

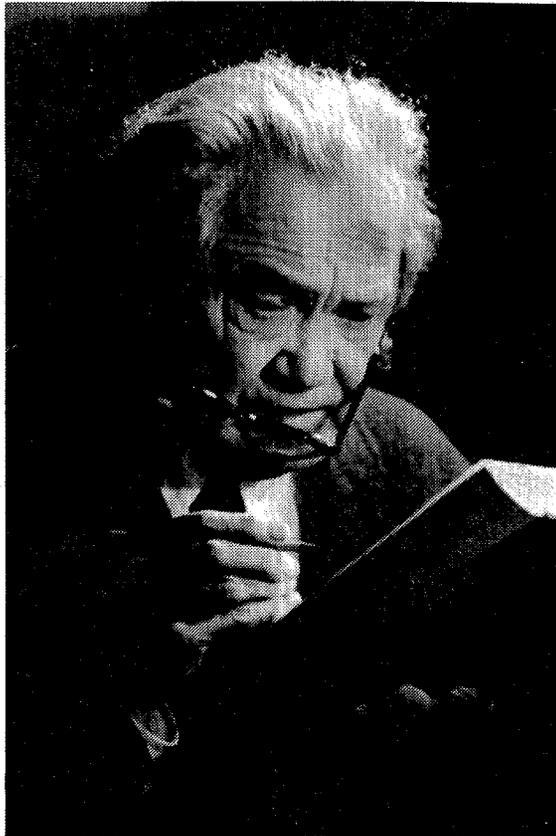
The Third International Conference on
Critical Thinking and Educational Reform



John Stuart Mill

“In the case of any person whose judgement is really deserving of confidence, how has it become so? Because he has kept his mind open to criticism of his opinions and conduct. Because it has been his practice to listen to all that could be said against him: to profit by as much of it as was just, and expound to himself, and upon occasion to others, the fallacy of what was fallacious. Because he has felt, that the only way in which a human being can make some approach to knowing the whole of a subject, is by hearing opinion, and studying all modes in which it can be looked at by every character of mind. No wise man ever acquired his wisdom in any mode but this; nor is it in the nature of human intellect to become wise in any other manner.”





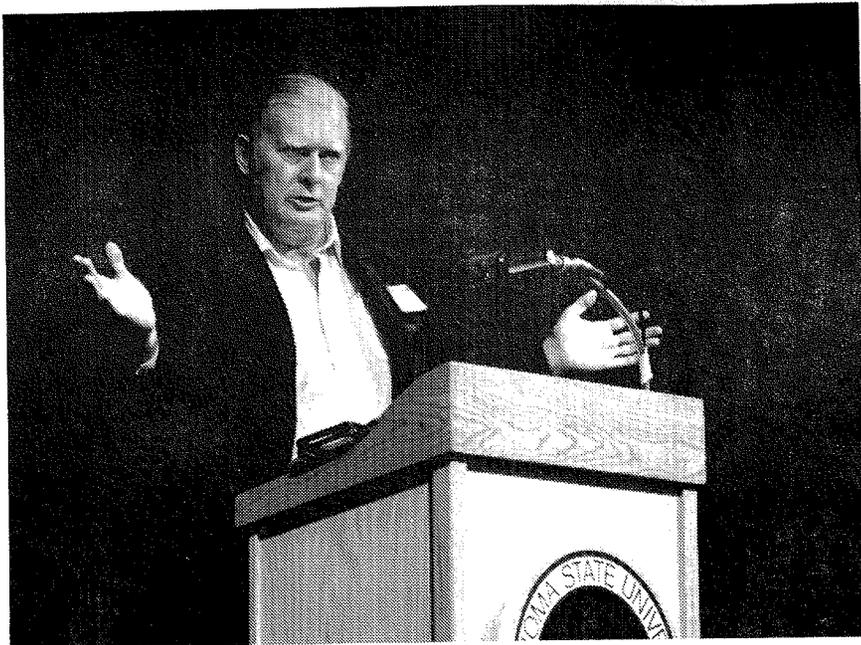
Henry Steele Commager

Dean of American Historians, addressing the First International Conference on Critical Thinking and Educational Reform.

