher, teacher education, and individual. Figure 3 summarizes the implications of this study from these perspectives. The chapter concludes with a discussion of personal dilemmas associated with the study.

Findings

My study developed out of my interest in making sense of teaching. In exploring the problem of making sense of experience as a teacher, I have argued for the need of self understanding through self-study. I choose to look at my own values, attitudes, and experiences in the classroom as the foundation upon which to create a philosophy of education in general, and a philosophy of curriculum in particular (Grundy, 1987). I adopted a view of curriculum as autobiographical text (Pinar et al., 1995), looking to my own teaching for data. My study is a study of self.

I choose to analyze my teaching from the perspective of the underlying interests which affected the way I thought, acted, and understood my teaching practice. I have argued that an understanding of the interests which influence a teacher's actions and behaviors is an important aspect of being able to discriminate between those actions and

SELF - STUDY

Figure 3: Implications for Further Research

behaviors which resonate with one's inner knowing and those that create dissonance. The lens through which I viewed my teaching was Habermas's knowledge-constitutive interests: technical, practical, and emancipatory. I looked at three periods of my teaching, examining journals, papers, video and audio tape, and an educational autobiography for evidence of the three interests. In so doing I was able to identify the presence, in varying degrees, of all three interests in each of the three periods. From the educational autobiography which I wrote at the beginning of the study, I was able to identify two themes, developing professional confidence in myself and developing autonomous learners in my students, which held significance in understanding of myself as a teacher. Both themes were unified in their emphasis on the development of voice. By tracing the development of these two themes in each phase of my teaching and in my educational autobiography, I learned how they had exerted a profound influence on my thoughts and actions from early childhood.

Shaped by the values, attitudes, and experiences of an individual is the individual's particular world view which may or may not lead to a unified interpretation of experience. Thus, the question, how to make sense of experience? Through self study, using the tool of reflection, the underlying interests which shape one's world view become known, and an individual's world view undergoes re-evaluation and possible modification.

Limitations Of The Study

To discern certain experiences as recorded in journals and in my educational autobiography as solely reflecting one of three interests was difficult. Even though I found evidence of an all three interests at work in each phase of my teaching, this does not imply that a particular interest was indeed the predominate interest guiding my actions and behaviors in the classroom in any phase of my teaching. A more

comprehensive study of the data for each period would certainly offer new evidence in support of a particular predominant interest. But in the end, due to the nature of the reflective process itself which continually uncovers layered meaning, no amount of data could guarantee it. I have tried to look honestly at the data however, and do feel that the interpretations and analyses of my teaching based on the data are reasonable.

The methods I subscribed to for examining my teaching for themes and underlying interests are not a prescription for how others, teachers in particular, should proceed. I chose the methods of writing an educational autobiography and reflection--on it and other data from my teaching experience--because that is what my situation suggested. Each individual's situation will be necessarily unique and hence may need a different approach to generating data and interpreting meaning.

Individual Perspective

Even though the study was written from the perspective of a teacher engaged in self study, the study has implications for individuals interested or actively engaged in self-study. In Eastern philosophy self study or self inquiry is a method leading to inner peace or enlightenment. My study suggests an individual can cultivate self-awareness through autobiographical writing and reflection on experience. By looking for themes in one's autobiographic writing and in narratives of experience (Connelly & Clandinin, 1988) one can begin to look at those aspects of one's experience which seem to influence and shape one's values, attitudes, thoughts, and behaviors. Once identified, the individual is free to choose to continue those behaviors which resonate in a positive way with one's values and ideals and to change those behaviors which are seen to be incongruous. One becomes liberated from the negative influences of one's past actions and attitudes through self-knowledge.

Teacher Perspective

As the focus of my study was on myself as a teacher-learner, the same principles that apply to individuals generally, apply even more so to teachers. Figure 4 suggests a model of self-study for teachers.

In addition to juxtaposing one's experience against the background of one's ideals and values, a teacher can also choose Habermas's knowledge-constitutive interests as a set of critical theorems against which to examine his/her experience as a teacher. To uncover possible hidden agendas or inconsistencies in thinking, action, and behavior, a teacher can write an autobiography with an education focus and record experience from a teaching perspective as I have done in this study. By developing self-knowledge, a teacher is better able to meet the challenges and reap the benefits of teaching.

The teacher must seek to free himself of personal problems such as anxiety, loneliness, hostility and fear which often interfere with his effectiveness in teaching. There must be a constant reaching out to grow and to change. Self-knowledge and deepening self-understanding facilitate these processes. (Loney, 1982, pp. 8-9)

In addition, Connelly and Clandinin (1988) suggest the development of a personal philosophy of education, as well as other strategies, such as visualization, metaphorical thinking, journal keeping, and writing an educational autobiography, as means to developing an understanding of self and teaching.

Throughout my research it was my hope to be able to draw the teacher-reader into my classroom, to feel the room and the events of the research as though they were happening to them. By touching the teacher-reader in this way, I hoped to offer encouragement as they question the meaning of their own practice and work toward change. As we reflect on our intentions, we make the aim of our teaching clearer and the path toward that aim better known.

