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An autobiographical study : my personal epistemology of practice

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**AN AUTOBIOGRAPHICAL STUDY: MY PERSONAL
EPISTEMOLOGY OF PRACTICE**

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

Norma E. Rodriguez

May 2000

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ABSTRACT

AN AUTOBIOGRAPHICAL STUDY OF MY PERSONAL EPISTEMOLOGY OF PRACTICE

by Norma E. Rodriguez

This thesis addresses the development of my epistemology of practice. It examines different perspectives of views of knowledge construction. Using the analytical lenses of postmodernism and feminist theory, my narrative autobiographical analysis recounts the steps I took to examine my notions of self as knower and how discoveries of “the self” influenced the development of my epistemology of practice.

My study revealed that I am the result of my educational experience and as a consequence it had a direct impact in my teaching practices. As a result, I have come to realize that my personal epistemology is intertwined with my epistemology of my practice. I have come to view teaching as a never-ending learning process. Teaching is learning.

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I dedicate my thesis to

Leopoldo Rodriguez,

my husband, friend and soul mate whose love, patience, practical and emotional support made this journey possible.

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Preface

Inspired by *Women's Ways of Knowing*, (Belenky, Clinchy, Goldberger, & Tarule, 1986), I called upon the analytical lenses of postmodernism and feminist theory to argue that my personal and professional self are inextricably bound in my teaching. These theoretical lenses informed my need for continuous engagement in self-reflexive dialogue about my practice. My purpose was twofold. First, I brought into question my notions of self as knower, as I looked into my interpretation of knowledge, experience, and abilities to teach. These questions led to my search for understanding the development of my own epistemologies, and the determinants that led to the development or use of certain epistemological categories. Secondly, I wondered if such discoveries of truth about "the self" would influence the development of my epistemology of practice.

The introductory quotes in chapter one capture the beginning of my journey towards a transformation, a type of metamorphosis from a child living without hope, to a "silent being", and finally to someone who begins to uncover the hidden powers within our society that may serve to hinder knowledge construction about science, the self, and the acquisition of voice (Calabrese & Hagiwara, 1999). This personal and professional journey has been a transformative experience that unveils buried sorrows and memories of injustices. Thereafter, it becomes an exploration of possibilities, actions and hopes. Why share this "knowledge making" journey? Would people really care? Would my claims make sense, or even be valid to others? According to Stenhouse (1975), there is a need for teachers to be emancipated from the constraints of traditional teacher development, which is dominated by traditional educational researchers, who, for the most part are more

interested in theory building in a form to be shared within those in the research community, rather than improving the classrooms studied. A. Rodriguez (1999) argues that, "...we have accumulated a great deal of knowledge about teaching and learning, but this knowledge has primarily served the research community having little impact on how teachers teach, or on how students learn"(p. 2). Furthermore, he adds that in order to bring about change in the educational system, "...we must take a closer look to understanding how our actions or in-actions make us either pawns for the status quo or effective agents for transformative social practice"(p. 9). Those comments, and the captivating illustrations of personal experiences which are so similar to mine in *Women's Ways of Knowing*, Belenky et al. (1986) made me realize how important it was for me to share with others the development of my own epistemology of practice.

The following categories or perspectives for knowing described in *Women's Ways of Knowing* (Belenky et al., 1986) were the tools used to analyze my data, as I tried to make sense of how I developed my understanding of knowledge and of myself as a knower:

- a) *Silence*, a position in which women experience themselves as mindless, voiceless and subject to the whims of external authority;
- b) *Received Knowledge*, a perspective from which women see themselves as capable of receiving, even producing knowledge from all knowing external authorities, but not capable of creating knowledge of their own;
- c) *Subjective Knowledge*, a perspective from which truth and knowledge are conceived as personal, private, and subjectively known or intuited;
- d) *Procedural Knowledge*, a procedure where women are invested in learning and applying objective procedures for obtaining and communicating knowledge;
- and e) *Constructed Knowledge*, a position in which women view all knowledge as contextual, experience themselves as creators of knowledge, and value both subjective and objective strategies of knowing (p. 15).

In chapter one I begin my autobiography by first setting a context for my exploration of the self as “the researcher” from the past, to the present in three main acts. The first act takes place before my arrival to this country. The second act can be described as the adaptation years to a new environment, with the third act representing the last ten years of my professional development. In addition, in this chapter I also share my reasons for selecting autobiographical study as my research methodology, ending the chapter with a brief statement of what I believe to be the significance of my autobiographical study and a brief summary.

In chapter two I set the context for understanding my thesis question as I discuss “views of knowledge” in broad ways from different perspectives: positivist through constructivist into feminist theory, and poststructuralism.

In chapter three, I review types of research, paying specific attention to the methodology of autobiographical study, known as a specific type of case study. My study was also informed by a form of action research known in education as teacher research. I used a technique known as narrative inquiry to make sense of the data in my study. In this chapter, I also discussed the theoretical framework I chose to locate my study.

In chapter four, I examined the data collected from the last four years of my practice. In this autobiographical narrative analysis, I used Belenky et al.’s (1986) categories for knowing to uncover my notions of self as knower, leading to an understanding of the development of my own epistemologies. In this chapter, I also began to look for patterns to uncover what had been the determinants that caused each shift or development of each epistemological perspective. Were these determinants situational, strategic, political, or cultural? (Goldberger, 1996).

A summary of the findings and further implications for my practice is the subject of chapter five. Through this autobiographical study, I was able to construct my own understandings of how certain experiences had shaped my assumptions about teaching and learning. I have found that through a self-reflection process, a good teacher is always in the process of becoming through an endless learning journey. In terms of practice, one may continue to grow, if one begins to view “teaching as learning.” For me, such journey began with my exploration of the self in three main acts: I Living without Hope, II Living in a Silent World, and III Learning to Know.

Chapter One

The Researcher and Research

“ To live is to read texts, but to be alive is to write them. Reading is the power by which reality is consumed; writing is the very production of that reality.”

Alan A. Block (1988, p. 177).

“For a long time, living to read was my reality, for I once believed that knowing how to read was equated to having power. Now, I have come to understand that reading someone else’s reality, is just not as real, nor as powerful as when you engage in writing to construct your own understandings about your reality in the process of making sense of it. That is power!”

Norma E. Rodriguez (1999, p. 1).

The Researcher

ACT I Living Without Hope

I was born and raised in a small town named Madera, in the state of Chihuahua, Mexico. My father’s schooling experience was up to second grade. He worked very hard as a laborer to provide us with the necessities to live a poor, but decent life. My mother’s education surpassed that of my father by only four years. However, unlike my father, she grew up in an upwardly mobile family. My grandmother owned a general store, but broke all ties with my mother when she learned that my mother was planning to marry a poor man at age fourteen.

My parents were extremely strict. Violence was used as a method of discipline instead of dialogue. We did not know what dialogue was. We were taught to obey all types of authority. Obedience was equated to being “well educated”. We were taught to fear God, and not to ever question authority. My parents inculcated us that these were

the two rules we needed to exhibit to show people that we were well educated, and well mannered. By authority, they meant everyone who was older than us, or anyone who had status. Since I was the youngest, not only was I subjected to obey my parents blindly, but also my sister who is ten years older than me, and my bother who is eight years older. I was a rebellious, unhappy child. In re-viewing Belenky et al.'s (1986) work, of the stories told by the "received knowers" and the "silent" women, there were no images of rebellion, except for one who spoke of fighting back. However, I was very rebellious towards my parents. Was this a sign of my wanting to liberate myself from such oppression? Were my parents the oppressors? I have concluded that my parents were also oppressed, but by poverty and ignorance. This was a vicious cycle. They were educating us the way they had been educated. According to Brooks (1992), liberation will not be obtained until those needing to be liberated see themselves as hosting the oppressors. However, even if I had seen my parents as the oppressors, how could I have escaped from such oppression? My only reaction was rebellion, which in turn brought punishment. Most of the time, my ideas were not valued. I was to obey my parents and all forms of authority blindly.

I went to school holding the view that in order to be successful in life, all I needed to do was to be obedient. I felt I was there to be seen, but not to be heard. This meant that my job was to listen, repeat, and obey. Therefore, my educational experience in the primary years was that of a "passive receiver". In recalling my upbringing years, my home and school environments were not places that fostered the development of voice. Instead, silence was rewarded.

Is what I lived long ago, being lived by my students today? I often wonder if my students' experiences and mine are similar. In describing my reality, am I describing the

realities of a vicious cycle formed by generations of ignorance? I often wonder how many of my students are in the same situation I once was. I am afraid that many of them are, as I see them looking at me with open eyes when I ask them to share their knowledge or their opinion about a certain issue. They look puzzled, not knowing what I want them to tell me. They want a clue. They want to tell me what they think I want to hear from them. They do not see themselves as capable beings of having their own ideas, beliefs, and opinions. Could it be that they have been conditioned to believe and act the same way I was? The majority of the students exhibit insecurities as they constantly demand to be reassured that what they are producing is what "T", the authoritarian figure wants, not what they need, or want. In this regard, quite often I see myself in my students.

Growing up in a small town was pleasant for the most part. However, once we turned into young adults, there were no higher educational aspirations for two main reasons: Reason one, was our economic condition. The only free education provided by the government was up to sixth grade, which is called "Primaria" in Spanish, (K-sixth grade) or elementary school. If we wanted to go to middle school, (Secundaria; sixth - ninth grade) our parents had to pay a monthly tuition. It was a great economic sacrifice for our parents to send us to secundaria, but they did. My hometown was so small that higher educational institutions simply did not exist. If we wanted to pursue a higher degree, we had to go to the capital of Chihuahua, or another larger city. Our parents, being so overprotective, told us that they would never allow us to go live away from them. However, I think the main reason was that they could not afford it.

After finishing middle school, we knew that our destiny was either to get married, or to begin working as clerks at any general store. My sister's fate was that of getting

married as soon as she finished secundaria, at age seventeen. My brother, on the other hand, opted for coming to the United States illegally at age fifteen. He married at age 17 to a woman who was much older than he was. His motive was to become a legal alien, which he did. Years later, he became a naturalized citizen and joined the army.

ACT II Living in a Silent World

Thanks to my brother's sacrifice, we were able to immigrate to this country. I was only fifteen years old. From my vantage point, the great picture that many people had painted of the great U.S.A was different. I had come to a foreign country where our situation was worse than the one in our own. At least in our country, we owned a house. Here, we rented a small place. My mother who had never work in her life, had to work in what I felt was a servile job.

My hatred towards this place was intensified when I had to face going to school. I have never felt so humiliated, and dumb in my entire life. I opted to escape such painful experience, and my only option was the same as the one I had back in my hometown. Get married, which I did at age sixteen. At that time, I reasoned that no matter where I went, my destiny was the same as all the women in my family before me. I had to follow an ingrained tradition set by many generations back.

Upon my arrival to the United States at age fifteen, and until the age of twenty-five, I lived in a "silent world", always in need of an interpreter. This period was what I believed to be the "silent period" because I equated not knowing English, and being able to communicate in English as being "silenced" (Belenky, et al. 1986). However, as I re-examined my ways of knowing, I have come to an understanding that throughout my life,

whether in English, my second language, or Spanish my first language, I had always been silenced, depending on the context or situation. In this regards I believe I am beginning to construe my own understandings of what shaped my ways of knowing, and being.

ACT III Learning to Know

My life as a homemaker, starting at age sixteen, was less than satisfying. I had a terrible void, which I did not know how to fulfill. I thought the answer was to find work outside home. However, once my son entered Kindergarten I began to see the world from a different perspective. I knew that I needed to learn English, but I also wanted to work so that I could help my husband with the financial matters. My husband was working two jobs. He would leave at 5:00 o'clock in the morning not to return home until 11:00 o'clock at night. I asked my husband for permission to work. I even laugh about the word I used, but my husband had taken over my parents' authoritarian place. Making use of his authoritarian role, he refused to let me work. His excuse was my lacking the necessary skills and language to be employable. He challenged me to go to school, knowing how I felt about schooling, and thinking that I would not take him up on that challenge. The tone of voice he used caused my pride to suffice. At this point, my pride overcame my fears and feelings of inadequacy, and my life began to change.

I was ready and eager to learn. I enrolled in Adult Education taking ESL (English as a Second Language) classes. In one semester, I passed all the ESL levels. Then, I began to take the necessary courses to earn a High School Diploma. Everything was happening too fast for me. A new broad world was unfolding before my very eyes. A year later, I graduated. Instead of feeling joy and happiness, I felt sadness for I believed

my “found freedom” was over. I asked my counselor if I could stay longer for I really wanted to learn. He laughed telling me I would be doing just that at community college. College was not a word in my vocabulary. I thought I was dreaming. This transition was too soon for me, and too difficult. I remembered the long nights I spent rewinding the tape from my tape-recorder, over and over again, searching for words in the dictionary as I tried to make sense of all my taped college courses.

Everyday I went to college thinking I was living a dream. How powerful and happy I felt as I gained a “voice”, and so I thought at the time for I equated having voice to speaking English. Now, I have come to the realization that in reality I never had a voice, except for an inner voice. For feminists researchers a claim to gain a voice in terms of research is “...what the writer has to say, independently, and not by way of summary. This is the development of voice after silence”(Connelly & Clandinin, 1994, p. 423). Without a sense of having a voice, researchers can be doomed to summarize, and paraphrase what others have to say. On the other hand, Belenky et al. (1986) used “voice” as a metaphor that connects thinking and knowing to the capacity to articulate one’s thoughts in public and being heard. In my case, at this particular time in my life I was discovering the power of seeing the world from different perspectives. I was learning about the importance of learning what others had to say about a certain subject. I was fascinated to see others “talk back” to the authors, or instructors by stating their own points of view based on their own experiences. I judged those people as being extremely intelligent. Although I wanted to imitate them, I could not do the same. I was only able to summarize and repeat what others were saying either through writing or orally, but I equated this experience as powerful and as the beginnings of gaining a voice.

This position soon changed. I was “silenced” again, by what I believed at the time, to be a “well-intentioned” professor. This professor advised me to “get rid of my accent”, by checking out books on records. At this point, I was still functioning at Belenky et al.’s (1986) second epistemological category of “*Received Knowledge*”. I considered myself capable of receiving knowledge, and even reproducing it from all external authorities (p 15). Unquestioningly, I followed y professor’s advice to no avail. Once I realized my accent was not going to disappear, I returned to “*Silence*”, the first epistemological category described by Belenky et al. (1986).

