

PROMOTING CRITICAL THINKING AT THE UNIVERSITY LEVEL

Jane Davis-Seaver
North Carolina A&T State University

Dorothy Leflore
North Carolina
A&T State University

Tom Smith
North Carolina
A&T State University

Abstract

This article addresses the concern that high school students are ill prepared for the type of thinking required at the university level. The writers sought ways to infuse critical and creative thinking into classes such that students would become competent and independent thinkers and thus perceive of themselves as able to do university level study and research. After attending two national conferences, the writers implemented many of the strategies recommended. This article describes those strategies and the results. They found that not only did the classes become more insightful, but the students also claimed ownership of their learning and the direction of the inquiry.

Retention of students at the university level is a major problem at most universities, and North Carolina A&T State University is no different from the rest. In talking with students about their university level courses, we found that two sources of frustration were the structure of the courses themselves and the expectations of the professors. Even though most graduated at the top of their high school classes, they were ill prepared for the type of thinking that is required at the university level. Used to the type of teaching that required rote memorization and giving the right answer, students experienced failure when faced with expectations that required them to use conceptual learning and critical thinking. This led them to consider themselves not capable of university work, and they dropped out of classes. Because there was no structure at the university to address this problem, we decided to incorporate critical thinking into the content of our courses, hoping that this effort would address the problem. These efforts would be funded through grants applied for. This also led us to the South Florida Thinking Skills Conference in Miami and to the 17th International Conference on Critical Thinking at Sonoma State University in California. There we con-

firmed that the inability of students to think critically and classes to address this problem were nearly universal.

Upon our return to the University, we met to chart a course that would change the direction and format of selected classes to find out if we could address this challenge within the content of our instruction. Our first task was to find a broad definition of critical thinking into which we could fit the details of critical thinking within the content of our classes. According to Paul (1997), most college professors cannot give an adequate definition of critical thinking even though most of them are sure that they use it in their classes.

Definitions

Critical thinking as we envision it is that thinking that is purposeful, that requires commitment, and considers in-depth as well as broadly those issues that make a difference to the thinker. It allows the thinker to expand and refine previously held beliefs, to incorporate the thinking of others in this process, to consider alternatives, and to solve real problems creatively. Furthermore, we define critical thinking as that thinking which is evident through the thoughtful and creative response by students to the structure of the class as well as their understanding of the content of the instruction. Such critical thinking enables students to incorporate many disciplines in seeking to understand a concept. Having thusly defined a broad view of critical thinking for ourselves, we next looked at how we wanted our students to think, and how we would know they were doing it.

The Problem

In discussing possible ways of restructuring our classes so that we could accomplish our goals of teaching students to think critically through what we were doing in our respective classes, we analyzed how our students were thinking for the most part as they entered our classes. Every semester as our classes formed and we met the students for the first time, we held expectations that somehow were seldom met during the semester. We were concerned that our teaching methods did not reach the students in a way that would allow them to think critically, to deal conceptually with the issues and challenges we set before them.

We saw that they were not able to do university level work in classes that required conceptual or critical thinking. In such classes, they became frustrated and discouraged. They were not able to understand what was being asked of them because they had not been trained to think conceptually. They had been socialized into having information poured into them, listening to lectures and taking notes. They were trained for rote learning, finding the right answer, concentrating on the product rather than understanding the process. They were linear thinkers now being asked to become nonlinear.

Our Vision

Our expectations for our students were for them to learn to consider concepts rather than details, to consider alternatives, to listen empathetically to other points of view, and to be willing to look at many perspectives. We wanted students who were fair-minded about other opinions, and who could think beyond the written word. They should be able to think logically, clearly, and be precise in their use of language. The ability to access information from many sources and to make logical decisions about what they discovered was important to this process. They should also think deeply, respond thoughtfully to other opinions, considering them while formulating their own opinions. We expected them to know what they know and to cite evidence for their knowing.

Restructuring

We realized that just expecting students to do these things would not be realistic, and that we would have to initiate a process through which we could teach these students to think critically and creatively at the same time we were asking them to learn content. We devised several solutions to this challenge in three different classes. Dorothy used her undergraduate class in Psychological and Sociological Foundations of Education, Tom used his Theory of American Education graduate class, and Jane used her graduate class in Children's Literature.