THE THIRD INTERNATIONAL CONFERENCE
ON
CRITICAL THINKING AND EDUCATIONAL REFORM
July 20—23, 1985

Program
and
Abstracts

Under the Auspices
of the
Center for Critical Thinking and Moral Critique
and
Sonoma State University



Michael Scriven

University of Western Australia, addressing the Second National Conference on Critical Thinking, Moral Education and Rationality.

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INTRODUCTION

The Heart and Core of Educational Reform

We have every reason to believe that critical thinking ought to be the heart and core of educational reform. If a person is adept at thinking critically, she is adept at gathering, analyzing, synthesizing, and assessing information, as well as identifying misinformation, disinformation, prejudice, and one-sidedness. A student with such skills will have the tools of life-long learning. Such skills are developed in a strong sense only when students are given extensive and continuing opportunities to construct and assess lines of reasoning from multiple conflicting points of view. Because of the human mind's spontaneous tendency to egocentric and sociocentric reasoning, it is essential that students reason dialectically or dialogically, that is, empathize with and reason within points of view they oppose as well as within those they support. If children do not grow up with a rich and varied backlog of such experiences they will not develop genuine fair-mindedness. The time to begin this process is no later than the pre-school stage. This is where the foundation for fairness to others must be laid. It should be an essential part of the core of all schooling thereafter.

Such a goal is both cognitive and affective, for emotions and beliefs are always inseparably wedded together. When we describe ourselves as driven by irrational emotions we are also driven by the irrational beliefs which structure and support them. When we conquer an irrational emotion through the use of our reason we do it through the utilization of rational passions. It is only the development of rational passions that prevents our intelligence from becoming the tool of our egocentric emotions and the self-serving point of view embedded in them. A passionate drive for clarity, accuracy, and fair-mindedness, a fervor for getting to the bottom of things, to the deepest root issues, for listening sympathetically to opposition points of view, a compelling drive to seek out evidence, an intense aversion to contradiction, sloppy thinking, inconsistent application of standards, a devotion to truth as against self-interest -- these are essential components of the rational person. It enables her to assent rationally to a belief even when it is ridiculed by others, to question what is passionately believed and socially sanctioned, to conquer the fear of abandoning a long and deeply held belief. There is nothing passive, bland, or complacent about such a person. All human action requires the marshalling of human energy. All human action presupposes a driving force. We must care about something to do something about it. Emotions, feelings, passions of some kind or other are part of the root of all human behavior. What we should want to free ourselves from is not emotion, feeling, or passion per se, but irrational emotions, irrational feelings and irrational passions. A highly developed intellect can be used for good or ill either at the service of rational or irrational passions.

The educational reform needed then is not a return to the past but the forging of a new beginning, one in which for the first time schools become focused on critical thinking and dialogical learning. The role and education of both the teacher and the student needs to be reanalyzed and reconceptualized. Teachers need coursework in critical thinking as well as in its application to curriculum. They need instructors in those courses who model critical thinking. They need intensive field experience involving the observation of master teachers and supervised practice. They need to be valued as critical thinkers and given increasing professional autonomy. They need to be involved in the development of standards of practice in critical thinking. They need regular time to meet with colleagues to observe and learn from each other's successes and failures. They need access to critical thinking materials. They need to join with administrators and parents in making a commitment to a school environment conducive to critical thinking. Such needs will not be met without funds: funds to thoroughly train staff (with long-term follow-up), funds for teacher release time, funds for staff to attend conferences, for instructional materials, for after-school committee work, etc... Quality in education will not come out of pure commitment and dedication.

On the college level we need strategies for getting beyond narrow disciplinary and technical loyalties and commitments so typically strong in departmentally organized curricula. By spending the bulk of one's time writing and thinking within the confines of one field of knowledge, or worse, within one narrow specialty of that field, one loses sight of the place of that part within the whole. The student then is serially tested within "parts," with little incentive to try to synthesize the parts into a whole. Such a task is not a merely "additive" one, but requires that students assess the parts for conflicts and contradictions, and use each to correct the others. Few college students make any real progress in this difficult and unrewarded task.