Through my analysis of the development of my own epistemology of learning and teaching, I came to understand that different points, perspectives, and experiences produce different answers. If I was to be involved in the same situation now, my response and interpretation will be different. My period of “*silence*” did not last for a long time. Another professor, making use of her authority brought to my attention that I was failing her course because fifty percent of the grade came from class discussions. I was very upset and shared with this professor the reason for my lack of participation. This professor claimed that education gives “voice”. She strongly believed that education empowers people to stand up for their rights and beliefs? Furthermore, she claimed, that erasing my accent was equivalent to erasing myself from existence. Her words were harsh, but they provoked in me the necessary reaction to become active in certain discussions.

In a paper titled, *Awakenings* I wrote, “One teacher had taken away my voice, but other teacher had given it back to me” (N. Rodriguez, 1999, p. 3). Even at this point in

my professional life, I saw people in power, for example my professors, as having the authority and the power of giving, and or silencing a voice.

As I reviewed my data sources, I did not see myself moving from one epistemological category to the next in a hierarchical format. Some have argued that these epistemological categories of knowing appear to be arranged in a stage-like format. Nevertheless, Belenky et al.'s (1986) model of women's ways of knowing, or Goldberger's (1996) "strategies of knowing" have been important and useful texts which served to stimulate my own thinking as I examined my own ways of knowing. It also served as a model to identify the determinants that caused certain ways of knowing to either evolve or shift. Were these determinants situational, strategic, political, or cultural (Goldberger, 1996)? Do certain situations call for a certain epistemological category? I recognize Belenky et al.'s model as very useful, but I must be aware of Brooks' (1992) recommendation in that "...if we are going to take seriously this model, it must enable us to examine our assumptions of power, sexuality, gender, race, and class" (p 59). Such examination will be discussed in detail in chapter four.

The Research

Why Autobiographical Study?

In studying research traditions, I was impressed and drawn to the analytical lenses of postmodernism and feminist theory for its inclusive forms of research. The particular method used in my research was an autobiographical study where I began to question, challenge, and analyze my practice through postmodern theoretical frameworks. These critical examinations of my own experiences as a practicing teacher, take place in the form

of inner dialogues through self-reflection. These dialogues were centered on my quest for understanding the development of my own ways of knowing, and how such views might have had an impact on my teaching experiences. At the same time, I tried to make sense of how my personal and professional knowledge are intertwined.

This task was arduous and sometimes painful for it required total commitment. Nias & Groundwater-Smith (1988) describe the main points of this process as follows: "To gather evidence about, to reflect on, and perhaps to change one's own professional practice, require self awareness, self-evaluation, self-reflection, and self-doubt" (p.3). Kridel (1998) believes the outcomes of such process can be powerful in that, "...such work can help us show how we have come to teach and learn by examining social, cultural, historical influences, and framing of our particular educative processes and beliefs"(p. 228).

Through this reflexive process on my daily life experiences, my hope was to become enlightened as I tried to discover any hidden symbolism about such experiences. This is very similar to what Freire (1970) describes as "conscientizacao", the process of conscientization or enlightenment that becomes part of praxis. Telling a life in the form of autobiography is a catalyst for reflection and growth in that, "It demands to understand the self as an agent: Here is what I have been made; here's what I make of what I have been made; here's what I will do with what I have been made" Kridel (1998, p. 244).

Using Grundy's terms to define curriculum, could this research be praxis or product? (Grundy, 1987). According to Freire (1970), the act of reflection and action constitutes praxis. Furthermore, " ...the act of knowing involves a dialectical movement which goes from action to reflection and from reflection upon action to a new action"

(p.31). Grundy (1987) argues that praxis can only be obtained through action and reflection.

My study adhered to the following research premises:

1. Reality and knowledge are socially constructed
2. Human variables are complex, interwoven, and difficult to measure empirically
3. The specific purpose of this study is one of “personal inquiry”. As I reflect on my practice, I have tried to examine, explicate, and evaluate its effectiveness.

Any conclusions drawn from my reflections are not intended to be regarded as generalizable facts. Nor is my intention to suggest its use for predictions of future interactions in similar situations. Rather, this research’s intent is to record my voice as I reflect the meaning of my life-experience in the classroom, and to document any words and actions that could be interpreted as a gain in my personal professional empowerment or a move towards emancipation. Through my autobiographical study, my intention was to discover how certain relations of power, in terms of personal and educational experiences, worked to either hinder or enhance my personal and professional development. Basically, I wanted to find out what experiences prepared me for the most part to become a good teacher.

The most important task of teacher education is to help prospective teachers to face themselves, so that they may face their students. In doing so, the teacher will be able to do what she/he must do, and that is not to merely transmit information... The interest of the teacher is to protect the conditions under which each student in his or her own way can find his or her way (Sumara & Carson, 1997, p. xxx).

In applying what Sumara & Carson suggest, it makes sense to define myself by facing my doubts, and fears, so that I can face my students. In other words, I must be genuine so that my students can have the freedom to be themselves. This quote clearly defines my belief of what my role, as a teacher should be. This is my belief, but what is the reality? In what form is this belief portrayed in my practice? Is it through my interactions with students, parents, and colleagues?

I want my students to become self-motivated learners, but how can I empower someone when I feel so disempowered? Why do I care about empowerment? What is empowerment? In facing myself, I believe my caring about empowerment stems from my own education. I was a product of an educational system that did not prepare me for higher education and the work world. I was a student who sat passively in neat rows for the most part absorbing knowledge dispensed in the traditional manner; fragmented de-contextualized pieces that were to be memorized for the later reproduction in the form of a test. This kind of education produced me, a person who until recently was passive and obedient. Unable to think critically, integrate knowledge with lived experience, and to act on my learning, I tended to believe everything I read, and or was said to me in the form of lecture. I regarded my teachers, instructors and professors as all knowing and powerful mysterious adversaries who could not be questioned, or challenged.

Significance of my Autobiographical Study:

Freire (1970) made a statement that "...every educational practice implies a concept of man and the world" (p.5). Through my autobiographical analysis, I learned that what I teach, and the way I teach reflects my values and personal experience.

Furthermore, this reflective inquiry of my practice was instrumental in discovering and unveiling, certain kind of concepts and assumptions, regarding curriculum and instructional practices held throughout my profession. In particular, I came to understand how those assumptions and beliefs have helped or constrained my students' learning, or my own teaching. In sum, I am looking at how my professional, public knowledge have been influenced by my personal, private knowledge.

I believe that every educator would benefit from confronting these issues and deciding upon a theoretical framework to use as a guide for their teaching. In my autobiography, I have used the analytical lenses of postmodernism and feminist theory to frame my research. Furthermore, my research was undertaken in the emancipatory spirit of action research, which encourages educators to move towards a life-long engagement of inquiry into practice. I believe that through teachers' attempts to redefine the relationships of knowledge about teaching and learning, we will be able to construct classrooms' climates where different invitations to learn to know will be offered. In this type of settings students could ask the questions, not only answer them; they could pose, not only solve problems; and help to construct curriculum that it is meaningful and relevant, rather than continuing to be passive fact receivers, and mere consumers or reproducers of knowledge. In my case, through my autobiographical study, I have engaged in the production of my own epistemology of practice.

Summary

In this chapter, I begin my autobiography by examining myself as researcher in three main acts. Starting from past to present as I tried to uncover how these acts shaped

my stance in the educational system today. Followed by an explanation of why I selected autobiography as a methodology for my study. The chapter concludes with a statement of what I believe to be the significance of my study.

In what follows, I will explore views of knowledge construction from different theoretical perspectives (see figure (A) p. 18).

Chapter Two

Understanding Knowledge: Different Perspectives

**“Knowledge is constructed, not given, contextual, not absolute; mutable, not fixed.”
(Belenky et al., 1986, p.10).**

Preview

In this literature review, I first set out the educational context for understanding my thesis question of my notions of self knower, as I looked into my own interpretations of knowledge, experience, and abilities to teach, leading to the understanding of the development of my own epistemologies, and possible influences on the development of my epistemology of practice. The educational context describes the paths of educational reforms that I traveled as I questioned the powers at play behind such reforms, and its impact on my professional stance, leading to an understanding of my place and purpose in the educational setting.

Next, I set forth a foundation for my thesis question by discussing “views of knowledge” through different theoretical lenses, as I try to understand how these views account for how knowledge is composed. I begin by looking at construction of knowledge through positivist lenses. From positivism, I move on to examine knowledge from a constructivist perspective. Within constructivism, I discuss four major positions: (a) Piagetian constructivism, (b) Social constructivism, (c) Critical constructivism, and (d) Radical constructivism. In the final section of my review, I discuss feminist theory, and the meaning of knowledge from feminist perspectives. One theoretical frame within feminism is postsructuralism. This is the primary lens I have selected to interpret my work. While my presentation of these “views of knowledge” appear in a linear fashion, in no way

am I endorsing or making statements that this is the way knowledge is acquired. It is presented as such, only to make it more convenient for the reader.

Context Setting

Belenky et al.'s (1986) introductory quote about knowledge resonated with me at the personal level because I now believe that knowledge is constructed, but at the same time at my professional level, I continue to struggle with the following notions: If knowledge is constructed, what type of environments lead to such constructs? Over the course of my life, how did I acquire knowledge? Under what circumstances does one acquire knowledge? As educator, am I providing a context in which knowledge is created? Do I create such environment? What theoretical lenses inform how such context should be created? If I were to use an analogy to describe knowledge, I would compare it to a game in which the rules are not accessible to all, only a selected few. In this game of "constructing knowledge", who are the players? Who are the masters who develop the rules? Who is allowed, or invited to be part of this game? In attempting to find out how this game is played in my classroom setting, and identifying my role in such an important game, I found myself caught up with exploring the meaning of knowledge from a personal standpoint. What is knowledge?

Caught up in this dilemma, I realized that only after I become conscious of the influences that have shaped my personal understanding of knowledge, and the ways in which I believed knowledge is constructed, will I be able to move on to examine the context of my classroom, at a professional level. It will be through this process that I will

become cognizant of the ways in which knowledge is generated. The result is the development of deep understandings about my own epistemology. It is in this way that I have initiated my search for answers to questions such as what personal or professional influences have shaped my perceptions of self as learner and as educator? To what extent and in what manner do those perceptions reflect my practice? As I tried to find one answer, more issues and important questions arose. For example, how have I, over the course of time viewed the construction of knowledge? Has this view undergone any changes? What have been the causes and the effects of such changes? Most importantly, how have such changes affected my own practice? I think these questions are very important. Like Brooks, (1992) I am working to arrive at an understanding of how I came to know in an intellectual way.

Through my reflections about my actions concerning my practice, I began to entertain and explore those questions hoping to gain a deep understanding of how my beliefs and assumptions about knowledge had shaped my practice. As a result, I realized the major role that mandated state reforms had played in influencing my practice.

In the past decade, I have witnessed many attempts to bring about educational transformations for the betterment of education. Many commissions, panels, and working groups have issued reports with lengthy recommendations on how to "fix" public education (Newman, 1998). For the most part, these approaches to reform have not proved to be efficient in delivering its promises. One problem is that most of the time the theoretical views of educational researchers, outside experts, and well-intentioned reformers have limited connection to classrooms' reality. Therefore, innovations, and

ideas come and go, but the practitioners' actions in the classroom for the most part remain static.

Presently a new top-down reform trend is now being proposed in some states and implemented in others. This trend demands that I transmit knowledge or teach to the state mandated standardized tests. These standards-based school reform movement and teacher accountability movement, each with the promise to improve student learning are conflicting with my beliefs of what needs to be done to improve student learning. Based on my personal knowledge and experiences as a learner, in depth studies of curricula's historical trends, and major theoretical positions, it appears to me, that these state standards-based reform movements represent a huge step backwards.

It has been argued, that if educational reform is to be successful, teachers, researchers, and others concerned must work in collaboration by taking a theory-to-practice approach (Pinar, 1980, 1994, 1999; Pinar, Reynolds, Slattery, & Taubman 1995; Grumet, 1980; Miller, 1980; Giroux, 1980; Wells, 1999). Now more than ever, teachers are being pulled into many directions, carried by external constraints, measurements and unrealistic expectations. For these reasons, the urgency of becoming engaged in searching into our philosophical, psychological, and sociological assumptions that underlie our practice becomes imperative. Miller (1980) adds that there is a need "...to align the private selves into authentic relationships with their public selves and with others must be driven by the goal towards self improvement, and empowerment" (p 36). Undoubtedly such narratives would present a counterchallenge to the many assumptions that underlie the present educational system. Newman (1998) argues that only "...through these challenges genuine educational reform will occur"(p. xii). Furthermore, Doll (1993)

contends that engagement in "...reflective practice hones and refines the practitioner's personal and individual competence generated through own reflections of living practice" (p 46). Similarly, (Newman, 1998) adds, "...critical reflection is a means in which teachers transform their beliefs and practices. Once teachers take this kind of critical stance in their work, they become engaged in a continual process of self-questioning and self-renewal" (p xi). Reflection on practice can be catalyst for deeper self-awareness and understanding through unification of personal and professional values. Through this process, teachers are the only individuals who can gain entry to the body of knowledge of identifying and developing the specific type of knowledge needed for reform to take place. Furthermore, students will benefit from the awareness and development of teachers' cognition and subsequent use of knowledge. Such knowledge can be uncovered through thoughtful use of narrative inquiry.

I have used this approach for my autobiography because I believe it to be a "transformative" process. It begins with the reflections of my own tacit understandings, therefore bringing about a dual process of "... (1) bringing understanding to consciousness, and (2) changing them at the same time" (Doll, 1993, p. 62). Such transformative process was instrumental in bringing about a better understanding of myself and my practice. Once I understood what I was doing, and why I was doing it, I was able to start studying, critiquing, and taking action. Although I am aware that critiquing one's own practice for public audience can be risky business, it is my hope that it can also provoke further inquiry as readers consider similar questions about their own beliefs and practices. My reality, and narrative might not hold truth for everyone, but at least it resonates a true and honest conviction of what I believe to be the way to construct knowledge for myself. It is

through this process of self-critical reflection, that I have tried to make sense of my lived practice, with the sole purpose of understanding it and improving it.