To institute the changes we envisioned, Dorothy first defined for the students exactly what they were to do, and asked them to compile a portfolio throughout the semester to be turned in at the conclusion of the class. This portfolio was to include a summary and analysis of each chapter of the textbook as considered during each class session. This summary/analysis would be due at the beginning of each class session and would act as a "ticket" to enter the class. At the beginning of the process, she used Socratic questioning to elicit critical thinking from the students. Eventually, the students were able to engage in a Socratic discussion as she literally backed out of the discussion and allowed them to take over the responsibility of the inquiry.

In his class, Tom also asked his students to compile a portfolio consisting of "seed" papers, "I search" papers, and summary/analyses of two textbooks. He focused his class for the entire semester on the single topic "What Is Education?" considering a different aspect of this topic during each class session. He asked students to change paradigms with regard to specific examples and issues, and to explore the implications of these changes. During his classes, he used a Socratic discussion format rather than lecture. He also instituted a discussion forum on his Web Page to which his students, as well as other faculty, were invited to contribute.

For her children's literature class, Jane restructured her lecture format to that of small discussion groups which led to reports on their discussions to the whole group which in turn led to Socratic discussions around issues of reading, trade books, literacy, and developmental media. She allowed for structured time during the class for in-depth discussions of a large number of trade books, exploring the reading, writing, literature connection, and attending literacy events in the community such as storytelling events and children's theater productions.

Findings

Although their classes were in different domains of education and at different levels, they experienced similar results. In all three classes the students experienced a bonding, a sense of community that had not existed in many other classes. There was more participation on the part of all the students, especially on the part of the male students who tend to shy away from discussion forums. As the students became more involved in their learning, their creativity became evident. Their work tended to be more thoughtful, to involve them in deeper considerations of the issues. They also began to initiate discussions of aspects of the topic at hand that interested them. They became very supportive of each other, trading notes, forming study groups, and bringing supplementary materials to each other. In taking over the responsibility for their own learning, they also took on the responsibility for moving the learning forward during class meetings, often taking over the class entirely, turning it into a seminar rather than a lecture. The instructors were not ignored, but their roles changed. From instructors and lecturers at the beginning to whom the students looked for information and evaluation, they became facilitators and "boundary keepers" guiding the discussions only insofar as they seemed to get away from the topics to be discussed. Their final role, however, seemed to be as full-fledged members of the community, highly respected and valued, but no more so than any other highly respected and valuable member of the group. What follows are the individual narratives of the development of critical thinking communities at the university level.

Jane's Story

In my graduate class of Children's Literature, which is a required class for prospective teachers in elementary education, the students routinely come in expecting lecture, the instructor talking about books and an otherwise routine class. I am convinced that good children's literature used creatively in every domain is the key to reading instruction and literacy in every field. However, one problem is to persuade current and prospective teachers of this, as well as to create excitement about children's books so that they will continue to read and utilize good literature in their classrooms.

After listening to Richard Paul's discussions and discourses on critical thinking, I began to figure ways that I could apply what he was talking about to my class. Then on the first day of class, I was dismayed to find that, instead of the usual 20 to 25 students, I had 42. Not only was this an extremely large number of students in a class like this, but it also seemed to present major obstacles to applying Richard's techniques. However, I decided that I would go forward with some of them anyway.

The first thing I decided was to continue my practice of bringing children's books, trade books, as it were, from the children's room at the public library (instead of using only the textbook) into class so that students could actually see them as I lectured about them. This time, I decided to do something new with them. Before talking about the books or doing any lecturing, I asked the class to organize themselves into groups of four or five. Each group was given a selection of books to read together. Their assignment was to read as many of the books in their group as possible. Then they were to select one book that appealed to them, was particularly significant for whatever reason, and to choose a member of the group to present it to the class with a synopsis of their discussion about it.