The problem of educational reform is therefore a long-term problem, requiring long-term as well as short-term strategies, and requiring a re-allocation of social resources. We could make no wiser decision than to make a commitment to become a nation of educated and fairminded people. Then we would have not only a large pool of talent to solve our technical and scientific problems, but also a citizenry with the critical faculties and ethical dispositions to work cooperatively toward solutions to the vexing problems which increasingly threaten the very survival of humankind in the world.

HISTORY OF THE CONFERENCE

The 1985 conference on Critical Thinking and Educational Reform reflects the development implicit in the four annual conferences which preceded it. From the beginning, the First National Conference on Critical Thinking, Moral Education and Rationality (1981), the concept of critical thinking we have fostered was linked to broadly based ethical concerns and not simply on more narrowly defined academic and technical needs. We began by bringing together some of the finest philosophical minds to reflect upon this crucial area of concern. Nicholas Rescher, Michael Scriven, Joseph Ullian, Julius Moravcsik, Ruth Marcus, Ralph Johnson, J. Anthony Blair, Mary Anne Warren, were among those who set us on our way. Beginning with thinkers capable of the most profound and self-critical thought was an excellent foundation to build upon. But we quickly saw that if progress was to be made we had to expand our efforts to involve decision-makers at all levels of education. We were well aware that reports on educational reform would not reform education. Very often these reports themselves were in need of critique.

The conferences that followed the first have been expanded progressively therefore to include more emphasis on the crucial early years and on the forces and factors affecting the realities of teaching. We have sought to augment and unfold sound theory with models of sound practice. Hence, our growing emphasis on workshops and video-tapes modeling instruction.

There have been two central problems that we have faced in bringing together K-12 and college instructors. Many college instructors and theoreticians have had little experience trying to translate the results of their research into classroom strategies at the K-12 level. And many K-12 teachers in turn have little sympathy for any theory that cannot immediately be so translated. Indeed there is still alive in education circles today the syndrome that H. L. Menchen so vividly caricatured:

"The aim seems to be to reduce the whole teaching process to a sort of automatic reaction, to discover some master formula that will not only take the place of competence and resourcefulness in the teacher but that will also create an artificial receptivity in the child. Teaching becomes a thing in itself, separable from and superior to the thing taught. Its mastery is a special business, a sort of transcendental high jumping. A teacher well grounded in it can teach anything to any child, just as a sound dentist can pull any tooth out of any jaw." (Baltimore Sun, 1923)

This spring, 280,000 California eighth-grade students took a history-social science test in which 40% of the questions address critical thinking skills. The California State Department of Education has developed a continuum of critical thinking skills for the 6th, 8th, 10th, and 12th grades. Work is underway on a characterization of 3rd grade critical thinking skills. A number of other states, including New York, Connecticut, Pennsylvania, South Carolina, Utah, Wisconsin, and Alaska are mandating critical thinking instruction in one form or another. The College Board has already pointed out that the ability to reason and think critically is a fundamental and necessary component of all other basic academic competencies. And just recently the American Federation of Teachers has launched a national critical thinking project including brochures, in-service programs, video-tapes and co-operative union-school district ventures.

The Center for Critical Thinking and Moral Critique has been working closely with the California State Department of Education, the College Board, numerous school districts, the Association for Supervision and Curriculum Development, and the American Federation of Teachers to facilitate implementation of the highest standards of critical thinking instruction from kindergarten through the university. The 3rd International Conference on Critical Thinking and Educational reform, in hosting the first meeting of the National Council for Excellence in Critical Thinking Instruction, in bringing together the President of the College Board, the President of the American Federation of Teachers, and many of those on the cutting edge of critical thinking theory and practice, is now a central force in the critical thinking movement.

It is important to recognize that we are still very much in the beginning stages of educational reform based on critical thinking instruction. There is every reason to think that the need for an annual conference in critical thinking will continue indefinitely. The deeply entrenched compartmentalization of knowledge, the increasing sophistication of propaganda and mass manipulation techniques, the continuing dominance of rote memorization and recall of facts as modes of learning, the growth of television and the electronic media, the increasing conflict of opposing ideologies in the global village, the acceleration of misunderstanding and stereotype in international politics, the growing desire for simplistic explanation of life with opposing groups being identified as essentially "good" or "evil", the growing threat of nuclear holocaust--all argue for the pressing need for fair-minded critical thinking skills.