- Assumptions
1. Question Natural Attitude
 2. Desire to Look at Self
 3. Commitment to Change

Figure 4: Model of Self-Study for Teachers

Teacher Education

Notwithstanding the undisputed importance of the teacher's self-understanding in the teaching-learning process, it is noteworthy that traditionally, teacher education has involved training mainly in cognitive knowledge, often remote from the teacher's self. (Loney, 1980, p. 11)

This study has implications for teacher education, especially in those institutions where curriculum development focuses on teacher development. Abbs (1974) presents a rationale for the development of a discipline of autobiography in schools of education. He argues for the implementation of autobiographic methods as a necessary pre-service course. His premise is based on the notion that all education begins and ends with the self, the individual. Although the argument is presented as a prescription for pre-service teachers, the same rationale can be applied to in-service teachers as well.

Regarding undergraduate level education courses, the writing of personal philosophy statements, initially abhorred by most students, can turn out to have important implications as demonstrated in my study. Students in these classes can be encouraged to keep records of their experiences by providing opportunities for reflection as part of the requirements of these classes.

In addition, teacher education programs can incorporate an awareness of autobiographic methods in order to strengthen pre-service and in-service teachers' self-esteem and self-understanding so they are better equipped to make decisions relating to beginning and/or continuing in the profession. As regards educational research in the future, a continued focus on self-study and teacher autobiography would help further and deepen the focus already started on teacher as researcher.

Conclusions and Dilemmas

Grundy (1987) speaks of subjecting reflective deliberation to critical social theorems in order to develop emancipation. Critical social theorems have the power to

loosen the hold that illusory understandings (ideology and hegemony) have on the consciousness of the individual and allow an individual to see the taken-for-granted in a different light. The enlightenment that one attains by subjecting reflective deliberation to critical social theorems is only a mental knowing however, and does not necessarily lead to emancipation. For this final step, action based on enlightenment is necessary. Because one is bound to action, either toward one's liberating ideals or away from them, the problems of faith and action arise.

Faith becomes necessary for emancipation since the questioning nature of reflective deliberation which is necessary for the development of critical consciousness also continues. One's mind continues to question even those realizations which brought about enlightenment. The mind begins to rationalize possible problems that might arise with following through with action. The mind may ultimately see action based on enlightenment as getting in the way of its own ego gratification or fulfillment of desires. This aspect of the mind, characterized by its movement away from emancipation, is essentially a survival mechanism of the ego. Sensing a loss of power to express itself through desire, the ego feels threatened and reacts by finding sanctity in such things as ignoring one's duty. Instead of seeking emancipation, one gives in to fear, inactivity, or denial. This constant struggle between one's lower nature and one's emancipation is one characteristic of experience informed by an emancipatory interest. In Eastern philosophy, action, taken for the sake of emancipation, based on the development of critical consciousness through enlightenment, is called *following the dharma*, or doing one's duty in the world.

As I have reflected on this study and watched completion dates come and go, I have been able to take ownership of the work more fully. As this study has occupied my consciousness, I have become more acutely aware of how I am constantly making decisions about my teaching and my life. I am constantly superimposing my actions

against a background of personal critical theorems represented by my ideals and values. This reflective deliberation affects the veritable quality of my existence by challenging me to act against my own limited egocentric desires and seek fulfillment in experience of my personal ideals and values, however limited in scope and depth they may be. This process represents a challenge to not only those of us who teach, but to all who seek enlightenment on the road of life.

Throughout my study, I found myself reflecting often on the nature of experience informed by an emancipatory interest. What were the underlying interests that called me to education? . . . to teaching? . . . to recording reflections of my work and my personal life in the form of journals? To these and other questions generated as a result of my study, I will continue to look to my experience and reflections on experience for possible answers.

No study of self is ever complete as long as the breath of life continues. This study is no different. I have had to arbitrarily choose to bring this study to a close, to stop the cycle of experience and reflection on experience. In one sense, the work represents a work-in-progress. On the other hand, this study has brought a greater degree of understanding both of myself and of my teaching experience. This is how it should be.

Appendix A

Educational Autobiography

Is it possible to tell one's autobiography and not learn anything in the process?

My whole life I have dreaded the writing process. It's uncanny the fear and procrastination that I have gone through from early elementary to the present to avoid, whenever possible, putting my thoughts down. In reading the literature on narrative inquiry, I find this is not uncommon. It's not that I find writing unrewarding. On the contrary, I thoroughly enjoy picking up the final product when it's done and reflecting on the sheer magic of this art form; I find it hard to believe when I pick up a paper I've written in the past that this came out of me. I ask myself "Did I write this?" And so I begin to tell my story. It's my gift to myself ultimately. I choose to share it with any who care to listen.

I was born the seventh child in a family of thirteen, both historically significant numbers for one who now teaches using numerals and other math props. My parents, six brothers, six sisters, and I lived in what we would now call a school/community neighborhood. Unlike today where buses carry most of our nation's students, at the time almost all schools were neighborhood schools. My brothers, sisters, and I walked the two blocks to school each day as did many of our neighbors. I never walked with my parents, at least I never remember doing so, ever! My next older brother escorted me to school the first day. I remember the sunlit room: bright, yellow and golden shining through the slightly green, wavy, single-pane glass squares set in thin black metal frames which gave only a hint of the trees and sky outside, high up the wall so that one my age could only hear the voices as they passed underneath. It was warm, too warm. I remember sweating into my new polyester clothing, a clothing that my mom and I bought just for school; our school uniform, white shirt, dark slacks, white socks, and dark shoes. I remember the rows of desks, 5 or 6 with 40 kids in the same room. I remember being so