What I wanted to see happen was students becoming interested in the books, in discussing the books and their underlying themes, purposes, and to explore ways of teaching this to elementary school students such that their enthusiasm would become contagious, and would stimulate discussion and reading among young children. I wanted to see students thinking deeply and critically about the traditional ways of teaching that deter rather than encourage reading and learning in elementary school. I wanted them to make the leap from teacher-directed instruction to student-initiated learning. To make this happen, my task was to model the kind of instruction, classroom structure, and management that this would entail.

During the first session, I allotted 30 minutes for the reading and discussion in the small group and another 30 minutes for the large group discussion, after which I planned to deliver my part of the discussion on the first genre of children's literature. What happened was, after some few minutes organizing themselves into groups rather awkwardly, they took about 40 minutes to read and discuss all the books. The presentations of each group to the class took less time than I had thought they would, about 10 minutes. And they told very little about their discussion. So, during my lecture, I brought in some of the comments that I had overheard as I circulated and I also asked students to contribute to the lecture by discussing a particular book that they read in their group that was an example of the point I was making in my lecture. I was doing the guiding and the directing at this time. I hoped, however, that we could move into a more interactive mode, but because of the large size of the class, I wasn't at all sure this would happen. In this particular class, there was a group of undergraduate students who at this point were not mixing with the graduate students. I wanted to see this change. After class, many of the students remarked to each other and to me that they enjoyed the chance to actually read the books—many of them had never read them even though they were considered classics and "must reads" for elementary school students. They said that during their elementary years, all they read were basal readers, and homework left them little time for any other reading. Several of the students lingered awhile to finish up a book they had started but didn't finish, or to quickly scan a book they didn't get to see. It seemed to work rather well, but still I hoped for more student involvement and more deep enjoyment of the books. I also wanted students to look deeper into considerations of children's literature as a teaching tool in all domains.

When the next class time rolled around, I had another supply of books for them and a new genre to discuss. Grouping took less time, and reading got underway quickly. There also was more discussion and the presentations took much longer. Students began to write down titles and authors, and wanted the books passed around. However, their years of training in passive to no interaction with the instructor led to there being little participation during my lecture except when I asked for it. At the end of class, there was more passing around of books and writing down of titles and authors. I told the students who were staying to continue their discussion to cut off the lights as they left.

During the third class period, I began to see some of the behaviors that I had hoped for take place. There was lively discussion of the books, students were reading portions of them to each other, and the decision of which book to present to the class began to take longer. Several groups asked to present two books instead of just one. Presentations were more in-depth, and students began to voice their own opinions about the underlying themes and purposes of the books and to report alternative opinions within the group. They read aloud portions of the books to the class to underscore their points. Even the undergraduates began participating more fully and were less reluctant to join in the discussions. During my lecture, students began raising their hands to interject points and to show books that illustrated points in my lecture. It was evident that they had read the textbook as well as the trade books.

The fourth class period was a study of poetry, and it was here that the class actually became a learning community. None of them was familiar with more than a few poems, and there was universal reluctance to read children's poetry books. However, they dutifully grouped themselves. Instead of my handing out the books, they delegated a member of each group to choose a selection of books, and they began to read. I had decided to try something a little different here, knowing that poetry would not be easy for them, so I asked them to look for examples of specific elements of poetry rather than simply read and present. But I also told them to read the poems first, just for enjoyment. As they read, I heard comments such as "Here's a neat poem, read this one next" and "Listen to this" as they moved from reading silently alone to sharing with their group.

Groups began to read to each other, and some students as they overheard conversations, walked over to visit with another group and then to share with that group what they had read. As they began to find examples of such elements as rhythm that carries part of the message of the poem, rhyme that enhances meaning, figurative language, simile, metaphor, onomatopoeia, and to separate ballads from lyrical poems, limericks from epics, the conversation within and among groups increased. Their presentations were very animated.

I did not ask them to present the elements that they found, but instead to follow the usual procedure of presenting a book that the group found significant for whatever reason. The presenters read entire poems, and several times other members of the same group would present poems that they individually found meaningful or interesting or just fun to read. For a while it looked like they were going to read just about every book aloud to the class. I began my lecture with a discussion of the elements of poetry, those that I had asked students to find examples of, and as I would finish an explanation of the element, students were not waiting to be asked to give examples. Hands would go up and they would read what they had found. Soon they were not raising their hands, but instead would say, "Here's a good example of that," and would stand and read the poem or the part that applied. It wasn't long before they took over the class entirely.

