Analytical Thinking in a Community of Two

Aristotle tells us that all men by nature desire knowledge. Men strive to acquire facts, organize data, interpret information, formulate theories, test and revise ideas, and act in accordance with their perceptions in a never-ending effort to relate to the universe. The success of their efforts to make rational choices among alternative courses of action depends in large measure upon their skill in thinking. The benefits of systematic evaluation extend beyond the parameters of the traditional curriculum to form a sturdy foundation for meeting life's challenges.

I consider the teacher's objective of improving the thinking skills of students to be of paramount importance. With this goal in mind I explored logical thought with a fourteen year-old student.

I am a homebound teacher in Arlington, Texas. The homebound program of the Arlington Independent School District provides home instruction for students who must be out of school for a minimum of four weeks because of a physical or emotional problem. While some students are out for only one month, others may remain on homebound for years.

The subject of my project was a ninth grader named David, who was under my direction for one semester because of an operation for scoliosis. His eagerness and enthusiasm and his reliability in getting his work done well and on time led me to select him for this study. He was in a full body cast and could sit up for only a half hour at first, so our lessons were usually conducted with David in bed and me in a chair close by. We were soon used to

this arrangement and managed to study a variety of subjects in this position.

Since my primary purpose in going to David, as far as the school system was concerned, was to teach him literature, grammar, introduction to algebra, world history, physical science, and health, I felt that these subjects must come first and that the formal presentation of philosophy should come afterward. Sometimes this plan worked beautifully. At other times his regular academic subjects took up all our time as well as my lunchtime. Occasionally, especially toward the first of the year, he would tire quickly and be too exhausted to continue with either his regular subjects or with philosophy. Whenever we could, we inserted philosophy into the regular course of study. The formal logic seemed to fit smoothly into mathematics and into physical science. Broader subjects such as values and ethics went well with literature and history. The more we read and learned, the more ways we found to exercise our new ideas.

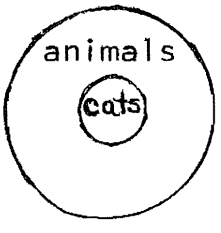
At first David thought that our efforts were useless and that our games were "dumb." He went along, because he wanted to please me. Soon, however, he began to enjoy our studies, some parts more than others. I like to think that he recognized the benefit of our efforts before the semester's end.

Our introduction to the study of thought came with the puzzle of Albie, Bruno, and Clarence, in which it is stated that one always tells the truth, one always lies, and one alternates. Albie says, "I am a liar." Clarence says, "Albie does not alternate." Then the questions is asked, "Can you believe Bruno?" The purpose of this puzzle is to encourage a child to think and to reason it out step

by step. David started out jumping from one conclusion to another, without any pattern to his deliberations. He then expressed his frustration but showed no signs of surrender. Through careful questioning I led him to the discovery of the solution.

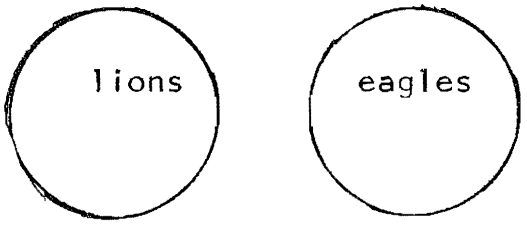
Throughout our inquiry we used Harry Stottlemeier's Discovery by Matthew Lipman as our background material. This is a story of school children who, throughout their daily interactions and activities, grapple with basic principles of philosophy. It is an appealing story to students because of the familiar setting and the realistic characterizations. When these characters question, argue, and strive to understand and organize concepts, philosophy seems not beyond the scope of the average student.

The first subject in logic that we undertook was the reversing of sentences. Slowly we moved from "all" sentences such as "All cats are animals" to "no" sentences such as "No lions are eagles." Finally, identity statements such as "All residents of the capital of the state of Texas are residents of Austin, Texas" were considered. In each case we graphed the sentence for clarity, a practice that I strongly recommend.

1. 

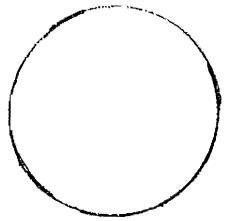
All cats are animals. True

All animals are cats. False

2. 

No lions are eagles. True

No eagles are lions. True

3. 

← residents of the capital of the state of Texas

← residents of Austin, Texas

All residents of the capital of the state of Texas are residents of Austin, Texas. True

All residents of Austin, Texas, are residents of the capital of the state of Texas. True

We then began to standardize sentences into four basic forms.

All ⬭ are ▭.

No ⬭ are ▭.

Some ⬭ are ▭.

Some ⬭ are not ▭.

This subject proved difficult and required a great deal of practice. Frequent reviews were necessary.

We discussed several subjects of a broader nature that proved unpopular and, on the whole, unsuccessful. These include the process of inquiry, the reality and nature of thoughts, and the question of what is good. Our problem in these areas may have been due to David's need for more structure or to my lack of expertise in directing discussions. Our consideration of the subject of thoughts did lead David to such questions as "How long is eternity?" and "Is time never going to end?" Perhaps all was not lost if we considered mind-stretching concepts of this sort.

More satisfactory gains were made in the areas of good and poor reasoning, difference of degree and difference of kind, and similarities and differences. We enjoyed working on analogies from the teacher's manual in the following categories:

a. Means and ends

b. Instance and type

c. Appearance and reality

d. Permanence and change

e. Part to whole

f. Cause and effect

g. Differences of degree

h. Type-characteristic

i. Process and product

This sort of exercise is particularly useful in learning to organize and categorize thoughts, a necessary skill in thinking and writing.

One obstacle that plagued our efforts from start to finish was the fact that there were only two of us. We needed to hear the thoughts of others and to consider their contributions in order to develop the community of inquiry which is such a natural medium for progress in philosophic thought. David's ideas and mine were simply not enough. Since, however, these were our circumstances, we had no choice but to make the best of it between us.

Despite illness, other studies, lack of sufficient time, and our limited number, progress was made on both our parts. I feel that this was a successful and rewarding experiment.

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