hungry at 10:30 with lunch more than an hour away, I couldn't stand it, I grabbed my stomach hoping to quell the new found pain; I didn't think I could last that long, at least I didn't know how I could. I remember holding hands with my partner while walking to and from the cafeteria. How nice, comforting it felt to hold this other being's hand. It was a new experience for me, connecting with someone outside my family and my immediate neighborhood friends. I only remember ever holding my mom's or dad's hand. My teacher, her habit was so stark; unbelievably white set against a deep black, so finely woven it looked like the sheets of my bed, the cross and the large beaded rosary, the layer upon layer of black, the white bib and forehead covering. The colors the quintessential essence of black and white itself. I remember snack time, cold milk in the 1/2 pint size with the "MacArthur's Dairy" logo with writing on it which I couldn't understand. How we each got two cookies (but only on special occasions did we get two) and a straw to drink with, first pushing it through the small perforated hole in the side of the container. How we put one cookie over the straw against the milk carton while we slowly ate the other, first going around the edges so that the hole in the middle of that white flour and sugar machine-stamped-out-design of a flower on the top, doing this so that the cookie could remain attached to its support, the straw, for the longest time; how the carton sweated and make a wet spot on the desk. We ate it slowly, slowly, and let our minds rest and be still.

Dismissal came. I cried as did many of the other kids. I had no tears all the way through to the school wide dismissal bell when, all of a sudden, I realized I had been away from home, mom, brothers and sisters, my reality for the last 5 1/2 hours. Everyone was leaving. I felt the noise of parents talking at the door, telling the name's of their children and the children getting to leave and their sound disappearing into the distance. But there was no one there for me. My next older brother was late. Finally, his big smile showed up at the door. He waved, "come on". He didn't need to announce me to the teacher,

she recognized him. I relaxed. He had the air of authority, an older grade student, proud of his elevated stature, confident in the procedure of picking up someone from first grade. We walked behind the school, a maze of bodies go hither and thither; parents, kids, and us. We finally went home together, around the curved cement sidewalk that separated the convent from the school, across the street, past the student street patrol guard. It felt somehow different when I got home. Summer was over, I felt the beginning of a new page in my life. It was so quiet. The *formal* school experience had begun.

I didn't go to kindergarten, I recall my mom saying "they just play there." Besides, as I learned later, it was too expensive. We were all "put through" Catholic school, grades 1-12, which turned out to be a real financial challenge for my parents. My dad worked long hours, including weekends, to afford it and my mom, who quit her nursing job after the second child, kept busy as a "housewife", the word I would routinely write in the blank space next to "mother's occupation" when filling out form after form each successive year in school.

The fondest memory of my early school experience was the day in first grade when we did finger-painting. It was outside in the fresh air behind the nun's convent in the shade of the trees. We could take our time, no rushing here and there, not time limit. I remember waiting a considerable time for "my turn"; the feel of the cool colored wetness in my hands; the mixing of the medium. The colors and how they related to the trees, deep green, rich green and black shadows in everything. And then it was over. So quick. My turn was up. I can't understand why it never happened again, but it was the one and only time we ever did finger-painting during my entire formal school years.

My worst memories of my formal schooling relate to a particular lay (as opposed to Catholic nun) teacher, in fourth grade, Miss C. One incident I recall was her giving almost everyone in the class 65 (which at the time was an "F" not a "D" as it is now) in every subject on our first quarter report card; spelling, handwriting, math,

everything! I hid my report card for a week. It was an awful week. I was tense, thinking at any minute I would be discovered. I didn't want to leave the house for fear my parents would find out while I was out and be waiting to punish me as soon as I came into the house. All my brothers and sisters at the school had their report cards and were getting them signed by my mom. She forgot about me for a week. I was feeling relieved, thinking I could maybe get out of being punished, hoping she would not remember I hadn't shown her my report card. Then, on Saturday night, as my brothers and sisters and I were playing cards, it came out that I had lied. I had received the report card but was afraid to show her and had hidden it in my notebook. When I was found out, I was afraid yet incredibly relieved and, to my surprise, I wasn't yelled at! My mom couldn't believe it. She told me sometime later after the incident had been forgotten, that when she saw the 65% in handwriting, she knew something was up. She had seen my handwriting on previous occasions and felt it was very good. It turns out my mom had excellent handwriting and recognized mine as good. On many occasions in my pre-school years, I had sat and watched the words flow out of her fountain pen, black ink onto the white paper, like a mountain stream flowing over the rocks; smooth, fast, and free, the swirling curls of her cursive always seeming to connect perfectly with the letters around them. I remember her telling me I had good handwriting. She wound up calling the school the following morning after a short talk with me about the report card that evening. The teacher "disappeared" the next day.