They read all the examples of one element, and when they finished instead of waiting for me to say something, they moved right along to the next thing on their list. The class moved closer together, and small conversations about individual examples of poetic elements would erupt, then subside, as another speaker would take the floor. Comments like "I thought that was what it was!" or "When you read the poem aloud you can really feel the beat—it makes a difference in how well you understand the poem."

A student, in speaking to the whole class, said that she had always disliked poetry because in elementary school it had always been made such a chore. They had to figure out the rhyme scheme (abba and such) and weren't allowed to interpret it but had to accept what the

teacher read from the manual. There wasn't much reading or writing poetry just because you wanted to or because you had something to express. I asked her how she felt about poetry now. She thought a minute. Then she said that she enjoyed this class about poetry, and that if she had been able to study it in discussion groups in elementary school, she probably would like it.

Then began a discussion on methods of teaching poetry in elementary school—from the students, not me. Everyone had a story to tell, and the consensus was that children's poetry is fun, interesting, and has much to offer if students are allowed to enjoy it, to discuss it, and to share their opinions, interpretations and understanding with each other without interference from a teacher armed with a teacher's manual and a test at the end of the unit.

At the end of the class, which ended late, students hung around finishing discussions, trading books, asking me if they could borrow one or two for a couple of days, writing down more titles and authors. Students were sharing their notes with each other; current teachers were talking about how they could use poetry in their classes.

One of the projects in this class was to develop a whole language lesson plan from one of the books they had read or included in their book files. After several lessons such as that on poetry, they began writing these plans, and as I looked them over when they handed them in, I could see that the creativity being generated in class through their reading and discussion had positively affected them. Plans included a broader range of disciplines and literature genre. They were combining narrative with poetry, poetry with informational literature, biography with science and math, narrative as a way of introducing or expanding social studies issues and topics.

Methods of teaching included a variety of activities, especially student-directed ones, story maps, writing, creating books, plays, songs, and art. Learning centers used books as themes under which students could derive math, science, and social studies activities. The planning was broader, more in-depth, and more complete than any I had seen with this class. They openly worked with each other and supported each other. Two students used the same book, but developed lesson plans on different grade levels. They were surprised at the insights this activity on their part gave them about the teaching/learning process.

Another project was to attend on their own time a play by a local children's theater group of *Winnie the Pooh* in which all the actors are between the ages of 8 and 17. In past classes, when such an outside assignment is given, especially if it involved a Saturday or Sunday afternoon, attendance was limited to four or five students. This time nearly two-thirds of my class attended. Some of them took an active part in the play, doing such extra things as taking up tickets, selling raffle tickets, helping cue the actors, and applying make-up backstage. Many requested opportunities to participate in future performances.

These students are taking advantage of the time allotted to read the books I bring into class, and some even bring books on their own to share. A very moving moment was when one student discovered a book that used the format of the children's poem, *The House that Jack Built*, but was *The House That Crack Built*. She brought the book to class, read it to us, and some of us were in tears by the end of it. We talked together about the emotional impact of literature and how it can bring out important concepts in a way no other medium can. Other stories have brought the class to tears, and the class is very accepting of the strong emotions good children's literature can evoke. Other issues students have brought into class are ones of race and gender equality, fairness, and the importance of multiculturalism in the classroom.

It is clear to all of us involved in the class that something very unique and very moving has occurred. In spite of the large size of the class, the students have experienced a closeness and a supportive environment not usually found in graduate classes. Their creativity is evident in every project, and has been received with enthusiasm by their fellow classmates. The undergraduates have begun to interact with the graduate students so that the boundaries of age, experience, and knowledge are not barriers but windows through which they can see their goals.

Issues of teaching and learning are at the core of their discussions rather than lists of books or grades. They are expanding their knowledge of children's literature not as an end in

itself, but as an important part of the larger picture of meaningful learning in the elementary school. They have taken over the class in a purposeful and thoughtful way, including me as part of their community, and realizing that together we are more than the sum of our parts, taking responsibility for their own learning, and never hesitating to jump into the lesson at any point. Groups have become more fluid, with many students forming new associations. Discussions are livelier and presentations more in-depth. Opinions fly, and examples abound, both from books that are present, books remembered, and personal experience. None of us want it to end.