In adopting Miller's (1980) purpose for autobiographical study, I propose to use my biographic vignette as "... a conceptual tool with which to examine underlying assumptions and expectations that guide the person who chooses to become an educator" (p35). My main purpose was to become cognizant of the myriad forces that shape and characterize the field of education, and how such forces pervade to maintain the status quo. Now I am more inclined in finding and using "...ways of knowing that do not perpetuate power imbalances" (Lather, 1989, p. 251).

Understanding of how my private personal knowledge interrelates with my public professional knowledge is driven towards self-improvement, and empowerment. In this manner, my narrative can present a counterchallenge to the many assumptions that underlie the present educational system. According to Newman (1998), "...it is through these challenges that genuine educational reform will occur" (p. xii).

In what follows, I review positivism, constructivism, and feminism as three basic research paradigms that provide context for contrasting perceptions around the following central questions: Who can be a knower? What can be known? What constitutes, and validates knowledge? What is the relationship between knowing and being? From positivism to constructivism, and finally a feminist poststructuralist theoretical lens I come to view theoretical perspectives (ways of seeing) and epistemologies (ways of knowing).

Positivist View

The legacy left by modernism thinking is that science would lead to human perfectionism due to the scientific and technological advances of the Industrial Revolution. This view developed a strong faith to the possibilities of using science to solve all problems faced by humankind (Doll, 1993). This faith in the law-like predictability of life has been called “positivism” or the “positivist view of science” (Kincheloe & McLaren, 1989; Kincheloe, 1991,1993). In taking a positivist view, the researcher uses the scientific method to seek objective realities and absolute truths. Empiricist methods of data gathering are used, and knowledge is expressed as factual statements that can be replicated by other researchers with the goal of checking the reliability in reproducing the exact results (Bassey, 1990).

This method leads to the “rigidification of the norm and the silence of those of us who are different” (Gitlin, 1994, p.112). In sum, a positivist view of knowledge offers one way of knowing which is limiting, and excludes or silences many voices. This attempt for seeking knowledge requires complete objectification. In order to achieve this requirement, throughout the course of the study, the researcher takes an impersonal and distant stance and in the final reports, she/he refers to herself/himself as “the researcher”, instead of “I”. Empiricist researchers believe objectivity serves to prove the validity of their work, for they claim it to be free of subjective preferences and personal biases (Burke, 1998).

The philosophy of science has long shown that as an epistemology, positivism is flawed; although some of its methodological tenants continue to retain a strong hold over

practice of empirical research, limiting its contribution to educational problems (Robinson, 1993). The aim of logical positivism was to challenge philosophy and the study of human affairs by excluding the use of metaphysics and all the theories about unobservable abstract and moral issues (Robinson, 1993), on the grounds that "...the methods of social science, with emphasis on objective empirical inquiry, were the only appropriate methodology for the investigation of social life" (p. 190). Any knowledge claims that did not follow this rigid methodology were regarded as unworthy knowledge claims. In terms of my personal knowledge, this model would regard my knowledge claims as unworthy.

The love of science and seeking knowledge through a positivist way became embodied in a "technical rationality". Under this tenant, reason was believed to be controlled and defined by science (Doll, 1993). School was the training ground for future social industrial participation, giving way to the development of the modernist curriculum based on such rationality. This linear task-based educational framework was considered a "close system". Doll (1993) describes such systems as

...being centered, stable and looping back on themselves in a mechanistic cause-effect "negative", (equilibrium seeking) way, find disruptive qualities too decentering. Curricularly, these disruptive qualities take time from the "task at hand", and create "noise" which the system wished to overcome or eliminate as quickly as possible (p. 14).

Learning, in a closed system model, was "...limited to the discovery of the pre-existent, the already known. Here there can be a transmission of information but not a transformation of knowledge" (Doll, 1993, p. 31). In reviewing my schooling experiences I became cognizant that I am the product of these types of closed systems, and that they are still common in many schools today. In this type of classroom setting, teachers have

the sole power to talk, but students must ask permission to do so. A classroom with obedient students sitting quietly is often judged as a well-managed classroom. On the other hand, students who refuse to comply by staying “off task” and creating “noise”, are believed to be too disruptive. Often times, these disruptive students are sometimes creating “noise” in an attempt to be acknowledged, or as a way of communicating their rage as they rebel against an unfair system. This student resistance to an unfamiliar classroom approach can be manifested in overt disruptive actions, or by withdrawal and silence (Shor, 1987).

This modernist educational paradigm mirrored the industrial world. Giroux, Penna, and Pinar (1981) describe how schooling assumed the doctrines of conformity and homogeneity through its technocratic rationality as follows:

Not only does the language of this mode of rationality conceptualize the nature and function of schooling in industrial terms (that is, schools are seen as factories, and students as raw material), it also supports modes of behavior and goals premised on the need for a form of social control dedicated to social homogeneity and group conformity (p. 150).

The metaphor of a production-oriented classroom borrows its rhetoric and intent from industrial models. Classroom teachers receive “teacher proof” textbooks or pre-described curriculum to provide assurance that time in the classroom is not wasted and that such prescribed curriculum is followed (Shor, 1987). The act of learning in such scenario becomes a by-product of a robotic-teacher’s orderly presentation of facts to be memorized. Grundy (1987) describes such curriculum as being driven by a “technical interest”. She suggests, “...this interest is being congruent with the agenda of empirical-analytic science” (p.11). Furthermore, as we implement curriculum informed by a technical

interest she notes that, "...it will not facilitate autonomy and responsibility because it is an interest in control" (Grundy, 1987, p. 17).

How we think about teaching and learning can affect our practice to either change or maintain the status quo, norms, and values of society. Such values are maintained through a process called hegemony (Kincheloe, & McLaren, 1989). Hegemony is the transmission of dominant beliefs or culture. Furthermore, Kincheloe, & McLaren (1989) believe that hegemony is not an act of active domination, but a socialization and acculturation whose function is assumed by dominant-controlled schools, media, government agencies, and other social institutions. In becoming a reflective practitioner, I have been able to identify instances when, unconsciously, I have been engaged in the process of hegemony.

In many instances, unconsciously our actions as educators are stifling to the learner's education. We do not trust our students' abilities to learn, and feel we have to show them how to do everything. Such acts only lead to disarm students of their own thinking process. Then, after we disarm them, we become overwhelmed as we try to meet everyone's needs, as they continuously seek our approval on everything they do. In my own teaching experience, I have encountered many students who do not believe in their abilities to construct knowledge for themselves. Their actions show that rote memorization and recitation of facts devalues interpretation and analysis. When I give them the opportunity to share their interpretations of a text, or their views, they look at me mysteriously, as if they are trying to guess what is it that I want them to tell me. Such instances demonstrate the product of what Kincheloe (1991) describes as the invisible political dimension of schooling, whose sole purpose is the production of individuals

suitable to the needs of the work place. Some educational researchers describe this phenomenon as “pathological symptoms” where the educational researcher’s job is to seek the right “antibiotic treatments” (Gitlin, 1994, p. 81) to cure these illnesses, and where our job as teachers is to follow the researcher’s recommendations.

In viewing knowledge from a positivist perspective, I see it as an “objectivist” model that serves to maintain the doors closed to a broad majority. It opens the doors to a selected few, but it mainly serves to maintain the status quo. The American culture and educational institutions have been influenced by the positivistic view of knowledge for centuries. Now, however many scholars have begun to criticize this positivist world view by claiming that it leads to the dehumanization of social and political institutions, and contributes to the domination and manipulation of disempowered citizens (Giroux, 1983; Kincheloe, 1991; Kincheloe, & McLaren, 1989). These criticisms and concerns have created a shift to a new way of viewing science education.

Is a constructivist approach the answer? Would such approach ignite interest in both, teachers and students to unleash the critical thinking that perhaps, would move society forward to the questioning of the status quo, and the norms that are now in place to legitimize knowledge? In using Belenky et al.’s model to analyze the development of my personal and professional epistemology I am engaged in constructivism. *Women’s Ways of Knowing* has been described as a contemporary classic in the literature of constructivism because of its “...emphasis on the active participation of the knower in the structuring processes. It is also an approach to epistemology that resonates deeply with the central tenets of feminist theory” (Mahoney, 1996, p.129).

In what follows, I discuss constructivism in general, including a discussion of the following possible positions within constructivism: Piagetian or developmental (Fostnot, 1993), sociocultural (O'Loughlin, 1992; Tobin 1990, Tobin & Lorschach, 1999), radical (Von Glasersfeld, 1987,1992), and critical (Hildebrand, 1999).

Overview of Constructivism

Constructivism is an epistemology that emphasizes active participation from the part of the knower in the structuring process that characterizes knowing (Mahoney, 1996). Constructivism rejects “detached” knowing, and adopts a more “connected” knowing from the knower and the known. I first learned about constructivism during my teacher preparation year in my science methods course. I was delighted with the idea of providing students with many opportunities that would allow them to make connections to prior knowledge as they generated new knowledge. I was eager to develop a constructivist classroom. As I learned more about constructivism, the idea made perfect sense to me, but at the same time, I was puzzled as to how to put this theory into practice. It was very difficult for me to implement something that was incongruent to what I had experienced in my own learning, and to what I believed to be a good model for learning. Throughout my childhood, adolescence, and up to my preparatory courses for teaching, the only relationship of teaching and learning I had been exposed to and grown to understand and accept was that of teachers dispensing knowledge. Constructivism challenged those ideas as I began to understand its value.

Constructivism is a theory of knowledge used to explain how we know what we know, and it is increasingly used as a theoretical rationale for research and teaching

(Tobin, 1990). It represents a move away from the positivist view of knowledge (Pereira, 1996). Constructivism is not a new concept, its roots can be traced to philosophy, and it has been used in the areas of sociology, anthropology, cognitive psychology, and education. In the area of education, constructivism can be traced back to the 1960s and 1970s when it was introduced in a reaction against the major forces that dominated science curriculum reform. Under such premises, educators view knowledge as something that is acquired, something residing in books independent of the learner. In other words, “others” have created knowledge, and the teachers’ job is to pour this knowledge into the learners’ heads. In this sense, science is conceptualized as the pursuit of “truths” in the form of theories, laws and principles associated with “reality”. Whose reality?, would be a reasonable question to ask. Those who defend constructivism, claim it to be an epistemology, which holds the following premises: (a) knowledge is constructed, not transmitted, (b) prior knowledge impacts the learning process, (c) initial understanding is local, not global (Dougiamas, 1999; Driver, Asoko, Leach, Mortimer, & Scott, 1994; Fostnot, 1993; Fraser, Butler, & Tobin, 1992; Von Glasersfeld, 1992; O’Loughlin, 1992; Pines & West, 1986; Pereira, 1996; Tobin 1990; Tobin & Lorschach, 1999; Hildebrand, 1999). Approaches informed by constructivist epistemology, value understanding of concept, over coverage and memorization of unrelated facts, with Piagetian constructivists arguing specifically for developmentally appropriate practice.

Piagetian Constructivism

Piagetian constructivism is derived mostly from Piaget’s developmental theory. Jean Piaget, a well-known biologist, philosopher, and psychologist believed that learning could be explained as an active experience between the learner and its surroundings. He

postulated the development of cognitive schemes formed through individual's interactions to their particular physical environment (Driver, et al., 1994). Intellectual development was explained as equilibrium, which is achieved through assimilation and accommodation of such experiences (Fosnot, 1993). Thus, the acquisition of knowledge can be explained as a process of conceptual change.

Those of us who hold constructivists' views of knowledge, believe that learning is an interpretative process. It is the construction of knowledge by individuals, as sensory data are given meaning in terms of prior knowledge (Fraser, et al. 1992). This construction of knowledge depends heavily on our previous experience, as the brain tries to assimilate incoming information with previous familiar experiences. Many of our experiences tend to be totally different or unique, leaving room for prejudice because, as Pereira (1996, p.26) states "...we do not see the world as is, but as we are". Moreover, he contends that there are two basic principles of constructivism:

1. Truth is not absolute; we can only construct viable explanations of our experiences.
2. Knowledge is not passively received; it is actively built by the learner (Pereira, 1996, p 26).

These two principles carry a tremendous impact on my understanding of both my personal and professional knowledge because it implies that learners bring to the classroom different views of the world, and different meaning for words. Ignoring this base knowledge may be misinterpreted by the learner in internalizing a definition of knowledge that may be projected by rote memorization or an ability to regurgitate information verbatim. I developed my view knowledge in that process. The danger here

lies in the teacher's lack of awareness that these projections do not exemplify learning or conceptual understanding (Pines & West, 1986).

Alternative Positions and Critiques of Piagetian Constructivism

Ausubel (1968) is another educational psychologist whose work has influenced constructivism. He contends that the most important single factor influencing learning is what the learner already knows. In a constructivist setting, the construction of knowledge by the learner is aided by the teacher in bringing the students' prior knowledge to the surface, by facilitating a way to bridge the two experiences: thus knowledge construction may be facilitated by the teacher's instruction, but it is not seen as direct consequence of instruction. In addition, in this type of setting, knowledge is not objective. This does not mean that constructivists do not believe that factual knowledge is not important. What they do believe is that concept understanding should precede factual knowledge. It is on these grounds that Osborne (1996) bases his critique of constructivism by contending that,

Constructivism has focused very strongly on the resilience of the learner's beliefs and social construction of reality. When such features are the focus, there are other features which are blurred and out of focus, if not out of the picture altogether, and the consequence of the concentration on these issues has led to serious epistemological flaws in these constructivists' conceptions of science, that is, the manner in which new knowledge is made. (p. 54)

Does this mean that we should not take into account the knowledge the learner brings into the classroom, because if it is not originated from a book, or some type of formal instruction, it does not fit the "legitimate" or "valid" knowledge definition? In my opinion, this is probably the main reason students shy away from science. Science has

been epitomized in such a way that students are discouraged at a very early age from swimming these elitists' waters. Many see science as something that only "smart" people can do, and only those in power can have access to it. In this sense, science is farther away from reaching all. At the same time, we are so busy trying to cover curricula from start to end that we either do not know how, or do not have the time to critically examine whose interest the curricula is serving. For the same reasons, we also shy away from becoming researchers of our own practice. How then, can we hope to have future student population become interested in doing science? Is knowledge the act of memorizing someone else's theories, or is it analyzing and criticizing existing theories with the purpose of developing new ones?

