Greensboro, North Carolina is a city of medium size nestled in the rolling hills of the Piedmont, near the Appalachian Mountains. The school system enrolls approximately 21,000 students and employs 1,389 classroom teachers. Students in the Greensboro city schools come from diverse economic and balanced racial backgrounds. Forty-six percent of the students are White. Fifty-four per cent of the student population is minority; 52% is Black and 2% is Asian, Hispanic, or Native American. Every socio-economic range from the upper middle class to those who live below the poverty line is well-represented in the city schools. However, almost 28% of the student population has a family income low enough for them to receive either free or discounted lunches. Although our school system is a relatively small one, Greensboro has recently implemented a program that is beginning successfully to infuse critical thinking and writing skills into the K-12 curriculum.

The Reasoning and Writing Project, which was proposed by Associate Superintendent, Dr. Sammie Parrish, began in the spring of 1986, when the school board approved the project and affirmed as a priority the infusion of thinking and writing into the K-12 curriculum. Dr. Parrish hired two facilitators, Kim V. DeVaneey, who had experience as an elementary school teacher and director of computer education and myself, Janet L. Williamson, a high school English teacher, who had recently returned from a leave of absence during which I completed my doctorate with a special emphasis on critical thinking.

Kim and I are teachers on special assignment, relieved of our regular classroom duties in order to facilitate the project. We stress this fact: we are facilitators, not directors; we are teachers, not administrators. The project is primarily teacher directed and implemented. In fact, this tenet of teacher empowerment is one of the major principles of the project, as is the strong emphasis on and commitment to a philosophical and theoretical basis of the program.

We began the program with some basic beliefs and ideas. We combined reasoning and writing because we think that there is an interdependence between the two processes and that writing is an excellent tool for making ideas clear and explicit. We also believe that no simple or quick solu-
tions would bring about a meaningful change in the complex set of human attitudes and behaviors that comprise thinking. Accordingly, we began the project at two demonstration sites where we could slowly develop a strategic plan for the program. A small group of fourteen volunteers formed the nucleus with whom we primarily worked during the first semester of the project.

Even though I had studied under Dr. Robert H. Ennis, worked as a research assistant with the Illinois Critical Thinking Project, and written my dissertation on infusing critical thinking skills into an English curriculum, we did not develop our theoretical approach to the program quickly or easily. I was aware that if this project were going to be truly teacher-directed, my role would be to guide the nucleus teachers in reading widely and diversely about critical thinking, in considering how to infuse thinking instruction into the curriculum, and in becoming familiar with and comparing different approaches to critical thinking. My role would not be, however, to dictate the philosophy or strategies of the program.

This first stage in implementing a critical thinking program, where teachers read, study, and gather information, is absolutely vital. It is not necessary, of course, for a facilitator to have a graduate degree specializing in critical thinking in order to institute a sound program, but it is necessary for at least a small group of people to become educated, in the strongest sense of the word, about critical thinking and to develop a consistent and sound theory or philosophy based on that knowledge — by reading (and rereading), questioning, developing a common vocabulary of critical thinking terms and the knowledge of how to use them, taking university or college courses in thinking, seeking out local consultants such as professors, and attending seminars and conferences.

In the beginning stages of our program, we found out that the importance of a consistent and sound theoretical basis is not empty educational jargon. We found inconsistencies in our stated beliefs and our interactions with our students and in our administrators’ stated beliefs and their interaction with teachers. For example, as teachers we sometimes proclaim that we want independent thinkers and then give students only activity sheets to practice their “thinking skills;” we declare that we want good problem solving and decision-making to transfer into all aspects of life and then tend to avoid controversial or “sensitive” topics; we bemoan the lack of student thinking and then structure our classrooms so the “guessing what is in the teacher’s mind” is the prevailing rule. We also noted a tendency of some principals to espouse the idea that teachers are professionals and then declare that their faculty prefer structured activities rather than dealing with theory or complex ideas. Although most administrators state that learning to process information is more important than memorizing it, a few have acted as if the emphasis on critical thinking is “just a fad.” One of the biggest contradictions we have encountered has been the opinion of both teachers and administrators that “we’re already doing a good job of this (teaching for thinking),” yet they also say that students are not good thinkers.

While recognizing these contradictions is important, it does not in and of itself solve the problem. In the spirit of peer coaching and collegiality, we are trying to establish an atmosphere that will allow us to point out such contradictions to each other. As our theories and concepts become more internalized and completely understood, such contradictions in thought and action become less frequent. In all truthfulness, however, such contradictions still plague us and probably will for quite a while.

We encountered, however, other problems that proved easier to solve. I vastly underestimated the amount of time that we would need for an introductory workshop, and our first workshops failed to give teachers the background they needed; we now structure our workshops for days, not hours. There was an initial suggestion from the central office that we use Tactics for Thinking, as a basis, or at least a starting point, for our program. To the credit of central office administra-
tion, although they may have questioned whether we should use an already existing program, they certainly did not mandate that we use any particular approach. As we collected evaluations of our program from our teachers, neighboring school systems, and outside consultants, however, there seemed to be a general consensus that developing our own program, rather than adopting a pre-packaged one, has been the correct choice.

Finally, teachers became confused with the array of materials, activities, and approaches. They questioned the value of developing and internalizing a concept of critical thinking and asked for specifics — activities they could use immediately in the classroom. This problem, however, worked itself out as teachers reflected on the complexity of critical thinking and how it can be fostered. We began to note and collect instances such as the following: a high school instructor, after participating in a workshop that stressed how a teacher can use Socratic questioning in the classroom, commented that students who had previously been giving unsatisfactory answers were now beginning to give insightful and creative ones. Not only had she discovered that the quality of the student's response is in part determined by the quality of the teacher's questions, she was finding new and innovative ways to question her students. Another teacher, after having seen how the slowest reading group in her fourth grade class responded to questions that asked them to think and reflect, commented that she couldn't believe how responsive and expressive the children were. I can think of no nucleus teacher who would now advocate focusing on classroom activities rather than on a consistent and reflective approach to critical thinking.