Tom's Story

First and foremost, I want students to think deeply on the range of possibilities that education offers. In order to achieve this goal, students are given repeated opportunities to dive below the surface level of their knowledge base by actively collaborating with me through a variety of learning experiences. Critical thinking is not a collection of techniques that I impose on students, but a way of life which, over the semester, grows and is nurtured within us. Not only do I require students to consider the profound possibilities in education, but also require that they precisely and clearly come to know themselves by utilizing writing to delve into their feelings, by analyzing data gained through interviews and surveys, by critiquing the writings of their peers, and by traveling down those long, dusty corridors of their memories.

Enabling graduate students to begin to utilize the many aspects of critical thinking begins during the first class session of the semester and is revisited throughout the remainder of the semester through a variety of activities. During the first few class sessions, my overall goal is to enable students to feel comfortable as well as connected to each other. For example, on the first day of the semester, the graduate students who come into my class I realize have been well socialized. They are quiet, obedient, and unquestioning. Silently, they select seats, stow bookbags on the floor, sit, reach into book bags and brief cases, grab notebooks, pens, and wait patiently for me to begin. They hand over to me all the power to direct their learning and, to paraphrase Spencer, to define what knowledge is worth most.

In an effort to shock students out of their complacency, I typically begin this first session by mimicking their solemnity and by immediately giving them their course final question. Therefore, I'll wait outside the classroom, pace up and down the hall, occasionally I'll say hello to a familiar face, but generally I speak very little to anyone. My initial act upon entering the class, however, is to inform students that their course final will be to submit an essay in which they are required to answer the question, "What is Education?" Next, I inform students how I would like to be addressed. I ask them not to address me as Dr. Smith. I prefer to be called Tom, or by my nickname, Terrific. I have found that when I ask students to address me in this manner, it startles and initially confuses many students who have been previously trained to address their professors by title. I then move into nicknaming. For this I ask the students to accurately label themselves through a positive adjective. I repeat each student's nickname by going up and down the rows until all students have been named. I rarely address students by their proper names unless a student requests it. Thus, during the next four months and often after the course has concluded, I will still address students their nicknames whenever I meet them.

After the nicknaming activity, the course syllabus is distributed and course requirements are discussed. In each course that I teach, whether undergraduate or graduate, my students are always required to write and submit 10 SEED Papers and one I-Search Paper. Briefly, a SEED Paper is an idea generator. A SEED Paper must be at least one double-spaced typewritten page in length. At first, many students are reluctant to write SEED Papers, many quickly learn that a SEED Paper can be written in as little as five minutes and can be written on any topic in which a student is interested. For example, the breadth of topics from recent student SEED Papers included comments on the behavior of sixth-grade students, cultural biases, the rising crime rate, segregation, the purpose of golf, and the characteristics of the perfect mate.

SEED Papers afford me a means of pushing students to examine the assumptions that underlie their educational convictions as well as serve as springboards to critically discuss topics of student interest. In short, an I-Search project is an adaptation of Ken Macorrie's I-Search Paper (1980). An I-Search Project is a process by which students first learn to ask and then to seek answers for questions that have erupted out of their own experiences. Thus, I-Search Projects afford students the opportunity to engage in researching topics of personal interest and which are personally meaningful both to students' lives and their own unique learning environments. The process begins when I ask students to monitor their inner-selves in order to pay attention to those anomalies that often arise during daily living experiences.

After tentative anomalies have been selected, the students and I participate in the I-Search Circle. During I-Search Circle, class desks are arranged into one large circle. Then, one by one, the students are asked to talk about their anomalies as well as to explain why or how they became interested in their topics. The purpose of this process is twofold. First, as each student explains his/her anomaly, the questions from one's peers enable each student to further define one's research question. Second, because the actual research of an I-Search Project is dependent upon qualitative methodology, many class members are frequently able to suggest individuals who can be contacted for an interview. After all students have been given a chance to discuss their anomaly as well as receive the names of their initial contacts, I conduct a brief lesson on how to design appropriate interview or survey questions is. After determining the interview questions, the I-Search Project begins in earnest.