Constructivism is an ideal approach to the teaching of science where the teacher's role is not that of dispenser of knowledge, and where the traditional objectivist model to teaching is not being used. In setting a context in which knowledge is generated or created by the learner, I must first determine what is knowledge. Furthermore, if the ultimate goal of science education is knowledge creation, not reinstating something found on a book; then through the analysis of my own experience as knower, I must discover what type of environments foster this type of learning. My personal experience informs me of a direct correlation between knowledge construction to the environment where knowledge is produced, but I continue to struggle with the polarity between adopting the theory of constructivism to inform my practice, and the push towards the implementation of curriculum which is informed by the technical interest. I feel that I am being pushed towards a traditional American classroom practice, where teacher-centered instruction is the norm.

In trying to reconcile this duality, I begin to see a systemic problem. How can teachers teach in a student-centered format, when in a way, we are being set up by the system to continue with "business as usual" as we are handed down a set of curriculum binders with objectives driven by tests which emphasize rote memorization of facts? In such case, we become overwhelmed by the large volume of facts that must be mastered in a short period. The result is sacrificing of student learning with understanding, over completion of curriculum mandated content coverage.

In spite of all the promises that constructivism represents, science education remains largely what it has been for decades: an indoctrination of facts, which is breeding ground for uncritical and scientifically illiterate student population (Roth, McGinn, & Bowen, 1996). The goal to implement a student-centered-active learning pedagogy continues to present a tremendous challenge for me, as well as for many elementary school teachers. In this manner, reform represents a challenge for the teacher, and when the appropriate support is not provided for its implementation, unsuccessful reform tends to be the result.

Why is it that, even though a call for reform on science education through constructivism has influenced American schools for over two decades, it has had little or no impact on student learning? According to research conducted by Tobin (1990), such reforms have failed because teachers and students are largely ignored by designers, who for the most part, developed units of study of what they felt ought to happen in the classroom, irrespective of the context in which such curriculum was implemented. Indeed, many of the constraints in implementing educational reform are that teachers are given prescribed curricula to be implemented. Often, this curriculum is very irrelevant to the

students' experiences or prior knowledge. In this sense, instead of becoming agents of change, teachers themselves perpetuate a "Transmission Model of Learning" in which students are passively collecting knowledge (Hildebrand, 1999). How can teachers be enthusiastic about teaching in this manner, when they are not seeing themselves as knowledge creators? Instead, their sole job is to transmit knowledge from a teacher's manual.

In order for real change to occur, it must not come in the form of outside mandate. Instead, teachers must lead the change to reform from their classrooms. One way to do it is through reflection of thoughts in relation to actions, and actions in relation to thoughts about teaching and learning. As classroom teachers, we must construct our own theoretical knowledge about teaching and learning (Tobin, 1990).

Another barrier to change surged as the myriad of interpretations about the meanings of "hands-on", and "process skills" emerged, during the time when reform was being translated into practice. Vesilind & Jones (1996), note that this obstacle stems mainly from lack of agreement on the meaning or type of reform strategies. They warn that because *hands-on*, *process skills*, and *integrated instruction* have come to represent philosophies of science education, any confusions about their meanings can be harmful to science education reform. Furthermore, they contend that for reform to take place, time must be allocated for discourse, negotiation of meaning, and reflection among teachers (Vesilind & Jones, 1996). Such negotiation of meaning, and learning through these special dialogues is an integral part of social constructivism.

Social Constructivism

Social constructivists sustain that truly personal knowledge cannot exist because all knowing is firmly established through social, cultural, and historical contexts. They claim that the "...personal agency and the experience of a private self are illusions" (Mahoney, 1996, p. 32). According to Maher & Tetreault, (1996) "...learning is constructed not only by individual minds but through social exchanges" (p. 150). Vygotsky (1978) is referred to as a "social constructivist" because he believed that learning takes place through social interactions. His basic view was that learning a concept was achieved through a process involving an adult and children. The adult's role was to provide the learners with props and hints that would then prompt students to discover.

A social constructivist perspective admits that learning science is a social construct of knowledge, which involves dialogue among individuals in a group as they generate their own understandings by negotiating meaning through explanations and questions about a symbolic world. Furthermore, learning science involves both personal and social processes. These processes are further developed through student interactions. It makes sense to assume that learning is a social endeavor. It is through this group discussion that activation of learners' prior knowledge takes place. This activation is imperative for it is during this critical time that the learner makes connections from what is being introduced, with what is already known. Students should be encouraged to engage in the process of learning through group discussions. Any discrepancies discovered at this point are further researched and discussed to reach a consensus (Driver et al., 1994). Once this process is achieved, it must be taken one step further. It should not stop at what

has been learned. In this process of negotiation, students should be encouraged to compare the knowledge constructed in class with the knowledge generated from a community of scientists. This engagement can lead to the analysis of resources such as books, videotapes, and practicing scientists, leading to students' discovery, that what is regarded as a "viable" theory depends very much on what is known at the time (Tobin & Lorscheid, 1999).

According to Vygotsky (1978), the range of skills that can be developed through peer collaboration and adult guidance exceeds those of what can be achieved working in solitude. Furthermore, he argues that achieving full cognitive development requires social interaction. According to Tobin (1990), "Constructivism is a theory that assumes knowledge cannot exist outside the bodies of cognizant beings" (p. 30). Furthermore, constructivism is a theory about knowledge and learning, which can be used to explain how we know what we know. Similarly, Brooks, (1992) claims that in using autobiography as a research tool she was able to discover the impact that people can have in our development of knowledge, or in seeing herself as producer of knowledge. She claims that through the development of her autobiographical study, she arrived to an understanding that knowledge is socially constructed. In a similar way I am discovering how certain experiences and significant people either stifled or enhanced my views of myself as knower, and what social, political, or cultural determinants gave way to my use or development of certain ways or strategies of knowing (Goldberger, 1996).

Radical Constructivism

On the other hand, any one who claims to be a radical constructivist is said to have total freedom in changing, creating, and constructing his or her own personal experiences. Radical constructivism is regarded as “extremely agentic and individualistic epistemology” (Mahoney, 1996, p.132). Radical constructivists believe that individuals totally create their personal realities, without the social influence proposed by social constructivists (Mahoney, 1996). Furthermore, radical constructivism contends that knowledge alone is not good enough. We must act on that knowledge. In this sense, we must seek knowledge to change oppressive situations through social actions. Furthermore, radical constructivism looks at constructivism within a cultural and social environment and adds a critical dimension to it, with the goal of reforming those environments for improvement. Radical constructivism describes the creation of knowledge as follows:

Coming to know is a process of dynamic adaptation towards viable interpretations of experience. The knower does not necessarily construct knowledge of a “real” world (Dougiamas, 1999, p.5).

Here, the notion of external reality is challenged. Who are we to define someone else’s reality? Under this tenant, we are responsible for constructing knowledge based on our own realities. In addition, it contests science’s assumptions that external reality is well behaved and capable of being explained. Knowledge cannot, and should not be static. We never stop constructing knowledge. What is viable today may change with time as new evidence becomes available. Furthermore, radical constructivism does not deny an objective reality. “Truth”, in traditional epistemologies is replaced by “viability”, bounded by social and physical constraints (Dougiamas, 1999).

Critical Constructivism

Critical constructivism is an approach to epistemology that resonates deeply with the central tenants of critical theory and feminist theory. In constructing knowledge from our own experiences, I would argue that different worldviews would create different realities. In this case, it would be expected that different realities would lead to a chaotic world. On the other hand, diversity, multiculturalism, multilingualism, and multi-points of view can create a rich society with endless possibilities. As stated by McLaren & Lankshear (1993):

Acknowledging the role of the “learning subject” in the construction of culture, we affirm the process of agency, difference, and ultimately, democracy. We suggest to students and audiences that they have a role in the making of their world and that they do not accept positions as passive spectators or consumers. This is a position that recognizes and encourages the atmosphere of diverse and contradictory opinions so dreaded by the conservative proponents of a common culture. (p. 212)

Here, they are making an invitation to us all; students and teachers to participate in critical self-reflection in order to bring to surface potentially disempowering social and cultural myths, by allowing rational examination of the often implicit and explicit claims of “rightness”. According to Dougiamas (1999), the following myths continue to be prevalent in today’s educational system:

In a rationalist’s myth of cold reason, where knowledge is seen as discovery of external truth, can lead to having the teacher in a central role as transmitter of objective truths to students. This philosophy does not promote clarifying relevance to the lives of students, but instead promotes a curriculum to be delivered. The myth of hard control renders teacher’s

classroom role as controller, and locks the students and teachers into grossly symmetrical power designed to reproduce, rather than challenge the established culture. (p. 9)

These two myths can inflict great damage upon any learner, because it gives way to the creation of a strict and rigid classroom environment where promoting student empowerment to challenge the power structures is not encouraged; to the contrary, it is punishable.

Is constructivism the answer to developing critical thinkers? According to Hildebrand, (1999) "...there are strong contestations from branches of constructivism, from radical to social." She explores metaphors through models for learning as follows:

Transmission Model in which students are passive collecting information

Situated Cognition in which students are passive doing (Apprenticeship)

Constructivism in which students are active collecting
Critical Activism a new proposed model in which she proposes students to become active, doing science, as critics, activists with, and in the community. (p. 1)

Furthermore, she believes that some problems exist within constructivism for the following reasons: (a) students are forced to reconsider their strongly held alternative conceptions, (b) elicitation of pupil's prior ideas usually lead to their replacement, (c) ultimate effect of constructing knowledge is that it leads to the collection of knowledge. She contends that these models are passive for they do not lead to any type of action, and proposes a new learning model situated in Critical activism, which calls for active participation. Furthermore, she adds,

...this new model has two fundamentally alternatives premises to current learning models even though it shares

the participation metaphor with situated cognition and the active orientation with constructivism. (p.1)

The position I take as a learner is that of critical constructivism. In taking this position, I am trying to explore Hildebrand's *Active Participation* model by becoming an active participant in this research as "researcher", and "researched". In this sense, I am moving towards the transformation of my knowledge into the meaning of my practice, as I continue to understand my personal practical knowledge. I believe that becoming informed in all modes of constructivism is important because there might be some educational instances when a particular mode would fit better than another, depending on a specific circumstance. In addition, I must be aware of these and other models that may exist to reinforce, reproduce, and or maintain the "status quo".

In viewing and practicing education as mere production of knowledge, it will only serve to maintain the "status quo". The goal of education should not be to reproduce, it should be to challenge and to create better working models. Unfortunately, the world presented to teachers and students in today's classrooms is neither hypothetical nor negotiable. As teachers, we often do a job of informing instead of opening a world of wonder and possibility. If each fact we taught was followed by the making of "stances" described as, "...invitations to the use of thought, reflection, elaboration, and fantasy" (Bruner, 1996, p. 127), students would ask more questions such as, "What would happen if...?" leading to imaginative transformation. In this sense, we would be teaching through the *Active Participation* model described by (Hildebrand, 1999). In this type of environment, the students are empowered to become agents of knowledge. These proposed transformative communities of difference may flourish through a poststructural

curriculum. Such environments open up multiple ways of knowing; therefore providing a bridge for those of us who have been excluded from this game of becoming knowers, or producers of knowledge rather than mere consumers.

Thus far, I have discussed the conventional theoretical lenses, which have informed the science education community. Feminist theory however is an equally viable epistemological perspective to interpret my views of knowledge. Such theory, regards women's experiences as primary lenses to the creation of knowledge.

Feminist Theory

I have found feminist theory to be a useful framework to explore my research question for its overall critique of positivistic historical trends in education, and for its attempt to deconstruct positivist paradigms used to legitimize knowledge which serves to perpetuate the "status quo". I found a unique thread that has led me to an understanding of women's lived experiences through our autobiographies; thus, allowing me to see myself as an active knowledge creator. In using feminist theory to analyze my data, I found Belenky, et al.'s *Women's Ways of Knowing* to be a useful tool for using women's experiences as central to raising important unavoidable questions about the legitimization of knowledge. Furthermore, they help to expose how such validation has only served to empower certain segments of the population to be recognized as "valid and respected knowers" (Belenky et al., 1986, p. 3).

The late sixties gave rise to feminist criticism of traditional quantitative research for being inconsistent with feminist values. This critique was a reaction against existing

bias in research behavior. Such criticisms derived from at least three sources: (a) Negative personal experience with research where procedures were judged as deceptive, dishonest, and disruptive; (b) Political reasons stemming from a concern that existing methodologies support sexist, racist, and elitist attitudes and practices; and (c) Philosophical reasons in the basis of a general rejection of positivism and its claim that science is value free, neutral, and the false claims that the scientific method totally protects against contamination of research findings by subjectivity (Cook & Fonow, 1991).

Feminist contend that the use of quantitative methods have negated the articulation and conceptualizations of the many aspects of women's experience, by seeing it as the only instrument for constructing reality, where reality counts as real only when it can be quantifiable. Feminist theory challenges the influence of these ideological beliefs of educational practice, in the way knowledge is defined and in the way we pursue knowledge.

The nature of knowledge from a feminist perspective centers on an explication of "feminist consciousness" (Stanley, 1990). It can be seen as a consciousness rising which permits a new way a knowing by challenging objectivity through the refusal of separating it from subjectivity and from seeing experience as unscientific. In this manner, the qualitative methods adopted by feminists allow for expression of "...women's experience in their own terms" (Cook & Fonow, 1991, p. 89). Furthermore, qualitative methods are regarded as more useful for women's research because they do not break living connections in the way quantitative methods do.

Feminist epistemology addresses central questions such as: Who can be a knower? What can be known? What constitutes and validates knowledge? In addition, what

relationship is or should be between knowing and being. In taking a feminist perspective, knowledge stems from the experience of the person being researched. For feminists, "the known are also knowers, research objects are their own subjects; objectivity is a set of intellectual practices for separating people from knowledge of their own subjectivity" (Stanley, 1990, p.11). In pondering the question of formation and validation of knowledge, a feminist approach opens a door for me and for many others who have been silenced by the legitimization of a single positivist way of arriving at knowledge. Through this perspective I was awakened to recognize my voice, and my right to construct my own knowledge, leading to more unanswered questions. What is the purpose of having knowledge without action? How does knowledge evoke action? In confronting the "status quo" (Miller, 1980) contends that

...if we are to become cognizant of our educational consciousness and its varied manifestations, we must unquietly investigate our motivations, expectations, and conceptions of ourselves as teachers. We must attempt to uncover the layers of the hypothetical self to reach our own essence; only then is she free to begin explorations of the private self, and the public professional self. (p. 37)

In an effort to have multiple voices heard, many feminist scholars are developing collaborative efforts involving university based researchers and educational practitioners resulting in the emergence of a new wave of feminist writings. Teachers' voices are being heard through forms of research such as inquiry narratives and teacher research, stemming from action research. However, the focus of such writings has largely been of pedagogical nature. According to Hollingsworth and Sockett, (1994) "...the voices of teachers examining their own curricular issues in their own practice are increasingly absent" (p.167). By "curricular issues", it is meant a close observation and analysis of what

knowledge is made available to the students, and in what format. In other words, what happens in the classroom in terms of teachers' actions, reactions and explanations to why it happens; rather than curriculum as state policy, textbooks, or curriculum guides? In following this format, teachers' work is interrogated by the teachers themselves with the goal of arriving to a deeper understanding of their practice (Parsons, 1999; Burke, 1998; Rohan, 1996), and in Parson's (1999) particular case, her goal is to "demystify the sacred stories" within her own practice.