This memory was not the most profoundly negative experience I had in school though. It was while in this same teacher's class earlier in that year that I had my most embarrassing and negatively profound experience ever. The degree of influence of this experience is one that has, only in the past few years, been recognized by me as such. The teacher had called me up to the front of the class to pick up my work, a poem or something like that. She asked me to read it to the class. I was horrified with fear but

proud. Should I have felt otherwise? Did she like my work so much that she wanted me to share it with the whole class? I was afraid in that I had never been asked to speak or read in front of the class before. When I got to the front of the class, the teacher asked the class to look at my "red" face, which made me even more embarrassed. Then she did something totally unexpected; she slapped me hard across the face. I couldn't believe the humiliation and betrayal I felt. I had always been a class leader of sorts and now the kids were laughing. I kept it a secret until the night of the report card incident and when my mom asked me to tell her about this teacher I let it out. Looking back, I think she was crazy and this was the reason she was fired. Part of the significance of that experience for me now is that I have worked through the fear of being in front of a class or group of people and now accept it. Whether it was that experience or just my own personality at the time, I now don't shun the opportunity to act, present at workshops, nor teach in front of students, peers, or whomever. In fact, I tend to seek out situations which allow me to face my fears rather than hide from them. Why didn't I tell my parents of this experience when it happened? Was I afraid they would say it was my fault. I already felt in some way that it was anyway! Why wasn't the teacher reported for other incidences? Was I the only one she ever "attacked"?

In terms of my own family, my wife and I have worked on our relationship with our son to the degree that something like this, if it did happen, would (we hope) be communicated to us immediately. And possibly even better, questioned by himself as being unfair and wrong. Is this correct thinking? What is it that develops this trust in parents or in other adults to question suspicious adult actions and intentions? Why did I cry at dismissal? Why was I shy and embarrassed to be in front of the class?, to be singled out? ⁸

⁸ I remember being singled out for my athleticism and feeling embarrassed and shy. The first remembrance was at our Santa Claus Bowl game in Miami. As a teenager, we had defeated the

My childhood life was eventful but seemed natural and normal. I never was read a bedtime story, (at least I don't remember being read to) but I didn't miss it. It's hard to miss something you never had. People always ask what it was like growing up in such a big family. I would always look at them puzzled. It was normal for me, just as normal as growing up with one or no siblings. Looking back, there were things that were unusual about our family as I would slowly learn, especially when friends would visit. I remember one time my brother's friend pointed to several dozen socks hanging from a long stick and asked what it was. I said "It's a mop!", while thinking "What else? Haven't you ever seen a mop before?." He cracked up, laughing hysterically. He couldn't believe it. My mom had actually gotten a great idea of how to recycle our orphaned and torn socks. She lay many different colors and sizes across the metal bar of the mop head. Voila!, a sock mop. I remember being embarrassed. Why was he laughing? Was he laughing at us, our family? We were not normal I felt. As I grew older I wanted so much to be like everyone else. And so I rejected a lot of family tradition and questioned family values in my teen years.

alumni of our grade school. I was voted the most valuable player and given a trophy. When I went up to accept the trophy they yelled out "speech! speech!". I had felt the chant coming, whether I remembered it being a tradition or not, I don't know remember. But the whole time of the celebration party, I was dreading the moment when I would be given the trophy, a black ceramic panther, the symbol of our school. The moment arrived and I went up to roar's from the crowd. When the MC announced "speech!", and the others joined in I said, "I just want to thank my mom, for if it hadn't been for her, I wouldn't have been here. It felt corny, a dumb thing to say. I was trying to be funny at the same time couldn't think of anything else to say. I suppose now, I could have just abdicated on the speech and sat down. Why wasn't this a possibility for me? Why didn't I consider it as a possible action? Why was I drawn to follow someone else's agenda? and not listen to my own? Where was my voice in my life?

A second experience coming recently, only two years ago at a celebration awards ceremony for another athletic event, I was dreading winning a prize for field prep. A job I had traditionally done with some help and this year had done alone. I remember not even being able to be present, listening to the speaker's announcements of awards to others. When my time came to be given the award, it was a really incredibly beautiful gift, a hand-painted clay figure of Hanuman, a Hindu god of service. I opened up the gift and held it out to the audience. I had chosen not to talk into the microphone. I guess I had developed some sense of voice and self-esteem to have chosen not to speak at this time and felt that it was OK and my decision to make.

I now feel proud of that mop and the life we lived. It was real. We were living day to day in our own real world. We had enough food, clothes on our back, and lots of friends in our Catholic neighborhood. Across the street there were nine kids, behind them were fifteen, and our cousins nearby had eleven. We all had chores, worked on homework with no TV (not arrived in our neighborhood yet) by ourselves, and generally took care of one another. We went to mom occasionally for help with school work, but we were usually referred to brothers or older sister and they usually helped although not always. We were on our own a lot, had to settle our disputes usually alone. My younger brother and I tolerated and then rebelled against our older brother's cruelty although sometimes we deserved what he metered out.

I remember the fights I had with my brothers nearest in age to me, especially my younger brother. I teased my five younger sisters, not as bad as some of my other brothers, but just as mean. As I reflect on that teasing I can't believe how I could have been so mean.

Two experiences from childhood especially stand out in this regard. The first involved a particular fight I had with my younger brother one hot summer, typical Miami, afternoon in our backyard. The fight had started out like any other. I remember being so angry. I realized in the middle of that fight so much. First, I remember feeling so powerful that I could kill him, which frightened me a lot; second, that I was responsible for my part in it whatever the outcome; and finally, that I could stop it, if I really wanted to. It all came at once, the fear, the power, the control, and the decision. I gave up, stopped fighting, let go of his neck, and walked away, never to fight out of anger with him again.