Class rules are also discussed during the initial class session. Traditionally, a grad class lasts for three hours and most professors schedule a 10-minute break halfway through the session. In order help my students begin to take ownership of their class time as well as their knowledge, students are given permission to leave the classroom whenever they feel the need to go to the restroom, buy a snack, or just to stretch their legs.

After the syllabus, I take a balloon from my pocket and blow it up and invite students to form a circle in the front of the room. Initially the balloon is batted around the circle. Then I present the rules. I have found that the balloon activity lessens the distance between students and myself. It begins to disable the artificial barriers that prevent interaction. Typically, after the balloon game is completed, students are dismissed for the evening. Before students are dismissed however, I ask for a volunteer to recite the nicknames of all class members. Invariably the first student to volunteer cannot recall all the nicknames of their peers. Eventually, the other students devise strategies, such as mouthing, pantomiming, or passing notes to help the floundering student volunteer to recall the nicknames of all class members.

I begin the second class session with a writing activity that can last up to 30 minutes. A writing activity is done for several reasons. First, I want to continue and build upon the feelings of comfort that students experienced in the first class session and second, I want students to be validated for their ideas. There are many ice-breaking writing activities that can be employed in a graduate course and the two sources I use most often are *Inside Out* (Kirby & Liner, 1981) and *A Writing Project* (Daniels & Zemelman, 1985).

However, in an effort to challenge students to engage in more in-depth critical thinking this term, I have altered my approach to addressing the requisite knowledge needed by students in Theory of American Public Education. This term, students were required to write an analytical summary of each chapter of one of the course textbooks (Berliner & Biddle, 1996).

In addition, in an effort to lecture less, I employed more small group discussion activities. For example, students have repeatedly been asked to think about and discuss the assumptions that undergird current educational reform agendas. I have also required that students be able to identify what political, religious, social, and learning theories are championed by educational reform. Finally, students have been asked to intellectually switch between educational paradigms in order to understand how teacher and students' roles, classroom materials, discipline methods, and evaluation methods change.

I have also instituted Socratic discussions. At first, conducting a Socratic discussion was quite frightening for me. During my 13 years as a public school teacher, I never conducted a Socratic discussion because I was tied to the conception that a teacher is supposed to deliver

information and to be the intellectual boss of my class. Conducting a Socratic discussion forced me to let go of active control much earlier in the term than I ever had before. Although in previous semesters I had relinquished control, I typically did so during the I-Search Circle that occurred one month into the term. This term I relinquished control during the second class session.

We began the Socratic discussion by peeling away the layers from the course final “What is Education?” onion. My role during this discussion was to periodically summarize the student comments and to keep the discussion from degenerating into discussions between two or three students. About five minutes into the discussion, students went electric. They began to lean forward in their seats while listening to a peer’s comments. They left behind the rhetoric of educational reform that is so popular in their educational environments and struggled to clarify their thinking. They challenged each other’s views by questioning assumptions. The discussion began in metaphysics and eventually ranged through epistemology, educational psychology, and social foundational issues. I let go of the reins of the discussion as students took the initiative and began to spontaneously summarize. I believe that it was in this discussion that the community in class was formed. We left class that evening mentally and emotionally linked to each other.

This momentum that subsequent Socratic discussions has altered the dynamic of our classroom. Recently, students asked me to leave class because they wanted to solve a problem that has arisen in their study. I left class and inadvertently walked back in 10 minutes later because I thought I had permission to do so. I noticed that most of the students sat in groups of two or three while the remainder stood or were ranging back and forth between groups. One student saw me and said, “You don’t have permission to be in here, leave!” I left and as I walked up the hall, I heard the purposeful noise of heavy discussion. I loved it.

Dorothy’s Story

After attending the Critical Thinking National Conference at Sonoma State University in August, 1997, I decided to restructure my undergraduate Social and Psychological Foundation of Education Class to promote more in-depth thinking. This class seemed ideal for promoting critical thinking, given that education is a state of change and confusion. A class of this nature could provide issues for discussion, which, if critical thinking is promoted, could provide a wealth of new knowledge that could be applied to current educational problems. It was important that student not focus on memorizing dates and events, but rather, analyze the issues from a historical, sociological, and psychological perspective as they related to past educational problems and present educational solutions.