In this way, I propose the use of narrative inquiry as I attempt to understand, reconstruct and share my story by rising questions about my own perspectives and practices. This process begins with braking silences by reclaiming an unknown existing voice through the reconstruction of the past, in order to write the present and envision the future. In order to begin this process, I need to ponder upon the meaning of knowledge? What constitutes knowledge? My understanding of feminist perspectives and my reading of Belenky et al.'s (1986) work in which the authors organized women's perspectives on learning into five epistemological categories (*silence, received knowledge, subjective knowledge, procedural knowledge, and constructed knowledge*) liberated me to view myself as producer of knowledge. Although I use these epistemological categories to analyze my data, I agree with Brook's (1992) critique in that "...implied in their work is that one stage build upon the other in a linear hierarchical manner" (p 56). In trying to fit my experiences into such categories, a stage-like evolution was not evident. Is it because we learn differently, or is it because we are conditioned to learn differently?

On the other hand, Belenky et al's book enabled me to think of myself as creator of knowledge, and stimulated me to further ponder and analyze why certain situations call

for the use of one epistemological category while others do not. One powerful theoretical frame within feminism is poststructuralism/postmodernism. I have found this particular feminist position useful to analyze my view of knowledge.

Poststructuralism/Postmodernism.

Poststructuralism is a term used by some feminist writers from Australia, Britain, and Canada. Postmodernism is a more general term, which includes poststructuralism Parsons (1999). The postmodern feminist theory has posed great challenges to Western thought and to curriculum theory. Postmodernism/Poststructuralism claim to represent an end to the Enlightenment era. It is “post” to the beliefs that western worldview is the dominant, correct, uncontested view. It questions whether progress really exists. Furthermore, it challenges the stability of the scientific worldview, and seriously questions the legitimacy of knowledge as shared principles (Yeaman, 1994).

Poststructuralists/postmodernists reject the predictable, closed order of positivism, believing that the universe is a living, biological system, subjective to mutations, ever changing, and unpredictable (Doll, 1993). Based on Lather’s (1989) *Ideology and Methodological Attitude*, in which she claims “...poststructuralism holds that there is no final knowledge... it views research as an enactment of power relations. The focus is on the development of a mutual, dialogic production of a multichoice, multicentered discourse” (p. 253). I believe poststructuralism opens the doors to researchers and subjects being researched to create knowledge together through dialogue. In my case it allows me to engage in inner dialogues with the self as I search to uncover the influences that shaped my ways of knowing and the way I view myself as knowledge creator.

Furthermore, poststructuralists welcome investigation into problematic situations, which they believe can prompt change and reform in human experience (Doll, 1993).

In the postmodern paradigm, human feelings and ethical considerations are valued and sought through interactions in the dialectic process of critical inquiry, reflection and dialogue. Poststructuralists reject the idea that knowledge is value-free, or that it can be objectified, verified, and ordered (Doll, 1993). Poststructuralism opens the possibilities for criticizing the theories, programs, institutions, and practices that are held responsible for the “traditionally” presented visions of “reality.” In describing postmodernism (Pinar, 1994) states,

...a new sense of educational order will emerge, as new relations between teachers and students, culminating in a new concept of curriculum. This new order will be more complex, pluralistic, and unpredictable. In such order, teachers will emerge as individuals interacting together in the mutual exploration of relevant issues. Traditional methods of evaluation and assessment will become obsolete, replaced by focus on dialogue and the quality of inquiry. Curriculum will not be viewed as a set, a priori, course to run, but as a passage of personal transformation. (p. 498)

As an educator, this description of a new order aligns perfectly with my beliefs about education, and my role as an educator. Habermas (1972) identified three phases of human knowledge-action interests: technical, practical, and emancipatory. These human knowledge-action interests are mirrored in educational research. Poststructuralists humanists have reputed the use of positivist’s research methodology, which is believed to be reflected of technical knowledge interest, which calls for a quantitative or empirical research approach (Grundy, 1987). Such approach negates the complexities and dynamic nature of human interactions. Therefore, they sought to generate research data informed

by the practical and emancipatory knowledge interests using qualitative methodologies. Furthermore, she contends that it is only through action research that teachers can arrive at emancipation. My desire to engage in emancipatory knowledge construction permits me to adhere to the reflexive and critical constructivism. Through this process, I shall become aware of my actions involving self-knowledge and reflection on the effects of my own teaching, and commitment to questioning normally unquestioned power structures and societal expectations. In my inquiring about my practice, through an action research process, I strive to develop a classroom environment, where management strategies are based on emancipation. I am aware that such undertaking would be challenging and not easily accomplished. However, my definition of knowledge and education can only be understood through a poststructuralist curriculum, because of its attempt to transform the way I go about in constructing knowledge. From this perspective, Gitlin, (1994) states,

... research is meant to be transformative; we do not merely analyze or study the object to gain greater understanding, but instead struggle to investigate how individuals and groups might be able to change their situations. (p. 99)

In light of this, the researchers' job is not to discover "true" interpretations, but to give voice to the multiple silenced minds existent in our society (Gitlin, 1994).

In terms of curriculum informed by poststructuralism, it focuses on dialogue and negotiation of meaning through the active interaction between text and reader, teacher and learner. A postmodern curriculum should include the four R's: (1) *Rich*, (2) *Recursive*, (3) *Relational*, and (3) *Rigorous* (Doll, 1993). (1) Richness refers to the depth in which a concept is explored from different points of view. Therefore, giving way to the creation of multiple layers of meaning, where multiple possibilities and interpretations are

encouraged. (2) Recursion refers to the process of inquiry into one's work to explore and question our actions and beliefs as meaning makers and into the text itself. Here, the students and the teacher are engaged in the process of thinking about our thoughts known as metacognition. The purpose of recursion is to develop competence, not only by the teacher part, but also by the students. (3) Relational refers to the connection between curriculum structure and culture. Do we see ourselves portrayed in the curriculum? Is the curriculum bias toward a specific cultural entity? Here, the analysis of power structures is encouraged. In interacting with the text to find out its relation to the learner, one may ask the following questions: How does new knowledge connect to my previous knowledge? In what way does this new knowledge affect my life? (4) Rigorous refers to the exploration of spaces or gaps in the "in-betweens" to find any biases or differences within language, thought, subject, and modes of convincing ourselves about taking certain point of view.

Feminist theory can be used as a framework in which curriculum informed by poststructuralism can be carried out. In adopting feminist theory, I begin to examine my practice. This research is driven by my quest to becoming a producer of knowledge, as I ask questions about myself and my actions with the main objective of producing and reproducing a true understanding of myself as a teacher, researcher, and individual. I am more interested in arriving at true understandings, and less concerned at constructing the right answers, various research methods and qualitative instruments were found to be useful. Specifically, my research drew from teacher research and autobiographical study literature. Autobiography and narrative are used as methods supporting my study. In chapter, three I review some of the qualitative research methods used in my study.

Chapter Three Methodology

“To reclaim an authentic self would require the investigation of experience-educational experience-autobiographically... We learn to read by interpreting someone else’s reality, but to learn to write, is the reconceptualization of your own reality.”

William Pinar (1992, p. 493).

In this chapter, I find the need to discuss the nature of research as background building to the methodology used in my study. My autobiographical study can be regarded as a specific type of case study, informed by teacher research, a type of action research. Narrative inquiry is a technique used to support my study. Feminist Theory is the theoretical framework used to situate my study. In adopting a feminist theoretical framework to conduct my study, I find the aforementioned methods and techniques useful to examine, and critically analyze my personal and practical knowledge. Some of the possible dilemmas of validity and transferability are explored, concluding with a discussion of data collection and analysis.

Nature of Research

Many attempts at arriving to an exact definition of “research” have been made. Ernest (1994) defined it as “systemic inquiry” with the aim of gaining new knowledge, new understandings, or simply a way to verify existing knowledge. Tuckman (1988) adds that it is a systematic way to provide answers to questions. Some answers may be general and abstract, as in the case of basic research. On the other hand, demonstration or applied research may yield specific and concrete answers. Verma & Mallick (1999) define it as

“...a systematic, controlled empirical and critical investigation of hypothetical propositions about the presumed relations among natural phenomena” (p. 1). All of these definitions share an essential element, a quest for knowledge. This pursuit takes the researcher into a systematic journey in search of trustworthy and meaningful knowledge about specific phenomena. Although the term “research” is often regarded by many as something mystical, conducted by scholars and professional researchers, in practice, many of us have unknowingly throughout our everyday life become engaged in one form of research or another (Verma & Mallick, 1999).

Kincheloe (1998) writes, “...there are a great many choices confronting any researcher designing his/her work”(p. 17). Research can take many forms, variety of dimensions, perspectives and rationales. The paramount focus must be educational improvement through the process of generating new knowledge or understanding. In this respect, Clinchy (1996) poses the following questions, “Is knowledge of the self a prerequisite to knowledge of others? Do we experience others as subjects only by analogy to our experience of ourselves?” (p. 227).

Although this work has been of tremendous value to my professional and personal life, I found this form of research to be more challenging, and at times frightening. However, my reason for engaging in this type of research was my contention that we cannot know “other” until we know ourselves. According to Schon (1982), one must be able to make the self into an object in order to make the other into a subject of study. What this means to me is that before I can make assumptions about my students’ development of knowledge, I find it to be imperative to investigate and arrive to an understanding of how I have come to know and think of myself as knower. What has

been the evolution of my personal epistemology? In taking a feminist perspective, my assumption is that as this continuous self-study about the way I came to know begins to unfold, it will add valuable understandings and improvements to my practice.

Autobiography

In theory, an autobiographical approach to research is a design that can be used to liberate writers from oppressive social practice (Brooks, 1992). In my case, I used it as a tool to examine and theorize my educational practice as I try to understand the specific experiences that shaped such practice, my own beliefs about education, knowledge, and role as a teacher. I need to understand those experiences in order to identify how they have shaped my ability to learn, think, and teach (Brooks, 1992). In this sense, telling one's story becomes a transformative activity that shows me how teaching and learning go hand in hand. Similarly, Miller (1980) writes that when autobiography is used as a research technique "...for discovery or illumination of an already existing, fully formed self and voice, it enables the researcher to challenge any fixed or predetermined notions of who we are and what it might mean to our work as educators" (p. 34). In this sense, its use enlightens and empowers those of us who engage in this process.

Furthermore, Miller (1998) emphasizes that because much of educational research focuses on the standards and on teaching as a set of delivery systems, teacher engagement on research using autobiography as an educational practice, generates materials and processes that can be used to dislodge unitary notions about our practices, our voices, and descriptive curricular systems of teaching and learning. In addition, some curriculum theorists depend upon autobiography to provide new understandings in the

curriculum, emphasizing the lived experiences of teachers and students. Teachers, who want to take charge of their practice, must become aware of the hidden forces that are at work to shape such practices. As Pinar, (1994) states,

By focusing on the individual, it is possible to reclaim the abstractions to begin to extricate oneself from capture by ideology. One's voice becomes discernible. By working regressively, progressively, analytically, synthetically, one begins to reclaim oneself from intellectual and cultural conditioning. (p. 108)

Autobiographical narratives can be used as tools to define and redefine teachers' practices, using their own terms and their own voices by contesting social norms, and even escaping the well ingrained myths of schooling (Kridel, 1998). For these reasons constructing an autobiographical account is very powerful, although difficult to achieve. In talking about both the power and difficulty of telling one's story, bell hooks (1989) explains that it is a frightening process because, "...to tell the truth of one's life, and write about it, is to leave a trace" (p. 156). One needs a lot of courage to open oneself, to be able to tell the truth of one's life in writing as it has been experienced. It is easier to narrate your story orally, but not to tell it in a written form.

Narrative

In this autobiographical study, I will be using narrative as a tool to describe and analyze my autobiographical study. According to Polkinghorne (1988), all of us are constantly immersed by narrative as we engage in the process of reassessing and recounting past, present and future actions. We are so accustomed to use narrative as part of our ordinary experience that its operation passes us inadvertently. However, we

are inherently aware that certain knowledge can only be understood through the unfolding of a sequential narrative. In education, narrative inquiry is a concept of informing and reforming (Hollingsworth & Socket, 1994).

Narrative inquiry can be used for two purposes: (1) to describe the narratives already held by individuals or groups -*Descriptive Narrative*, or (2) to use narrative to explain why something happened -*Explanatory Narrative* (Polkinghorne, 1988). For the purpose of my research, I will be using narrative inquiry as an interpretative tool. First, through my use of narratives, I will be inquiring into the meaning of my teaching practice as it has evolved for seven years, focusing on data collected from the last four years. I will be analyzing such experiences as recorded in papers such as logs, journals, and professional papers using the tools of narrative inquiry in a similar way in which Rohan (1996) and Parsons (1999) used narrative inquiry to make sense of their practice. This is what Parsons (1999) refers to as "narrative" (p.7). Secondly, the final product of this study will be a narrative in a written form. Parsons (1999) calls this part the "phenomena, or the story".

I have utilized narrative inquiry to critically examine the evolution of my practice through the analytical lenses of postmodernist feminist theory. I believe the results of this analysis will serve to improve my practice because we learn to recognize our voices through reflection and interpretation of the conflicting demands of our profession, and the way we response to such demands. I totally agree with Sarles (1993) who believes that "A person who is not devoted to his/her own personal study and growth has little business in claiming to be able to teach others" (p. 95). Therefore, I believe that during some periods of one's teaching, a great deal of review must take place. These reviews must

include thinking about one's actions and inactions, judging oneself, becoming one's worst critic by re-telling the good and bad, the carelessness and carefulness of what was said and done. It is through a constant questioning of whether or not we would have acted the same way, or made the same comments if a critic, an evaluator, or friend had been observing us in our classrooms. I believe that engagement in such questioning can result in what can be described as real teaching because it stimulates critical thinking and brings about awareness about the existence of the "hidden curriculum".