The second experience involved the teasing of my younger sister. I remember teasing as second nature until one day, I hurt her feelings deeply. She looked at me straight in the eye, with tears welling up in her eyes, she said nothing vocally, but her

eyes told me a powerful story. She resolved at that moment to never play with me or confide in me again, and, in fact, never really did communicate with me again during those growing up years. It was like I was dead to her. I felt as though I had killed something. I realized now that I had killed something in myself, not in her. We're good friends now, all of us, and these are mostly forgotten, unspoken memories.

These early experiences in and of themselves don't mean much, but taken as a whole with many untold experiences to follow, a pattern developed. I somehow became a caring human being. I look for that quality of compassion in myself and in others now; I hold it up as a goal in my life to this day.

In the early years of the sixties, it seemed as though grownups were always asking kids what they wanted to be when they grew up. I remember my parents, friends, and relatives always posing the question. It always made me feel insecure since I had no idea of what I "wanted" to be. At first, and for many years, I said I wanted to be a lawyer, like my dad. Later on in high school when a talent for mathematics had seen me finish Calculus in tenth grade, I thought about being an engineer. But this was the extent of it. I suppose I said I wanted to be a fire- or police-person, an astronaut, or some other "happening" profession of the time, just as the students in pre-school/kindergarten at my school do now, but I don't remember it.

My earliest remembrance of considering "becoming a teacher" actually seem to have occurred quite late in my life, at age nineteen while in my second year of study at University of Florida. I remember going home one afternoon and walking along one of the main campus roads. A good friend had told me the day before that I should "check out" the education department of the university. I remember thinking how far it was and how tired I was. It was another thing added to the end of a busy day. But it was here that I took a moment, stopped walking, and contemplated the idea of teaching. I remember asking myself "What is teaching?" and "Do I really want to be a teacher?". Although my initial

response was no, I did actually consider it as a real possibility for the first time, and, as is many times the case when self-reflection continues over a period of time, the answers to those questions changed while new questions took their place.

The period of time just after my graduation from high school was marked with much contemplation on my future and the development of some perspectives and personal philosophy that remain important, even essential, in my life now. After attending the university for a quarter, I returned home for a year of schooling at my local community college; it was cheaper and closer to my family to whom I still felt attached. After finishing there, I returned to the university for another quarter, during which I felt pressure to choose a major. I liked science and math, but didn't see myself fitting into any accepted professions when I graduated. It was during this time that I considered education as a major. I remember looking at those who were going into education, looking for some way to categorize their character. They seemed plain, "book-heads", introverted, and mostly female. I remember the prevalent slogan of the time: "only people who can't succeed in anything else go into teaching."

This was a hard, inner searching time for me. After enrolling next quarter in an upper division math course, with the class comprising mostly graduate students and being totally overwhelmed, I dropped the course and the following quarter I dropped out of school. I knew that school was not for me at this time in my life. I didn't want to just get a degree and then onto a job in which I felt no ownership or interest, only following my brothers' and sister's footsteps before me. I knew I didn't just want to submit to the American dream--to get a job, make a lot of money, and retire at age 50 to spend the rest of my life on a beach in Florida or traveling the globe. I wanted to find my own path, I wanted to follow my heart and find meaning in my life, now not later.

I spent the next two years traveling, mostly in the eastern United States and the maritime provinces of Canada. I saw my first snow, learned how to play guitar, became

less fearful of people, and more secure with myself. I worked several kinds of part time jobs and at age 21 settled in rural Virginia where I lived on a farm and held a job at a furniture factory.

About this time a good friend of mine in Miami wrote me that a yoga teacher was coming to the yoga center to which he belonged and that I should come see him. On a whim, and because I trusted him, I took a bus to Miami and went to a yoga retreat. It changed my life completely. I couldn't get what I had learned out of my head, nor did I want to. It kept repeating like some strange melody. I began a daily practice which I keep to this day.

After returning to Virginia I began teaching yoga. It all happened informally and quite unexpectedly. First one friend asked if I would teach him, then another. They told their friends and before I knew it I had a weekly class of about five people. This was my first teaching role as an adult that I can remember. I liked it, although I felt a tremendous responsibility. It was here that I first remember the idea of being a facilitator, a coach, rather than a teacher. I felt that I wasn't there to fill them up with my knowledge, but rather that we were learning together and could share our common experience of the practices.

That summer I decided to leave Virginia and once again come home to Miami, my roots. It was a different feeling of coming home though this time, as I lived away from my family and, in fact, didn't feel at all attached to them. I moved into a house adjacent to the yoga center and began teaching daily yoga classes six months later. I shared teaching the morning and evening classes and was the only teacher on Sunday morning. It was on Sundays, after class, that I got my first experience teaching young children.

The yoga center was in a poor neighborhood on the outskirts of Miami. There were many neighborhood children who would come around and there were also two center children as well. I asked my fellow teachers and a friend of mine if they were interested

in starting a kid's class. None but my friend was interested. The center gave me the go-ahead to use the main building, a large open carpeted floor. We sent out a hand written flier in the neighborhood and spoke to the parents of the local children and began. I really didn't know what we were going to do, but I trusted it would work out.