ORGANIZATION OF THE CONFERENCE

It is our assumption that all of the participants in the conference bring to it a shared general interest in critical thinking understood as a family of interdependent intellectual skills and abilities in need of support by a complex of rational passions. We assume as well then that all participants share a commitment to the principle that such abilities and affective qualities can only be developed over an extended period of time and as the result of careful cultivation. We expect therefore that all participants will have some interest in the unique and necessary contributions of others working in diverse subject areas and at diverse educational levels.

Those who teach the early years need to understand and appreciate the superstructure that is to be built upon the foundations they help to lay. Those who teach the middle years need to understand and appreciate what has come before and what is to follow. And those who teach the later years need to provide the capstones that will solidify the skills, insights, and passions that can secure life-long learning grounded in deeply internalized critical thinking skills. We assume then that all participants will make some effort to communicate with and build connections to others, to reach out beyond the parochialism of subject matter and grade level.

At the same time we realize that special interest groups exist within the critical thinking movement and need to develop along a manifold of directions. All presentations therefore are classified to highlight their emphases. When a presentation is deemed to be fundamentally addressed to a specific group or grade level an appropriate label is provided (such as K-3, K-12, 6-8, G, U, etc...). When more than one label is given that is because more than one audience is being addressed. The labels provided are sometimes nothing more than educated guesses and participants should be guided more by the presentation description than the label alone.

Virtually all sessions have been scheduled for 1½ hours to maximize opportunities for questions and discussion.

The evening "cocktail" hours are intended to be an integral part of the conference. Tables will be designated with special interest markings to facilitate making connections, though we do not assume that individuals will confine themselves exclusively to one group. We are encouraging all of the presenters to make themselves available for the cocktail hours so that the kinds of extended exchanges which are often not feasible in question and answer sessions might be facilitated.

Monday night's roundtable discussions will not be entirely open-ended but will be chaired and focused upon central issues. The purpose will be to open discussion on central issues not to settle them and to help participants to identify others who are working on issues and problems of concern to them.

The video programming is intended to augment the presentations by providing some models of instruction and what may come of it (e.g., tapes of students modeling critical thinking skills). Additionally there will be some video programs shown which can be ordered as discussion starters for in-service training (i.e., tapes such as "Critical Thinking and History", "Critical Thinking and Science", and "Student Practice in Dialogical Reasoning").

SATURDAY, JULY 20

- 8:00 - 9:00** REGISTRATION
Gymnasium Lobby
- 9:00 - 9:15** WELCOME
David Benson, President, Sonoma State University
Gymnasium
- 9:15 - 10:15** *Critical Thinking: The State of the Field*
Richard W. Paul, Director, Center for Critical Thinking and Moral Critique
Gymnasium
- 10:30 - 12:00** Robert Ennis
A Conception of Critical Thinking
Ives:Warren G
- Robert Swartz, Mary Ann Wolff, Steven Schwartz, Kevin O'Reilly
Integrating Teaching for Thinking into Mainstream Classroom Instruction
SU:MP K-12 W
- David Perkins
Real World Reasoning and How it Grows
STV 1002 G
- Vincent Ruggiero
Teaching Critical Thinking in High School
Darwin 108 HS W
- Perry Weddle
Choice Thinking
STV 3008 G/6-U W
- Ronald Giere
Logic, Cognitive Science & Critical Thinking
STV 3026 G
- Ralph Johnson
The New Logic Course
Ives 44 U W
- 12:00 - 1:15** LUNCH

ABBREVIATIONS:

STV—Stevenson; CS—Cluster Schools; SU:MP—Student Union, Multi-purpose Room; N—Nichols; Ives:Warren—Ives Hall, Warren Auditorium.
G—General; HS—High School; U—University; K-12—Kindergarten-Grade 12; JC—Junior College; W—Workshop.