Instead of the traditional lecture–note taking method—the class was redesigned to empower students, giving the responsibility for their own learning. Consequently, my role as instructor became more of a facilitator.

The class was structured around the following activities:

Chapter analysis: Students were required to analyze each chapter and bring that summary to class as an admission ticket to class. Each week I would take attendance by checking each summary. This process ensured that each student in attendance had a common basis for discussion.

Field Activities: Students were required to attend and critically analyze five field activities; that is, attending school board meetings, PTA, social activities, interview teachers, students or parents and so forth. or any activity relating to public education.

Portfolios: Students were required to maintain portfolios containing approved chapter analysis, analysis of field, two examinations, and any other materials that they felt would demonstrate their understanding of the issues being discussed. The portfolio would be graded at the end of semester, but at any time that student wanted to know his/her grade, he/she had the option of requesting that I grade the portfolio. I would grade the individual student’s port-

folio, given the guidelines from grading established at the beginning of the class. The portfolio is 50% of the student's grade, with the two exams accounting for the remaining 50%.

As I became more of a facilitator, my role changed drastically. Initially, I would find myself getting too involved in the discussion and talking too much. I had to step back and focus on the interaction among students, facilitate discussion among students, and not with me.

At the beginning, I had to lead students through the critical thinking process using Socratic questioning. At first students would only respond to the questions I asked. If another student wanted to participate in the discussion, a hand would be raised for permission from me. In addition, during the discussions they would constantly look at me for confirmation that they were responding correctly.

As the class progress through the semester, students no longer asked my permission to speak nor did they look to me for confirmation that they were responding correctly. One day I was late for class, and when I got there, the students had started their discussion on Funding for Public Education. Students were pointing out the inequality in funding for education, how education would never be equal with the present funding procedure, that there is no constitutional provision education and therefore inequalities in education challenged in the courts would be decided on a case-by-case basis, that states would always have problems with a constitutional amendment providing for education. All this discussion and debate without my starting the class. At that point, I realized that the students were really feeling empowered and responsible for their learning and were not dependent on me to tell them what they needed to think.

In the classes that were culturally diverse, I observed a very unique process taking place. Initially, students analyzed issues only as they related to their culture, ignoring the impact these issues had on other cultures. As the class progressed, however, I saw each cultural group moving out of the parameters of their culture as they discussed issues. They moved toward solutions to problems that were not cultural or experience bound, but instead were common to the group. In most of my classes in the past, female students were more conversational than males. In this restructured class, for some reason, males became equal participants.

Summary

Although each of the classes was restructured somewhat differently and the details of the critical thinking were somewhat different with respect to the domain of the content, several patterns emerged from our experience. Most striking was the ownership of the learning in the class. When empowered to take responsibility for their own learning, students did so with enthusiasm. They discussed issues at a deeper level than we had seen before, not only considering alternative opinions and solutions, but also reaching into other domains of learning to bring into the discussion similar issues in other domains of knowledge. Their learning became personal, and changed previously held, somewhat provincial ideas into more global concepts. They listened thoughtfully to each other, and were no longer dependent on an authority such as an instructor to tell them what they should know. The instructors were incorporated into the learning community that formed around the topics at hand.

Another important change that we noticed was the depth of learning and the creativity with which that learning was made evident. Enthusiasm and momentum toward their learning motivated them, and they created a common time and space within the classroom where they became comfortable as learners, experimenters, and critical thinkers.

As we move toward a new semester and a new group of students, our restructuring efforts continue. We are analyzing the successes in moving students toward critical thinking and empowerment to learn as well as the not very successful methods. We are discussing techniques that will not set in stone the processes through which we guide student to critical thinking, but which will enable us to respond to each set of students in a way that will respond to the needs they have in order to use this process. For this to happen, we individually must be

critical thinkers ourselves and constantly revise and refine our definitions of critical thinking. This is a dialogical process to which we invite others to join.

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