Pinar (1994) warns us that such "hidden curriculum" is not so easily distinguishable. However, "...self-reflexive examination of the biographic functions of one's intellectual work makes its unconscious less likely...autobiographical work of this nature, transforms the individual teacher" (p. 109). In this manner, a transformed teacher can become aware and fight against existing oppressive societal structures.

If the sense of who we are, can be found in the act of our teaching. Am I using authority to intimidate my students, and therefore converting them into visitors of their own education? It has been argued that the way we teach is usually the way we were taught. Could I, be creating steps for my students to be on their way of following the steps from oppressed to becoming oppressors the way we were set up? Kridel (1998) suggested that teaching is not a profession, but a devotion, and as such, it is a "...multi-voiced call...That part of the teaching life which is a response to the call of the student, results in the work of love; to the call of content, the work of truth; the call of the institution, the work of justice" (p. 72). Could it be possible to fulfill these three calls as truthful as possible by engaging in autobiographical study through critical reflections of my own practice?

Autobiographical studies have been regarded by some as specific type of case studies. In what follows, I will discuss in detail the methodology of case study. Because my autobiographical study is informed by teacher research, a type action research, I will be discussing those methodologies briefly as well.

Case Study

Case study is a familiar term particularly in the fields of psychology, sociology and education. Verma & Mallick (1999) defined the case study approach as "...the representation and interpretation of detailed information about a single subject, whether an event, culture, of individual life" (p.81). The typical case study is essentially an intensive analysis and evolutionary description of an individual, in this particular case, myself as a teacher.

In my personal quest to primarily understand my position as knower and secondly, as mediator to knowledge, I find this method to have a greatest advantage in that, "...it endeavors to understand the whole individual to his or her environment" (Verma & Mallick, 1999, p. 82). This in-depth study of myself, in relationship to learning and teaching, aims at uncovering major issues about behaviors and opinions that would lead to a better understanding, and improvement of my practice.

One of the strengths of case study is that it allows the researcher to focus on a specific instance and to explore the many interactive mechanisms at work within a specific situation. According to Yin, (1994) "As a research endeavor, case study contributes uniquely to our knowledge of individual, organizational, social, and political phenomena" (p. 2). Furthermore, he argues that case studies as a research tool lead to investigations

that "...retain its holistic and meaningful characteristics of real-life events - such individual life cycles"(p.2), among others.

On the other hand, some of the prejudices against the methodology of case study cited by Yin, (1994) are (a) lack of rigor, (b) inability to use to make generalizations, and (c) take too long to conduct, and the end result are massive unreadable documents. In terms of my study these claims are addressed as follows:

(a) Lack of rigor:

A lack of rigor refers to the way in which some researchers have allowed their own biases to dictate the collection and interpretation of data. In addressing this concern, in this study, my aim is to uncover and acknowledge any beliefs, actions, and reactions to place them as the focal point of my study. In acknowledging such beliefs, they become part of the analysis as to why I hold such assumptions, how have they served to shape who I am and my practice. In this sense, my biases become the highlight of this study in arriving to a broader understanding of myself as a person, knower, and as a teacher.

(b) Lack of generalizability:

It has been argued that case studies provide little evidence for scientific generalization. In this regards, Lincoln and Guba (1995) suggest another way of replacing generalization with transferability. In assessing study transferability, they propose an analysis by asking whether or not the study could have occurred, and whether or not the information it shares could be useful to someone in a similar situation. In terms of this study, just becoming aware of my practice, and changing those practices is not sufficient. I must be brave to expose those practices, and place them under scrutiny through a narrative of such practices. It is my hope that not only my students and I would be the

sole beneficiaries of my study, but also other teachers and readers who might possibly see themselves as main characters in my narratives and begin to engage in the same process. The engagement of more teachers in this process is highly needed because many of us unconsciously or otherwise have turned off our critical thinking in teaching in defense of the self.

(c) Take too long, and are massive:

Case studies are believed to take long time to conduct, and that the results produce vast amounts of unreadable documentation. In terms of my study, in all honesty, I have been doing this instinctively since I became a teacher. However, in view of my previously held notions of relating quantitative research with “real research”, I did not even consider my research to be valid, for I felt it was a pursuit which involved and affected my personal, professional, and emotional self totally. Now, that it has become an official autobiographical case study, I know that it will not end tidily with a completed thesis or project, but rather is likely to lead on my becoming aware of even more deeper questions for further development for its reflexive nature. In this sense, the purpose of this autobiographical study is the development of critical consciousness.

Although there are many forms of case studies, such as exploratory, descriptive, and explanatory; the most common in educational research are observational, historical, and clinical studies (Yin, 1994). My teacher research project can be described as an autobiographical study. This study will be a study of the self, in a classroom setting as it relates to my practice. In specific I want to trace the evolutionary development of my own ways of knowing, by observing how it is projected through my practice. This

project was informed by teacher research, a specific type of action research taken as an attempt to make more sense of both my own personal life and professional life.

Action Research

Action research has its roots in the nineteenth century science education and group dynamics developed by Kurt Lewin, a social psychologist who is regarded as the father of action research. (Hollingsworth & Sockett, 1994). As a social Reconstructionist, Kurt Lewin promoted action research to study “minority problems”. He sought a way to bring together social actors and researchers in an attempt to work collaboratively to affect social and cultural changes by bringing social science directly into social practice. Ten years later, these ideas were applied in the educational arena by Stephen Corey, Dean of Teachers College at Columbia University. Teachers and principals were encouraged to get involved in action research with the purpose of improving their own practice (McLean, 1995). Furthermore, Corey believed that teachers could improve curriculum through action research because they could use the results of their investigations and bring about change. Practitioners engage in action research with the sole purpose of improving their practice. In this instance, researcher and practitioner are the same person engaged in the research effort. This fact becomes the key for change in that the research itself becomes in a way a form of self-evaluative process.

Action research’s popularity drew many social scientists and practitioners toward its use. However, the same popularity that brought it to the top, quickly led the scientific establishment to place it under scrutiny, claiming it to be, “...less rigorous, small-scale version of experimental research”(McLean, 1995 p.4). During the late 1950s and early

1960s such attack led to its decline in popularity as fast as it had began, only to give way for a rebirth ten years later for what is known as teacher research.

Teacher Research

A decade later, action research began to reemerge. Lawrence Stenhouse and John Elliott expanded Corey's concept of action research giving birth to teacher research. Teacher research adds to the understanding of the solution of practical problems and it helps us, the practitioners in developing theory of teaching (McLean, 1995).

In certain way, teacher research is liberatory, and can be empowering because teachers such as myself, who engage in this type of research, feel liberated from feeling and being viewed as mere technicians who are capable of merely carrying out what others outside the classroom demands us to do. In a way, it is a rejection of the usual top-down form of reform that regards us as merely passive receivers, reproducers and dispensers of knowledge. Similarly, Smith and Lytle (1993) define teacher research as "... a way for teachers to come to know their own knowledge"(p.22). Using this definition, it can be argued that it is the development of epistemology of practice, and as such, it is liberating for it shows that there cannot be a single privileged way of knowing. Similarly, Freire (1970) has argued that educators and students are "knowing beings" in that we are constantly learning together from the process of teaching. He defines education as "a pedagogy of knowing" (p.217). In constructing a professional knowledge base from my self-study about my practice, I find the methodology of case study fruitful for its unique strength of allowing the researcher to deal with a variety of evidence - documents, artifacts, observations, and interviews (Yin, 1994).

Is Autobiography a valid methodology for developing my own understandings about my interpretations of my practice? Some educators have criticized autobiography by claiming it to lack validity and generalizability (Denzin & Lincoln, 1994). In terms of this research on the epistemology development of my own practice two questions must be asked: 1) what needs to be judged? and 2) how can the validity of a knowledge claim be tested?

My Attempt in Establishing Credibility

Verma & Mallick (1999) note, "A case study is essentially a research in depth, rather than breadth. It involves intensive analysis and evolutionary descriptions of an individual" (p 81). In this particular autobiographical case study of myself, is important to note that by becoming both: researcher, and subject to be researched, I do not presume my study becoming representative or typical. Nor can it truly be replicated. Another person, setting or situations may be very similar but it will not be identical. Any significance, which might be attached to my study, is the development of my own epistemology of practice, and its addition to the already existing contributions made by a growing community of scholars who have been influenced by Schon (1982) to develop educational knowledge about an epistemology of practice for the new scholarship.

Qualitative research deals with issues of validity by looking at how credible the explanations are, and whether the given explanations fit the given descriptions? (Denzin & Lincoln, 1994). Similarly, Whitehead (1993) states,

What is to be judged in this instance are the life processes implicit in the writing, which constitutes an account and its claim. Testing the validity of our account to knowledge

requires familiarity with the standards of judgment and the units of appraisal (p. 8).

As with Lather (1989), my own position is that, the most useful stories are those construed through interrogation of one's own practice. The concept of "personal knowledge" is central to the validation of this research because, "...validity begins with the person's claiming originality and exercising his/her personal judgment responsibly with universal intent" (Bees, 1995, p. 4).

Kincheloe and McLaren (1989) suggest the replacement of validity with trustworthiness. In assessing my research as trustworthy, I shall use the following two criterions presented by Kincheloe and McLaren (1989): a) constructions must be plausible to those constructing them, b) anticipatory accommodation, a term borrowed by Piaget's concept of accommodation. Does it involve credibility of portrayals of my own constructed reality? According to Kincheloe and McLaren, credibility can be awarded only when constructions are plausible to those who construct them. In terms of anticipatory accommodation, it simply states that humans reshape cognitive structures to accommodate unique aspects of what they perceive in new contexts. In other words, my story is true as it reflects my perspective at the time it is being told, for reality and the construction of knowledge is uncertain and unstructured. Therefore, knowledge has to be contextualized. The structure of knowledge will be transformed through the very process of developing my own understandings about my practice in the context of my classroom (McNiff, 1993; Whitehead, 1993).

Hollingsworth and Socket (1994) assert that narrative modes of reporting lead to understandings and new directions rather than explanations and prescriptions because it is

based in intimate analysis of finding connections and responding to those connections. Analysis of the following data sources lead to the understanding of the development of my own epistemology.

Data Sources

The data I examined consists of (1) *Awakenings*: an autobiography with emphasis on education, presented at the GASE colloquium in Boston, 1999, (2) Action Research presented at County Office of Education 1995, (3) reflective journal, (4) professional development papers written for classes while attending SJSU, such as: a) action plans, b) research paper about fourth and fifth grade students tutoring second grade students in open ended inquiry science, c) lessons/papers presented during my participation as facilitator for summer Institute SENA, d) lessons/papers presented during my participation as facilitator for Summer Institute SLIA, e) lesson plan books from the following academic years 96-97, 97-98, 98-99, and 99-2000, and f) papers written about the analysis of video-taped lessons.

Data Analysis

Narrative inquiry was the tool used to analyze my data in a similar way in which (Rohan, 1996; Parsons, 1999) used it to make sense of their practice. This is what Parsons (1999), calls “narrative” (p.7). The final product of this study will be a narrative in a written form. Parsons (1999) calls this final part the “phenomena, or the story”.

An inductive analysis to find patterns of knowledge was used. I developed preliminary categories through ongoing review of documents. Since my purpose was to

question my notions of self as knower, I searched for understanding the development of my (private/personal) epistemologies as I wondered if discoveries of truth about “the self” had influenced the development of my (public/professional) epistemology of practice, Belenky et al.’s (1986) epistemological perspectives on knowing provided the categories within which to present the final outcomes.

At a second level of analysis, I adopted Goldberger’s (1996) idea of using Belenky et al.’s epistemological perspectives of knowing as strategies for knowing. She contends that, “...when the context is factored into the study of knowing, one begins to see the advantages of the five categories as *strategies* for knowing” (p. 362). I also adopted her idea of using the following determinants: (a) situational, (b) strategic, (c) cultural, and (d) political to identify what caused each shift on each strategy of knowing (Goldberger, 1996).

Summary

Chapter three described the methodology I used in my study and justified my choice. Secondly, I explained my intentions to protect the validity of my research, concluding with a description of the process used in my data analysis.

Chapter Four My Analysis

**The Many Moods of Teaching
Holding Still
Steady. Study. Hang on.
Who are we? Who made us?
How did we become ourselves?**

**The myths of objectivity,
Of knowing ourselves as others know us
Become the story of our own becoming.
As we write our own stories,
As they are told us,
We are our own studies in self.**

**Hold still, my self
That I may see you, study you, know you,
And become the character who I would be.
Sarles (1993, p. 45-46).**

Critical Self-reflections

In this chapter, my data is analyzed by setting Belenky et al.'s (1986) research findings against my own experiences. Using my story's three main acts described in chapter one of this document, and all my data documents, I searched for any relation between ways of knowing theory and the development of my own personal epistemology. My goal was to see if discoveries of truth about "the self" had influenced the development of my epistemology of practice.

As I looked for patterns, trying to recognize any of the five epistemological perspectives on knowing in each of my data documents, I noted that even though these perspectives appear to be in hierarchical order, in terms of my data this did not appear to be the case. Belenky et al.'s epistemological perspectives on knowing (*Silence, Received*

knowledge, Subjective knowledge, Procedural knowledge, and Constructed knowledge) were visible in my data. There was no apparent stage-like pattern. Instead, I shifted from one epistemological perspective to another in a non-stage manner. These shifts were dependent on either context, setting, audience, or purpose.

At a second level of analysis, I adopted Goldberger's (1996) idea of using the five epistemological perspectives on knowing as strategies for knowing. She reasons that, "...when the context is factored into the study of knowing, one begins to see the advantages of the five categories as *strategies* for knowing" (p. 362). In using Goldberger's *strategies of knowing* to analyze my data, I also identified possible determinants that governed the shift or development of each epistemological perspective over the course of time. Once I was able to identify these main events, I began to look for patterns to uncover what had been the determinants that caused each shift or development. Were these determinants situational, strategic, political, or cultural? (Goldberger, 1996).

