An instructional approach to reasoning and critical thinking which fulfills behavioral objectives and retains a general educational perspective for the development of student knowledge and skills is the "micro inductive reasoning unit." In this approach, neither subject matter nor propositions are prescribed. The teacher acts as facilitator in the implementation of the methods in the unit. The class begins the unit by trying to isolate problems which are relevant and immediate for class members. The class is divided into small groups of four to six students. Each group takes a topic from those that evolved and the members decide the best way to phrase a question that can be analyzed according to causes and solutions. Groups exchange questions and go through the process of problem-solving discussion. Students record consensus on the nature of the problem, causes, possible solutions, and advantages and disadvantages of each solution. The statement of the best solution becomes the proposition for debate. Each group divides into two groups of two or three members. One group now becomes the advocate of the proposition and argues for its adoption. The inductive reasoning unit in the basic speech course enables the fulfillment of legitimate behavioral and competitive argument. (Diagrams illustrating the micro-inductive approach and a chart describing parts of the unit are included.) (RS)
THE MICRO INDUCTIVE-REASONING UNIT WITHIN THE BASIC SPEECH COURSE

Robert Bohlken, Ph.D.
Professor of Communication
Northwest Missouri State University
Maryville MO 64468

The Micro-Inductive Approach to Teaching Reasoning

Brainstorming experience in developing communication problem concept

Description of common elements from class interaction

Application and testing of common problem through small group discussion

Formulation of problem solution statement

Experience applying evolved problem/solution concept through clash arguments (two or four person debates)

Confirmation of reasoning process and critical thinking
Reasoning as it is taught in the basic speech course should have as its major behavioral objective: "The student will be able to reason logically and express his reasoning coherently as measured by spoken expression performances." This behavioral objective adapts well to the general educational objectives of and language skill competency and can be made applicable to the actual teaching situations. Unfortunately, the objective is often ignored and the instructor includes critical thinking and reasoning as a part of the unit on presentational speaking's organization. Or, the concept is completely omitted, or the unit is taught as a debate process. The reasoning unit taught for the sake of debate process, disregards legitimate educational objectives, and it is often boring for the majority of students who are not interested in debate per se. The debate approach forsakes the purpose of developing language skills and true educational objectives of critical thinking and expression. It shortcircuits the natural approach to improving the students' understanding, skill, and appreciation of the reasoning and expressive processes. The argumentative process needs to be a tool or method rather than a goal; it should be only a means of expressing the reasoning process and the fulfillment of the behavioral and educational objectives outlined. Current educational philosophies indicate that students need involvement in learning from a real life perspective with problem solution.
progression in a cooperative manner about immediate and relevant subject matter. Critical thinking needs to be developed through immediate and relevant perspective and based on real problem-solution situations.

An instructional approach to reasoning and critical thinking which fulfills the behavioral objective and retains the general educational perspective for the development of student knowledge and skill is the "micro inductive reasoning unit." In this approach neither subject matter nor propositions is prescribed. The teacher acts as a facilitator in the implementation of the methods in the inductive reasoning unit. The class begins the unit by trying to isolate problems which are relevant and immediate for the class members. The "brainstorming" technique may be used here to isolate the common problems. This technique which calls for spontaneous uncriticized expressions of the students enables the teacher to illustrate prejudices, and the attitudes expressed in abstract, brainstorming responses, it should enable the class to determine some consistent areas of student discontent or problems which are immediate and relevant to their lives. Most of the problem areas which evolve from this technique deal with school or community administration, school services, spirit and respect, recreation and course requirements. For example the topic may be "what is wrong with this class?" "What can I, the instructor, do to improve this class?" "What can we, the students, do to improve the communication in this class?" These topics at first glance appear superficial and beyond any exercise in reasoning, but actually when instructor and students
are aware that the intent is not condemnation but logical understanding, these topics become vital and important to all involved and classroom communication becomes more effective. The process becomes a mini communication audit.

At this point in the unit, when student comments have been categorized and three or four areas of concerns or problems have been established, the class is divided into small groups of four to six students. Each group takes a topic from those that evolved and decides among the members the best way to phrase a question that can be analyzed according to causes and solutions. Under the guidance of the instructor the importance of proper phrasing of questions of fact, value and policy evolves and is studied from a critical thinking perspective. After each group has phrased its questions, it exchanges questions with another group. Now each group has a different discussion question and goes through the process of problem solution discussion. The students record consensus in regard to nature of the problem, causes of the problem, possible solutions, advantages and disadvantages of each solution and best solution.

The statement of the best solution now becomes the proposition for argument or debate and "the how to put it into effect" becomes the affirmative's plan. Again, phrasing is important in the development of propositions of fact, value, and policy. Also, the importance of providing a workable solution to the problem by those who are advocating change is stressed. Each group now divides into two groups of two or three members each. One group now becomes the advocate of the proposition and argues
for its adoption and implementation through the proposed plan. The format for the argument may vary, but argument clash must take place in regard to need (causes of the problem), proposition (best solution), and plan (how to put it into effect). Each team needs to provide evidence within which at least one testimony, one analogy, one statistic, and one real example should be used, illustrating the use of proof.

The inductive reasoning unit in the basic speech course enables the fulfillment of legitimate behavioral and competitive argument—as exists in real life. If the class desires or requires further understanding of reasoning and argument, national topics, which will provide library research for evidence, may be used with this technique and approach.

From past experiences, it is evident to me that the inductive reasoning unit in the basic course is philosophically sound and provides an understanding of discussion, debate, and most of all, it provides insight into reasoning process and applicable critical thinking.
Unit on Problem-Solving Reasoning

Objective: to make students aware of the critical thinking variables and process of problem-solving through concept perspective, development and association with evidence.

<table>
<thead>
<tr>
<th>Experience</th>
<th>Formulation of common questions</th>
<th>Development of solution statement</th>
<th>Establishing and verifying solution</th>
<th>Application of solution to real experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>class &quot;brain storms&quot;</td>
<td>discussion of problems</td>
<td>small group discussion of formulated questions following reflexive thinking process 1. nature of the problem 2. causes of the problem 3. possible solution 4. best solution 5. put solution into effect</td>
<td>discussion of resulting propositions and statement of proposals &quot;we should establish undecorated rooms&quot; &quot;instructors should be restricted to twenty minute lectures&quot; &quot;classroom should have three square feet of space per student&quot;</td>
<td>apply debate or argue established propositions with affirmative and negative sides affirmative must promote plan to put resolution into effect use of examples testimony, comparisons and statistics required</td>
</tr>
<tr>
<td>problems of classroom communication &quot;boring subject&quot; &quot;classroom noise&quot; &quot;classroom appearance&quot; &quot;student pre-occupation&quot; &quot;student distraction&quot;</td>
<td>what should be done to increase interest in the subject? what should be done to eliminate student distractions?</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