The first morning the children were loud and noisy and everything my friend and I had planned went "out the window." We decided to go with it and let them lead us. We wound up making up a lot of new games and did some movement and art activities interspersed. And so began my teaching career with younger students. This teaching partner eventually became my wife, Sarojani, and four years later, we both applied for a Montessori training position at the local Montessori school. We were encouraged to do so by a good friend of ours who said "this program is you all the way." Sarojani and I were accepted, but the position/training paid little, so I worked while she did the training. The following year I did the training while she supported us both.

Towards the end of my first year teaching, we were informed about the possibility of a job opening at a school in Watsonville, California. The school had just opened the year before and the principal was an old friend of mine from the yoga center in Miami. She said she couldn't guarantee the position, but if we came out *and* if there was enough enrollment, we might be hired.

Seeing that the position we held in Miami was limited in terms of what we could and could not do, we decided to make the move. It wasn't that we didn't feel committed to the school; in fact, we did feel committed and the school was very good overall. But the classrooms were administered by one individual who ultimately decided how we were to dress and what curriculum would be taught. We felt constrained in not being able to try out things on our own; important things, like being able to really observe and get cues from the children as to the appropriateness of the materials, environment being provided, and the curriculum expectations. We wanted to have the right to question any

and everything and to implement change when it was deemed necessary. These ideas were way out of question here at this school.

So we drove out to California in the summer of 1980 and arrived in Watsonville in late July. The school's enrollment was up and, as we found out, there would be a position available in the upper kindergarten and one in the pre-school. This was not what we hoped for, our training was in combined ages pre-school through kindergarten. I wound up in the nice building with the "older" group and Sarojani the more rustic building with younger children.

The following year we combined the groups and so began the first of ten years (not consecutive though as Sarojani took two and one-half years to bear and raise our son, Dov) that Sarojani and I were together in the same classroom.

In 1984, I decided to return to college to pursue a bachelor's degree and ultimately a California teaching credential. I received a Regent's Scholarship to University of California, Santa Cruz (UCSC), and finished my BA in mathematics with a multiple subjects teaching credential in 1988. In 1989, I began working on the California clear credential and found that with only a little extra work, I could get a master degree. I decided to go for the master's degree and, in 1991, I was accepted to San Jose State University (SJSU). I chose secondary education with a science emphasis as my focus. Why did I not chose elementary or even early childhood education, the areas of most of my experience? I ask this question still today, but at the time it seemed to the direction in which I was heading. Was this another case of asserting a voice in my own future? In order to fully appreciate this decision, I must relate how I got involved in teaching middle and high school math and science.

Mount Madonna School is a small, non-sectarian private school located above Watsonville and Gilroy in the Santa Cruz mountains. As I began to learn about the broader school community outside the preschool/kindergarten frame of reference, I

began to be aware of a deficiency in our math program at the upper grades. There were many factors that contributed to this deficiency; the teachers were not credentialed in this field, they were doing it as a side venture and not as their "passion," and they were doing it in order to get a full time salary. There were simply not enough English, government, etc. sections to employ a full time teacher in these fields. So teachers taught a variety of subjects. In addition, there were teachers who were part-time, but could only come up on certain days as it was expensive to drive all the way up to the top of the mountain for one hour of teaching. The resident high school science teacher, who lived on the school site, was not trained as a teacher nor did she have a science degree. Hence, the quality of teacher and the teaching were not what I felt it should be. This is not to say that someone who wasn't professionally credentialed to teach high school math or science couldn't do it, and do it well, but my impression from personal experience and from talking to some of the high school students led me to think in this way.

I had a strong math/science background from undergraduate school and I felt that I could do a good job teaching math. I wanted to try it. I always felt comfortable with younger children and was somewhat apprehensive at the thought of facing high school students in this formal way. Outside the classroom I had good relations with many of the high school students.

Teaching high school math started off slowly, only three students. They would come up to the preschool/kindergarten for an hour three times a week while a substitute covered for me in my class. I was in the middle of my credential program at UCSC at the time. I remember telling my supervising teacher that we would gather around a chalkboard that was six inches off the floor. Sitting on the floor ourselves, we would do math together. It was fun. I was actually teaching content, Algebra II, with no discipline problems at all. I enjoyed it. The following year my work in the upper grades continued.

This time I taught two courses and had to assume part time status in the pre-school/kindergarten class.

I finished my BA and multiple subjects teaching credential in the spring of 1988. I took the National Teacher's Exam (NTE) and became credentialed in math as well. That summer our high school science teacher retired and I was asked to step in "temporarily" to teach chemistry in a combined tenth-twelfth grade class. I agreed but was personally apprehensive. I had hated the way chemistry had been taught in my high school and, while doing well in college, didn't understand most of the time what we were doing. One of the recurring nightmares at this time had been related to college chemistry. In my dream I would forget to turn in or do homework, would get lost in the lab, flunked every test, and so on. However, I spoke with the outgoing teacher and she assured me that I could do it. It was a relatively small class of only ten students and she had ordered all the chemicals, books, lab manuals, etc.. When I sat down with it though I didn't like it. It was a college level course being taught at a slower pace. I decided to keep the text book, but went to a more process oriented/discovery approach in the lab. It was a great, but trying, year; so much work getting the labs ready, reading to stay ahead of the class, grading papers and notebooks, etc. while still engaged in teaching/directing the pre-school/kindergarten program.