I discovered specific educational and personal events that created a shift in the positions of knowing. I also noted that sometimes *Silence* was a strategically chosen position. However, I am not sure if this strategy is used more in some cultures than others. Schweickart (1996) shares that Filipino communities value silence highly. She cites two proverbs "*Speech is silver, but silence is gold*" and "*Silent waters run deep*" to demonstrate how among Filipinos silence is a sign of wisdom. For me, as a child I learned that silence was a sign of being well mannered. Hurtado (1996) talks about silence as "...a powerful weapon, when it can be controlled" (p. 382). Furthermore, she believes that knowing when to talk and what to say can be "a surprise attack". I became aware that in some instances my silence was self-imposed as a strategy similar to that

described by Hurtado, while in other occasions, it was externally imposed either by the situation, or by an authority figure.

In my case, there were certain contextual factors that limited or inhibited the use of certain alternative strategies of knowing. Due to the fact that my study was the study my own epistemologies of knowing, I presented my analysis in terms of “significant events” which were the events identified as key events in which a shift from one strategy of knowing to another took place. In this manner, I share what I found to be the significant events in my life characterized as turning points in which strategies of knowing either evolved or shifted.

As I describe each of these events, I also provide an explanation as to what prompted each shift or development. These significant events were: 1. Learning to learn, 2. Significant Encounters, 3. Learning to Teach through Learning, and 4. Discovering Being vs. Existing. It is in this format that my story about the way I came to know began to unfold.

Learning to Learn

In contrast to the women interviewed by Belenky et al., (1986) whose education had not played a major role in their shift from *silence to subjectivism*, my return to school to learn English, and the whole schooling process was a turning point in my life. In chapter one of this document, I wrote about my experiences in attempting to learn to know. At first, my desire to learn stemmed out of anger and need to change my personal situation. This was the first turning point when I decided to attend night school and face the challenge of learning a new language. From 1986 - 1990, I can be heard within

Women's Ways of Knowing framework as "*Received knowledge*" because I became a fervent passive receiver of information. I equated learning to know with becoming inundated with information. Even though I continued with my *silence*, in terms of doing what I was told without questioning authority, education gave rise to the shift from *silence* into *subjectivism*.

As I progressed in my schooling, I had learned the rules that brought rewards in the form of scholarships, and the satisfaction of getting good grades. It was in this manner that I developed the strategy of *Procedural knowledge*. I discovered the rules and guidelines required at school. All I needed to do was what I had known all along which was not to question authority and to follow the rules obediently. I always made sure I was clear about each assignment's length and depth. I would do exactly what it took to get the grade I wanted, no more, no less. This I now regard as schooling to maintain the status quo. I was never taught to think critically or to question what I read, heard or did. Therefore, learning as an adult was no different from what I had experienced as a child. I continued to equate learning with memorizing information. I felt highly accomplished for my being able to reproduce information. I never saw the need to think of myself as knowledge creator. I was bombarded with a lot of information, but did not know what to do with it. My life, views of the world, and overall behavior remained unchanged because I was unable to create new knowledge or transform the existing one.

According to Koetting, (1994) "...access to information must also include equity in access to ways of thinking" (p. 53). In equating knowledge with the acquisition of information, exposure to vast amounts of information the way I was, and even being able to memorize vast amounts of information but not to know what to do with such

information, presents as serious problem as not having access to that information in the first place. If education, or being educated, is equated with the acquisition of information, then why is it that now when information has become more accessible than ever, our students are not succeeding academically? Why did I succeed? The only explanation I can think of is that our system prizes those who like myself, develop a passive form of learning. Such form of learning serves to perpetuate and maintain the "status quo" by not encouraging raising our voices, and maintaining muted opinions. For the most part, teachers would like to have students like me because we do not cause any problems. However, I question the value of such form of education. Whose interest is this type of education serving? Are our quiet undemanding students being prepared to become the leaders our world needs? Furthermore, having access to information may create a false illusion of power. The real power is when one learns how to apply such knowledge.

In evaluating my lesson plans, I wanted to see if there was any evidence of my using Belenky et al.'s (1986) epistemological perspectives as lenses for understanding individual students' approach to learning and the teaching strategies I devised. In looking at my lesson plans and homework assignments, I looked for evidence to my understanding of what it means to know. What kind of thinking and means of knowledge do I privilege and allow prospering in my classroom? As I noted in my journal

Journal entry: Oct. 1999

Today I felt very happy to hear a comment during teacher/parent conferences. A mother complemented me because her daughter is finding a love for learning in my class. She claims that the way I teach is fun because I do not teach stuff. I teach them how to think. I felt good because I have been trying hard to have my students share their opinions among themselves. It seems as if they do not believe they have something worthy to share. This morning I asked them, "Do you think?" they all nodded. "Then share your thoughts!" I told them.

My data reflected my inherent desire to help my students see themselves as constructors of knowledge. We all function under a democratic environment in which all of us help each other. In my view, a teacher's role is that of facilitator. As such, I cannot allow to be seen by my students as an expert and the only source of knowledge. However, my teaching career began with a transmissive epistemological framework inherited from all of my experiences as learner. My lessons clearly reflect an evolution from a heavy use of teacher-directed lessons driven by a technical purpose, to student-centered curriculum where I attempted to create fun, engaging student-centered activities that are geared to meet the students' specific needs. In these centers, students have choices as to the work that must be done, and how they want to have it done. They might choose to work with a partner, alone, or in a group. In addition, they must take responsibility to assess what they know, to practice what they have learned, or to engage in challenging tasks to learn new material.

What provoked such changes? It all began with my frustrations in teaching. My students were not happy, and neither was I. Teaching takes too much energy, and I do not pretend to know everything. The more answers I provided, the more I was bombarded with more questions. Now, I continue to encourage questions, but I do not provide answers, only context in which those answers can be searched. Not all students welcome this control. Many like and demand the traditional role of a teacher as a sole provider of answers. I am attributing this evolutionary change in professional knowledge to a political determinant. My old ways of thinking about educational theories and practices were challenged by my extensive readings of feminist theory. Now, I question the way in which knowledge is legitimized and used to make educational policy. I often

the way in which knowledge is legitimized and used to make educational policy. I often disclaimed that education is political. Now, I have come to understand the contrary, and teachers can be significant encounters to either foster or hinder students' success. In this manner, Kincheloe, (1993) contends that

... teachers need to comprehend the logic behind the facts, their context and significance, and the difference competing assumptions about knowledge and policy make on the way teachers think and teach, and how students think and live their lives (p. 54).

Significant Encounters

The most significant encounters that changed the course of my life were my mentors. Many of them do not know how significant they were in my life. I never had a chance to thank them because it was not until recently, that I discovered the role they had played in my life and how instrumental they had been to my success. One professor in particular stands up in my mind more than others. This professor refused to play the game whose rules I knew too well. Many of my classmates regarded the professor as someone who did not know how to teach. She would not offer any opinions or hints to her students about what to think or do. She only provided more questions to our questions. What was her purpose? Why kind of game was she playing with us? How dare would she ask us to grade ourselves? This professor's questions were open-ended questions that challenged us to think, analyze, and critique. Such questions would later lead to a paved path of our own choosing, after conceiving all possible alternatives.

It was an empowering game, but not many were up to the challenge. Many felt confused and argued that it was too hard to guess what she wanted. I believed she wanted

us to discover what we wanted or needed. She would refuse to “spoon feed” her students, many of whom were too afraid to play this game. They were accustomed to think and do what they were told. For many, not knowing for sure what she wanted was too risky. For me it was fun and opened an array of opportunities to explore. In using a similar form of teaching, Kincheloe (1993) challenges students to see texts as code symbol systems of hidden or unintended meaning. He reports that many students’ reactions were similar to the way in which many of my classmates had reacted. Kincheloe (1993) reported that students in these situations appeared to be “lost and confused”. They often complained about being engaged in what they perceived as meaningless discussions, concluding that this method was not productive or conducive to learning.

I was neither lost nor confused. This mentor changed my life so radically that I began to believe in my potential as constructor of knowledge. During this time, I discovered that my opinion counted and was valuable (*Subjective Knowing*), but I also learned that I had to substantiate my opinions with good arguments, and judged them against the validity that such arguments offered (*Procedural Knowledge*). In this regard when it comes my private/personal, self I use my gut feeling or opinion (*Subjective Knowing*), relied on my personal experience. On the other hand, my public/professional self demands that I use *Procedural Knowledge* as the desire strategy of knowing. This shift into *Procedural Knowledge* was motivated through my extensive readings by authors who have challenged my personal/private stance, and by the presence of significant people who were able to see my potential before I did and made me aware of it.

One particular instance with my student teacher and a substitute teacher made me question the expectations I hold of my students and me. Later that day I wrote on my reflecting on my feelings and reactions about that experience.

Journal Entry October 5, 1999

Today I had my peer-coaching session from 10:00 -12:00. A substitute stayed with my students for those two hours. My student teacher was also present. At my return, the substitute congratulated me for having a "good" and "very vocal" class. At first, I was flattered, and took it as a complement. What bothered me was the way in which the substitute teacher kept making apparent positive remarks about my students' ability to verbalize their opinions in comparison to the rest of the students in "this neighborhood". She emphasized how surprised she was to see students from this particular neighborhood being so vocal. Past experiences, led her to conclude that students in this neighborhood were for the most part quiet. She reasoned that perhaps it was a cultural trait. This comment made my students feel very proud. My student teacher commented that she did not observe any difference from regular class behavior. In her opinion, the students had participated in the same manner. They raised questions and offered comments about the presentation. According to the student teacher, it was not something out of the ordinary.

The substitute's comments of my students being "too vocal" for "this type" of students angered me. Perhaps "our type" is not expected to talk. Historically we have been taught to believe that we have always been submissive, and are expected to continue with this tradition. In my personal experience, this appears to be an inculcated cultural trait. It was so well inculcated into my parents that they confused submission with education. Although I am not sure if this is a general cultural trait, some of the forms that keep us from talking, is the way in which knowledge is legitimated.

Learning to Teach by Learning

In 1994, I participated in what I felt to be the most rewarding, but threatening experience. It was a Science Institute at San Jose State University. I had been drawn to that institute because I became aware that I was neglecting to teach my students science,

and I needed to do something about it. I believe that teachers teach the way they were taught, or, as it was in my case, not at all. The way I remember being exposed to science was in the form of memorizing factual information, which apparently I had stored in my temporary memory long enough as regurgitate them back in the form of a test.

As teacher, I struggled with the idea of presenting science to my students in this format, but felt ill prepared to do otherwise. I took the teacher editions home studied them, and tried for some time teaching in a recipe fashion. The object of all my lessons was to have my students memorize the facts, and administer a test at the end of the unit. Some of my students did very well, while others not too well. However, if I were to ask the students a question about something we had studied a while back, less than a handful were able to recall the information. I never used any hands-on type of activities, primarily because I felt it would be too chaotic, and secondly because I did not feel comfortable teaching something so foreign to me. Therefore, I did not teach science for the first three years of my teaching profession. Now I have realized that during my schooling, I had been exposed to science, but in my mind, all that was left was the recollection of memorizing exercises. I could not remember any concrete knowledge that I could draw from. I decided that I had to learn science content, and pedagogy. That need drove me to my involvement with the California Science Project.

Upon my arrival to the classroom, I learned that the majority of the participants were middle and high school science teachers. I could not figure out why they were there because I regarded them as experts in science. I was consciously aware that my skills in science were not good. My purpose for being there was to augment those skills. However, to see the room full of middle and high school science teachers, I felt

intimidated and immediately went into *Silence*. I saw myself as dumb with little ability to think, and very incompetent to teach. I felt anger towards myself for not understanding their language, for not having their knowledge. I kept thinking, how I was able to be an effective teacher without the knowledge the people in that room shared with each other. This anger prompted my shift to *Received Knowledge* as I reasoned that I was there because something was wrong with me and needed to be fixed. I saw all the participants and the facilitators as having the power to impart knowledge. I saw myself as capable of receiving all the knowledge needed from these authority figures.

In terms of voice, I seldom spoke up or shared my opinion. As the day unfolded, at times I felt so inadequate I wanted the earth to open and eat me. They all spoke in a way that seemed they were very assured of themselves, while I felt they were talking in a language foreign to me. At that point, I felt *Silenced*, by the situation although I was engaged in a voiceless conversation with all of them.

The highlight of this institute was my very first introduction to “open inquiry”. The classroom, converted into a rich environment, invited us to engage in exploration learning. We were asked to walk around and explore and ask as many questions as we could about our surroundings. I was thrilled to have this opportunity for the first time in my life. To my surprise, unlike myself, many of participants were not as thrilled, but I could not figure out what was the reason. They were complaining as they questioned the value of this exercise to their own teaching. On the other hand, I felt like a person who has not been eaten and is taken to a place where food is plentiful. My only wish was to be able to develop such environment for my students, and to learn in those two weeks how to provide similar opportunities for learning in such an environment. As soon as all of us

were asked to walk around and raise questions about the items they had arranged in that environment, I did not feel as intimidated. I had an open mind, I did not come to the institute having a preconceived notion of how it was going to be, where as the others believed it would be a workshop where they would have pre-prepared lessons for immediate classroom implementation. Through this experience, I learned two valuable lessons: (a) Teaching is learning, and (b) Within this process, there needs to be an "authentic self".

Reclaiming the Self

Pinar (1994) questions if in fact one can claim to be an "authentic self". He contends that we need to construct the self by examining our educational experiences. *Awakenings*, is a paper I wrote and presented as a briefing paper for the Gender and Science Colloquium, Boston, 31 March-2 April, 1999. In this briefing paper, I began the examination of the development of my own ways of knowing highlighted by instances, or important events I called "Awakenings". This was my first attempt to construct knowledge from my own experiences, instead of depending on external authority to define who I am. Indeed, as I re-read this paper, I see it as a reconstruction of where I was, and how I got where I am now. Many of the transformations I share in this paper were due to social encounters. I agree with Pinar (1994) that social institutions such as schools construct and maintain selves as I could clearly see it in my paper. Based on my experiences, I wrote, "...teachers have the power to silence or empower students" (N. Rodriguez, 1999, p. 2). What ways of knowing was I utilizing, or were evolving as I wrote this paper? As a social being, I am reclaiming that the acquisition of power, voice,

and knowledge are tied in our interactions with others. I recognized that the acquisition of voice is indispensable for producing knowledge. The development of thinking and knowing can only be achieved through social dialogues which helps create and solidify thought (Tarule, 1996). As I construct my own epistemology of practice, I can be heard under *Constructed Knowledge*. In taking this stance, I no longer see pedagogy as a technique, nor I see curriculum as foundational of knowledge. Instead, curriculum has become subject of interrogation about its applicability to my own life, and my students' lives. The determinants, which finally allowed me to see myself as constructor of knowledge, have been anger and political awareness.