As the nucleus teachers read and studied the field, they outlined and wrote the tenets that underscore the program. These tenets include the belief that real and lasting change takes place, not by writing a new curriculum guide, having teachers attend a one day inspirational workshop at the beginning of each new year, adopting new textbooks that emphasize more skills, or buying pre-packaged programs and activity books for thinking. Rather, change takes place when attitudes and priorities are carefully and reflectively reconsidered, when an atmosphere is established that encourages independent thinking for both teachers and students, and when we recognize the complex interdependence between thinking and writing.

The nucleus teachers at the two demonstration schools decided that change in the teaching of thinking skills can best take place by remodelling lesson plans, not by creating new ones, and they wrote a position paper adopting Richard Paul's Critical Thinking Handbook. This approach, they wrote, is practical and manageable. It allows the teacher to exercise professional judgment and provides opportunity for teachers to gain insight into their own teaching. In addition, it recognizes the complexity of the thinking process and does not merely list discrete skills.

The primary-level teachers decided to focus upon language development as the basis for critical thinking. Their rationale was that language is the basis for both thinking and writing, that students must master language sufficiently to be able to use it as a tool in thinking and writing, and that this emphasis is underdeveloped in many early classrooms. This group of teachers worked on increasing teacher knowledge and awareness of language development as well as developing and collecting materials, techniques and ideas for bulletin boards for classroom use.

By second semester, the project had expanded to two high schools. This year, the second year of the program, we have expanded to sixteen new schools, including all six middle schools. Kim and I have conducted workshops for all new nucleus teachers as well as for interested central office and school-based administrators. Also, this year, at three of the four original demonstration sites, workshops have been conducted or planned that are led by the original nucleus teachers for their colleagues.
It is certainly to the credit of the school board and the central administration that we have had an adequate budget on which to operate. As I have mentioned, Kim and I are full-time facilitators of the program. Substitutes have been hired to cover classes when teachers worked on the project during school hours. We were able to send teachers to conferences led by Richard Paul and we were able to bring in Professor Paul for a very successful two-day workshop.

Our teachers work individually and in pairs, and in small and large groups at various times during the day. A number of teachers have video-taped themselves and their classes in action, providing an opportunity to view and reflect on ways that they and their colleagues could infuse more thinking opportunities into the curriculum.

Essentially, we have worked on three facets in the program: 1) workshops that provide baseline information, 2) follow-up that includes demonstration teaching by facilitators, individual study, collegial sharing of ideas, peer coaching, individual and group remodelling of lesson plans, teachers writing about their experiences both for their personal learning and for publication, team planning of lessons, peer observation, and 3) dissemination of materials in our growing professional library.

We are expanding slowly and only on a volunteer basis. Currently, we have approximately seventy nucleus teachers working in twenty schools. By the end of next year, 1988-1989, we plan to have a nucleus group in each of the schools in the system. Plans for the future should include two factions: ways for the nucleus groups to continue to expand their professional growth and knowledge of critical thinking and an expansion of the program to include more teachers. We plan to continue to build on the essential strengths of the program — the empowerment of teachers to make decisions, the thorough theoretical underpinnings of the program, and the slow and deliberate design and implementation plan.

Our teachers generally seem enthusiastic and committed. In anonymous written evaluations of the program, they have given it overwhelming support. One teacher stated:

- It is the most worthwhile project the central office has ever offered ....Because
- it wasn’t forced on me.
- it wasn’t touted as the greatest thing since sliced bread.
- it was not a one-shot deal that was supposed to make everything all better.
- it was not already conceived and planned down to the last minute by someone who had never been in a classroom or who hadn’t been in one for X years.

It was, instead,
- led by professionals who were still very close to the classroom.
- designed by us.
- a volunteer group of classroom teachers who had time to reflect and read and talk after each session, and who had continuing support and information from the leaders, not just orders and instructions.

**Short Range and Long Range Goals**

Developing and sustaining a good critical thinking program is a long-range enterprise that takes a number of years. Accordingly, we have developed both long-range and short-range goals. Truthfully, we began the program with some confusion and hesitancy about our goals; we developed many of these goals as the program progressed and we continue to redefine our priorities.

Short range goals include:
- Staff development and workshops for all teachers, for school based administrators, and for central office administrators.
- Development of a professional library with materials and resources which teachers have identified as useful.
• Adoption of an elementary writing process model which can be used by all teachers.
• Adoption of a secondary writing model which can be used by teachers in all disciplines.
• Establishment of demonstration schools and demonstration classrooms.
• Development and encouragement of peer observations and peer coaching.
• Establishment of a network for communicating and sharing with other school systems.
• Adoption of instruments that encourage self-reflection and analysis of teaching.
• Adoption of processes and instruments for evaluating the project.
• Growth in knowledge and mastery of a number of programs and approaches to critical thinking as well as an expanded, common vocabulary of critical thinking terms.
• Participation of teachers in a number of experiences of remodelling lessons and sharing these remodelled lessons with colleagues.

Long range goals include:
• Development of a concept of critical thinking that allows for individual perceptions as well as for the differences between technical thinking and thinking dialectically.
• Development of ways to help students transfer good thinking from discipline to discipline and from school work to out-of-school experiences.
• Development of insight into our own thinking, including our biases and a consideration of contradictions in our espoused objectives and our behavior.
• Development of a supportive atmosphere that fosters good thinking for teacher, administrators, and students.
One does not learn about critical thinking by memorizing a definition or set of distinctions.