I began to move slowly out of the preschool/kindergarten. In 1992 for the first time in ten years, I taught at a different time than my wife. She became the morning teacher and I the afternoon. We could still share our experiences of the class, but it's not the same as experiencing it together. We could only tell the stories. Being able for ten years to work intimately as partners in teaching, I realize now was an incredible experience and a rare thing we had. We were able to process and share our experiences in the classroom so much during those years. The years were rich in reflection and growth. We tried to honestly see our own "stuff" standing in the way of our students and

their and our growth. We promised to support one another in every way possible while at the same time to be constructively critical of and be open regarding our teaching. We wanted to see our own problems so that we could grow along with the children.

Over the past four years I have gradually added even more to my responsibilities at the middle and high school. I started teaching general math in 1990, and sixth and seventh grade math in 1991. Following my first chemistry class in 1990-91, I taught Physics the following year, and last year Biology. This year we changed the structure of the high school so that no longer would 10-12 grades be grouped together. The 11-12 grade is now together and physics and chemistry are taught in alternate years by a new science teacher. I continue to teach science at the high school level today, teaching biology/environmental science to ninth and tenth graders in alternate years. In addition to high school science, I teach three classes in math. Two of them, sixth and seventh are a math/science interdisciplinary class while the third, a combined eighth-ninth grade pre-algebra class is math only. I also continue in the pre-school/kindergarten. I teach 1 - 1/2 hours there each afternoon I can. On Saturdays I teach a two hour yoga class, one that I started teaching seven years ago.

I am presently in the final class of my masters program and this autobiography will head the chapter of my thesis, the role of reflection in understanding teaching practice. I will use my own reflection, gathered sporadically but continuously over the past 14 years of teaching, as exemplified in journals, papers and other writings, newsletters, audio and video tape, and personal letters. I am very excited about the work I am embarking on and feel I can make a contribution to the field of education through this effort. (Educational Autobiography, completed in June 1994)

Appendix B

Guided Visualizations: Mount Madonna Preschool/Kindergarten Lesson Plan Notebook1. Becoming a rainbow.

Before the meditation I had them notice their heart beating. Then their breath; making their chest and stomach go up and down. "Slow your breathing. Watch your breath as you relax your breathing." [This paragraph was added to the original notes shortly after writing it.]

Imagine yourself lying down in a meadow. A meadow is a grassy area with wild flowers and it is soft and (cool, warm) and comfortable. It smells fresh and clean.

It's a beautiful clear day. You can see the blue sky so clearly. Off in the distance you notice some dark clouds. You notice them coming your way. Getting closer and closer. The clouds are almost right over us now. We begin to feel now as they move overhead, a very light rain falling on our bodies; our arms, legs, face, neck, head, our chest, and stomach. It feels cool and refreshing. The clouds now have almost completed their pass over us and we feel the sprinkling of rain beginning to stop. As the clouds move off, it stops raining on us. The sky begins to turn blue once again as the dark clouds move on.

Looking up into the blue sky now you notice something beginning to change. Something is appearing in the sky full of colors. It's a rainbow. A big beautiful rainbow. How nice it would feel to be able to go up into the rainbow, to become all the colors of the rainbow. As you start thinking this, something wonderful begins to happen. You begin to feel light. It is the rain that is making your feel light, as light as a feather. You begin to float up, up into the sky. You see the rainbow up ahead. Your going up into the rainbow. The first color you go into of the rainbow is purple. Feel purple all around you. Imagine you are purple too. Your whole body is purple like the purple of the rainbow. . .

Floating higher, now the color begins to change. Everything is becoming blue. All around is blue and you are blue too.... Floating up higher the color turns to green. You are

green now too. The next color is yellow. Everything is yellow. All around you and in you is yellow. Turning now into orange ... then red. As you float into the red you notice the clouds moving far, far, away. It's time now for the rainbow to disappear. As it disappears it turns into [white was inserted here but was crossed out] light. You become light also as you then float back down to the ground.

Notice your breathing once again. Make it calm and relaxed. Stretch your arms and legs and your back in the classroom. You're yourself again.

(September 29-October 3, 1987)

2. The ceiling.

Meditation: Look at the ceiling; see [imagine you are looking at the ceiling from high above the earth] from outer space the tops of trees with snow covering [them]. Then land on the earth in the snow.

(September 20-24, 1982)

3. Two minute pose.

Imagine yourself in you favorite place in the whole world. [Feel what it feels like; see all the things around you; hear all the sounds around you; smell all there is to smell. It feels very safe there, relaxed, and happy.]

(November 1-5, 1982)

4. Light as a feather.

Imagine yourself light as a feather. The wind takes you up in the air. [Feel yourself floating in the air; higher up you go. You begin to travel around the earth. Below you see the United States: hills, mountains, forests, cities. You begin crossing the Atlantic Ocean: dark water; waves rolling high then low. You see more land in front of you. You cross more mountains, valleys, cities. Some of the cities are dirty; you can see the little toy cars below you. You cross the tallest mountains in the whole world; there all snow covered. You come to another ocean: the Pacific Ocean; you cross it. You see

whales and dolphins swimming in the water below. In front of you, you see more land. It's California, your home state. You see the school, Mount Madonna. You come in for a landing right in the spot you are at now. Open your eyes.]

(November 1-5, 1982)

5. Going inside.

Go inside [yourself] to the place that is really you. No talking. [Feel what it feels like to be just you.] Some comes there who is mean. We show ourselves and they become nice. We leave but we are going to remember how to get there and that it [this place] is there whenever we need it.