The women in Belenky et al.'s (1986) study were not able to exactly pinpoint the reasons as to why they had changed. They could describe how they were in the past, and how they were in the present, but could not verbalize the causes for such changes. Unlike them, and due to my engagement in a prolonged analysis, I have been able to clearly identify the turning points in developing a new epistemology of knowledge, as well as the events, social encounters or educational interventions that helped or hinder the development of these positions. Through this narrative, I relived my fears, doubts, and could hear my anger. I could also feel a sense of accomplishment as I reminisced each of the turning points. Each determinant or turning point that gave way to a new way of knowing arose from anger towards myself, recognition of an injustice, or a desire to change a situation.

Chapter Five

Learning Outcomes

My Initial Concern

The purpose of my research study was twofold. First, I brought into question my notions of self as knower, as I looked into my interpretation of knowledge, experience, and abilities to teach. These questions led to my search for understanding the development of my own epistemologies, as I wondered if such discoveries of truth about “the self” would influence the development of my epistemology of practice.

In the process of engaging in narrative inquiry, I learned that in order to bring a significant change to the classroom, researchers, scholars, teacher educators, and teachers must come to our own understanding of the nature of knowledge and its construction and reconstruction (Wells, 1999). In order to understand others as knowers, I needed to develop an understanding of myself as knower.

Through this process, I came to the realization that the act of teaching rests on my assumptions about the nature of knowledge and that my own epistemological stances have direct implications in the way I define and practice education (Stanton, 1996). In this sense, I can conclude that knowledge of the self becomes an avenue to development of knowledge of others. I see my students as learners by analogy to my own experience of myself as learner.

At the beginning of my professional journey, my practice mirrors that which I had been subjected to as learner. In the process of examining and re-examining my practice, I was able to redefine it. In studying the changes in my practice that have occurred over the last four years, questions around epistemological issues, such as the status of knowledge

and the ownership of knowledge predominated. I concluded that becoming aware of the ways in which my own learning was either developed or stifled, had a direct impact on my practice. Because of such awareness, my practice began to take a different direction.

A significant and critical shift occurred when my view of myself as a facilitator instead of provider of knowledge evolved and my classroom became a place where all students assisted each other in the daily “meaning-making” process. This shift was not an easy change. Often times I still find myself going back to my old ways of teaching. It is hard to let go, or stand back in allowing the students organize their own learning. However, I have come to realize that my role is to mediate this knowledge-making process. My task is to help my students make personal sense of the way in which knowledge claims are generated and validated so that they can develop their own autonomy by becoming aware of their own ways of knowing.

Epistemology of Practice

In writing this analysis, Belenky et al.’s (1986) work served as a framework to identify the development of my own ways of knowing. At a second level of analysis, I adopted Goldberger’s (1996) idea of using Belenky et al.’s epistemological perspectives of knowing as strategies for knowing. Also, the following determinants: (a) situational, (b) strategic, (c) cultural, and (d) political were used to identify the causes for using a specific strategy of knowing (Goldberger, 1996). These models served as a source of inspiration and tool in investigating the development of my epistemology of practice. In using these

models, I derived an understanding of the causes leading to the development of different ways of knowing about my personal and professional life.

Anger was found to be a causal factor present in all the events in which a shift in strategy for knowing occurred. This anger was the result of frustrations, feelings of inadequacy, fears, and for not finding the right words or the courage to speak up. In terms of my professional stance, data shows that the first three years of my practice, my lesson plans followed the clear academic objective format, mostly informed by a technical interest (Grundy, 1987). During the first two years of my teaching, I equated learning with quiet classrooms full of busy students working silently and individually. Clearly, these understandings about learning and teaching had been influenced by my own experiences as learner. My early intentions to change my practice stemmed from my exposure to constructivist theory. My lesson plans began to reflect a shift to a more balanced curriculum, one that gave rise to students becoming in charge of their own learning. At this point, I was teaching three grade levels in a self-contained classroom. The responsibility to cover the entire curriculum for each grade level was overwhelming. In order to survive, I looked at my students as my best partners and active collaborators. I had to trust them enough in fulfilling this responsibility, and it worked. A nurturing, trusting, and exciting authentic learning environment evolved. In this type of setting, I could no longer keep a quiet classroom. I could not see myself as an expert. I needed to develop a rich environment where we could all learn from each other. In developing this environment, I wanted my students to see themselves as teachers. In thinking this way, I was challenging the views I held of myself as provider of knowledge. This shift in my understanding of my role as a teacher, and my awareness of all the power structures that

prevented me from having equal access to an education driven by a liberatory and emancipatory curriculum, gave way to my developing a focus on curriculum where students had a voice in what was being learned, and it had a connected meaning to their lives.

My lesson plans and homework assignments clearly exhibit concepts of hope and difference. In my attempt to change many of my students' conceptions of seeing teachers as the sole authority of knowledge, I shared with my students the story of a homeless old man. It is an inspirational story about a helpless man who was given a fish everyday so he would not die of hunger, and how this humanitarian act helped to keep him in a state of helplessness.

In groups my students had to discuss and figure out why this act, which seemed positive could have such a negative effect. They came up with the solution of instead of giving him a fish, they should have taught him to fish. For homework, they had to re-write the story but instead of the old man as the main character, they had to be the main characters, and the setting was our classroom. They came up with the idea that teachers should not give the students the answers. Instead, students should be guided into figuring out the answers by themselves, or in collaborative groups. Sometimes I do not give them enough time to figure out a problem, and they immediately warn me not to give them the "fish", meaning the answers.

The act of writing my autobiographical study furthered my understanding of voice and silence, by recognizing the way school structures silences teachers and students. I find myself in a continuous struggle to maintain true to my intentions and my teaching practices. The most meaningful ways in which I teach are not congruent to what I am

expected to do. I struggle to cope with the institutional structures and at the same time, I attempt to find new innovative ways to meet the diverse needs of my students. It is a constant struggle as I follow what I think best informs my practice, and at the same time, I am told to go in another direction to prepare my students for testing. The best method that has worked for me was to develop a classroom climate where all of us are teachers. We teach each other. There are no experts, only eager workers in the mission of constructing knowledge. I sometimes doubt myself. How can I be a teacher when I do not teach? I look around and I see all my students busy learning, working together, helping each other, and not needing me. Then I start doubting whether learning is occurring. It is then when I decide to take the role of a traditional teacher where I lecture and students listen, and do what they are told. However, I do not feel the same level of satisfaction. I feel that instead of empowering I am disempowering them. Then I go back to my role of facilitator delivering mini-lessons to small groups depending on their needs, while other students are working diligently at learning stations. Then I walk from station to station, offering my assistance, pulling one student at a time to assess, or provide individualized instruction, while the rest of the students refuse to be helped unless they are confused.

If I did not keep a reflective journal, I would probably have fallen into the traps of convenience. Sometimes my students' actions or inactions give way into my going back to my old practices. Not all students enjoy this type of environment, because it challenges them to think, take charge of their learning, and they have to work hard. Each year, at the beginning of the school year the majority of my students complain, needing the safety of the teacher telling them what to do, how to do it, and what to think. Towards the end of

the school year, most of them enjoy the freedom, except for a few. They appear to lack faith in their capabilities and demand constant reassurance that their work is correctly done.

As an educator, I have constantly tried to transform myself by becoming a real partner with my students in this learning endeavor. I refuse to be seen as an expert, but as evidenced in my lesson plans, each year is different. Some years the majority of students are ready to partake this journey and my lessons evidenced an emancipatory focus, while other years, students are difficult to move beyond the passive stage as evidenced by lessons with emphasis reflected on technical objectives.

This year has been particularly challenging. I have tried to move my students out of a passive stage succeeding with some but not all. Stanton (1996) believes that Belenky et al.'s book challenges us to hear the voices of our students. She contends that, "...perhaps the quiet student is not passive, but it is working hard trying to receive knowledge. Maybe that opinionated student has just discovered that he/she has her own views; he/she needs encouragement to value and use evidence rather than being squelched"(p.35). As I reflect on Stanton's views, maybe my students are working hard, or maybe I expect too much too soon.

Points of Departure

When legitimate knowledge is largely understood as knowledge derived primarily through research, and when educational decisions are linked to such research, our experiential knowledge is viewed with disdain and distrust. O'Loughlin (1992) questions

positivists' authoritative claim that knowledge is certain and that it can be imparted to others. Moreover, he claims that "...knowledge construction depends on interaction between subjectivity of learners and the implicit and explicit power relations" (p. 798).

As teachers, if we want to claim that our knowledge is legitimate, we must engage in research. However, our working conditions with intense work situations requiring us to make thousands of quick decisions, there is little or no time left for us to engage in doing research. I agree with Gitlin et al.'s (1992) observations that, "...currently, teachers are rewarded primarily for staying on the job. They are neither rewarded for competence nor demoted for incompetence. What seems to be most valuable by administrators is the teachers' ability to be nondisruptive" (p 183). This is congruent with what the majority of teachers expect from their students. Both forms are disempowering. If we could engage in dialectical inquiry among ourselves, it would be different. However, the way in which the system has been set up, does not allow for meditation or collaboration. Many of us, by the end of the day are so exhausted that unfortunately, there is little energy left to engage in studying our classroom practice. Is this system in place so that we continue with business as usual? In gaining access to knowledge and power, we might disrupt the system that has been in place for centuries and has served to maintain the power within a privileged population.

Much of my growing awareness about the power structures that served to maintain my silence came about through the process of telling my story and from the exposure to an array of literature about such structures. In the process, I have gained confidence in my ability to recognize such influences and act upon them. I feel confident to speak up to defend what I believe best serves the needs of my students. I am more willing to risk

exposing my opinions about our school structures and issues. I no longer find the need to conceal my practice behind close doors. However, the results of my inquiry are an illumination towards a redirection, rather than a product. In this case, the production of my autobiographical text of my story as lived practice has focused attention on the self, in the context of my practice and the connections between my understanding and practice. As a result, my becoming aware of the processes of self-change is a way of living an examined life. I have come to an understanding and to an agreement with (Calabrese & Hagiwara, 1999) ideas that "...intersections of race, class, gender, and other forms of labeling identity frame access to knowledge and power" (p 1).

Through my analysis of personal history, in conjunction with the professional documents I developed during the course of my professional life, I was able to recognize the authoritative influences instrumental in impeding, encouraging, or enhancing my personal and professional growth.

As I revisit the notions of knowledge production, my journey took me back to my initial questions about the definition of knowledge and the necessary conditions to be able to participate in its production. In terms of legitimation of knowledge, I agree with Gitlin, et al.'s (1992) argument in that "...most forms of research are based on narrow notions of legitimate knowledge that deny the importance of experience as basis for knowledge production"(p. 197). I lived this conflict as I engaged in the process of telling my story about the relation of the ways of knowing theory to my practice. I kept thinking and fighting with the notion that my story was not worth telling. Who could want to read my story? What the value would be for others? I found myself having an easier time writing the review of the literature, but struggled to write personal sections thinking that

experiential knowledge would be of no value to others. However, my story has been incredibly valuable and powerful for it shed light to my own understanding and development of living educational theory. What I am is the result of my own educational development. My claim to understanding how personal life, educational development, and my professional practice are intertwining and could be explained as the development of my own educational theory.

In adopting the lens of feminist theory from which to reflect on the development of my epistemologies, I was able to confront and understand discriminatory and oppressive practices that have existed throughout history and continue to exist. These practices serve to marginalize women and minorities from becoming constructors of knowledge. Those same forces that shaped who I became as a person, affected who I became professionally. It had a direct impact in shaping my teaching practices. In following obediently and blindly a set of mandated curricula, not only was I continuing to be disempowered, but I was also being a part of a system that serves to perpetuate the status quo. According to Kincheloe (1993), "...as a deliberate process, the curriculum is always a formal transmission of particular aspect of the culture's knowledge" (p. 26). Recognizing the forces of domination, control, and resistance in place to maintain women, and minority groups silenced, and how those forces have served to maintain the status quo has been empowering. Most importantly, the telling of my story has led to personal growth and professional development. The critical self-reflective aspect required me to look at who I was and where I was situated, both personally and professionally. As a result, I have come to the realization that my personal knowledge is intertwined to my professional knowledge, and I have come to view teaching as never-ending learning process. It is a

commitment to understanding, how and why I evolved to be who I am now, and who will I become.

This knowledge cannot be acquired through a single lesson, or over a course or two. It requires a lifetime of personal dialogues about the meaning of being a teacher. A. Rodriguez (1999) believes that we have acquired a significant amount of knowledge about what is needed to teach and to learn, and even the social constraints that continue to keep many students from achieving academically. He strongly believes that what we need now is courage. "Courage to escape the entrapment of our privilege by taking a step closer to understanding how our actions and inactions make us either pawns for the status quo or effective agents for transformative social justice. We must have the courage to expand our gaze as researchers, teacher educators, and teachers to rise to the challenge of becoming cultural warriors for social change" (p.9).

I have come to understand that different perspectives, different points of time will produce different answers. Therefore, I must share with my students that knowledge is not static, knowledge evolves, knowledge changes, knowledge is not acquiring information. In terms of my professional and personal knowledge, the journey will not have an end. I will continue in the process of constructing, reconstructing, and deconstructing knowledge through my relationships and dialogues with texts, experiences, and reflections of my practice. I agree with Clinchy's, (1996) notion in that I am a "self-in-process"(p.235).

In practicing a postmodern curriculum, thinking about my practices is not so much an action; it must become a "way of life". According to Kincheloe (1993), thinking affects social practice, and the way we think about teaching either maintains or changes the balance of powers. Wells (1999) suggests that I cannot rely on "experts" from outside my

classroom to dictate a prescription of improved approach to pedagogy or classroom management. I must continue building and rebuilding my working theory from the stories of my living practice and in line with the specific cultural and historical context of my classroom. In taking responsibility for my own learning, the learning opportunities that I provide to my students, or lack of opportunities, I have transformed my own identity as teacher, and have come to view teaching as learning.

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