(November 1-5, 1982)

6. Ants.

[It's early morning. It's quiet. You hear some kids getting off the bus. They all line up to go up the hill to their classroom. [You]. . . are ants at Mount Madonna hearing the thunder of children going to school. Run!!! to get out of the way!. Oh [no], some of them spot us. Buddy and Santosh, they're heading and looking at us. [They are] giants, big, and enormous. They have remembered to be nice and are leaving us alone. I'm glad they remembered not to hurt us and were nice.

(November 8-12, 1982)

7. Vowel sounds.

Repeat a, e, i, o, u as long then short sounds. [Have students repeat with you as you start each new sound. Use only one breath for each. Then end with] Om.

(November 8-12, 1982)

8. Pilgrims.

Imagine you are Pilgrims coming over [on your boats] to this country.

(November 8-12, 1982)

9. Native American Indians.

Imagine you are the [Native Americans] Indians and you are watching the Pilgrims coming over to the land you live on.

(November 8-12, 1982)

10. First Thanksgiving.

[It's the] First Thanksgiving of sharing and cooperation. [Talk about how they shared and got along peacefully.]

(November 8-12, 1982)

11. Inner sounds.

[Listen to any] inner sounds [bells, bees, drums, etc.; hear the sounds] changing as we listen; one dissolving into another.

(November 8-12, 1982)

12. Relax.

This is what it feels like after we've played real hard or been running or working. Now we're going to feel our selves become the opposite. Relax your breathing. Rest. Feel your legs become like rubber, like a puddle of water. Let them sink down on to the floor. Now your trunk. From your waist to your shoulders. Your arms. Your head. Everything is relaxed from your head to your toes. Even your fingernails. Your hair, eyebrows, etc. . . . It's almost as though we were like a rag doll. . . . Or a puppet on strings. Now feel the strings moving and . . . your arms are moving, stretching. Feel your legs, trunk. Now you're getting up all rested and refreshed. And . . . no more strings controlling you. You're back moving your own body all by yourself.

(December 6-10, 1982)

13. Waking up.

Imagine you are sick in bed. Your body can't move, but your mind is not sick. Leave your body where it is and get out of bed. You are invisible to everyone and everything. (See animals, brother, sister, mother, pets, etc. In seeing animals you can

get very close since they don't see you.) It's time now to go back to your body as you feel your mother will be coming into your room soon to check on you. Climb back into your body just as your mother walks in the door.

(January 27, 1983)

14. Vowel sounds 2.

(After a wrestling activity, we lay down to rest. Invoked some vowel sounds--- some continuous and long some broken up [like] 0-0-0-0-0 etc.) After the sounds try to feel the sounds still inside you. Even though you can't hear them, they are still vibrating and you can feel them. (Explain how everything you say, think, or feel never goes away; they're inside us and in the universe.)

(January 28, 1983)

15. Super Bowl.

Last night was the Super Bowl, as you probably know. But, you know, football is only one of many different kinds of sports. Imagine your most favorite sport, could be hockey, volleyball, baseball, figure skating, etc. Now imagine that you are playing or doing the sport in front of thousands of people or maybe just by yourself with no one watching. What does that feel like. Pretend you're hitting or catching or running or skating, dancing, etc.

(January 29, 1983)

16. Sitting meditation.

See how straight you can be. [Relaxed but straight.](I went around and checked how straight they could sit.)

(February 1, 1983)

Appendix C

Freedom Versus Discipline In School

How do I get my mind to meditate? Baba Hari Dass has likened it to 'taming a wild horse.' You must sometimes let it run free and other times pull on the reins. And so the age-old question arises of FREEDOM vs. DISCIPLINE in a school environment.

Freedom of choice, movement, and expression are fundamental principles in a Montessori structured classroom. This freedom doesn't give a child the right to make disruptive or destructive actions, nor does it allow violent displays of emotion to go uncontrolled or unchecked.

Discipline, then, plays an important part in securing that freedom. Not teacher or adult imposed discipline, but self-imposed or self-discipline. This is a major departure from traditional educational philosophy which placed the teacher in a position of authority with the primary responsibility of maintaining order, quiet, and an atmosphere where learning can take place.

The question naturally arises, "That sounds so nice, but does it really work and if so how does it happen?"

The answer is yes, and it happens by *directing* the energy (physical, emotional, and mental) of the individual child to focus his attention upon some object of concentration. (Montessori refers to this phenomenon as simply 'concentration.') It is interesting to note that this is the same 'concentration' that is referred to in the different Yoga systems as the precursor to meditation.

A child is presented or introduced to an object or developmental material, found in such a classroom, upon which he focuses his attention. The function of the teacher (director, directress) in this system is to be that link between the materials and the child. The materials are scientifically and specifically designed to stimulate the child's

psychic being and motivate him to explore the material again after the initial presentation.

This exploration of the material again by the child can happen at any time, since the child is free to choose his own work and activities. When it does occur the child will be exercising his will power, thus strengthening it. Because of the innate qualities of the materials, the child's concentration will improve and get stronger, and a feeling of success and accomplishment will arise in him. Since his freedom has not been violated he becomes more self-directed and hence independent. This independence and rise in will power will enable him to be more disciplined--self-disciplined. (*Gateways Newsletter*, April 1984)

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