SUNDAY, JULY 21

1:15 - 2:45 *Critical Thinking and Educational Reform*
Albert Shanker, President, American Federation of Teachers
Gymnasium

3:00 - 4:30 Edward Glaser
The Watson-Glaser Critical Thinking Appraisal
Ives:Warren G

Debbie Walsh
Overview of AFT's Critical Thinking Project
SU:MP K-12 W

Edys Quellmalz
Teaching Critical Thinking K-3
STV 1002 K-3

Ronald Brandt
Approaches to Teaching Thinking
Darwin 108 K-12

Vincent Ruggiero
Teaching Critical Thinking Across the College Curriculum
STV 3008 U W

Gerald Nosich
Teaching Critical Thinking in Arts & Sciences Courses
STV 3026 G

M. Neil Browne, Stuart Keeley
Asking the Right Questions
Ives 44 G/U W

4:30 - 6:30 DINNER

7:00 - 10:00 COCKTAILS
Commons

VIDEOTAPE PROGRAM
Thomas Kimball, Project IMPACT
Classroom Demonstrations in the Direct Teaching of Critical Thinking Skills
Commons Alcove

9:00 - 10:30 David Perkins, Richard Paul, *Critical Thinking's Original Sin: An Exploration of the Causes of Monological Thinking*
Ives:Warren G

Edys Quellmalz, *Essay Testing of Critical Thinking*
SU:MP K-12

Robert Ennis, *How to Write Critical Thinking Test Questions*
STV 1002 G W

Donald Nolen, *Critical Theory, Critical Thinking, & Educational Reform*
Darwin 108 G

J. Anthony Blair, *The Nature & Meaning of Bias*
STV 3008 G

Kevin O'Reilly, *Teaching for Critical Thinking about Historical Interpretation*
STV 3026 6-12 W

William Ray Smith, John Doolittle, Lauren Coodley
Panel: *Critical Thinking & Psychological Perspectives*
STV 3046 G/K-12

Michael Rich, *Critical Thinking in Grades 4-6*
STV 2049 4-6 W

VIDEOTAPE PROGRAM, *Critical Thinking in Science*
Commons Alcove

10:45 - 12:15 Richard Paul, Perry Weddle, Robert Ennis, *A Continuum of History-Social Science Critical Thinking Skills for Grades 3-12*
Ives:Warren 3-12

Tony Johnson, *Philosophy for Children: An Approach to Critical Thinking*
SU:MP K-12 W

Ronald Brandt, *Issues in Teaching Thinking*
STV 1002 K-12 W

Ronald Giere, *Understanding Scientific Reasoning*
Darwin 108 G W

David Hitchcock, *The OMSITOG Approach: A General Procedure for the Critical Appraisal of Expository Prose*
STV 3008 U W

Mary Ann Wolff, *According to Whom?—Analyzing Our Own and Other's Frames of Reference*
STV 3026 6-12 W

Art Costa, *Teaching for Intelligent Behavior*
STV 3046 K-12

Edward Mooney, *Integrating Critical Thinking into the Arts & Humanities*
STV 2049 U/G

VIDEOTAPE PROGRAM, *Teaching for Inquiry in Art*
Commons Alcove

MONDAY, JULY 22

12:15 - 1:30 LUNCH

VIDEOTAPE PROGRAM, Commons Alcove

1:30 - 3:00 George Hanford, President, College Board, *The Higher Connection*
Ives:Warren U/G

Mary Weinland, Bena Kallick, Mary Vixie-Sandy, *Connecticut's Project to Integrate Critical Thinking into the K-12 Curriculum*
STV 1002 K-12

Deborah Morel-Christianson, *Critical Thinking Across the Junior High Curriculum*
STV 3026 6-8 W

Donald Lazere, *Teaching About Psychological Blocks to Critical Thinking*
SU:MP G/HS/U W

Gerard Vallone, Ken Johnson, Robert Pula, *General Semantics: A Self-Reflexive Systematic Approach to Critical Thinking K-12*
Darwin 108 K-12 W

VIDEOTAPE PROGRAM, *Critical Thinking in History*
Commons Alcove

3:15 - 4:45 Joseph Williams, *Writing & Thinking: 3 Myths/3 Truths*
Ives:Warren G

Leonard Gibbs, C. Blaine Carpenter, Bradley Rice
Panel: *College Programs in Critical Thinking*
Darwin 108 U

David Perkins, *Knowledge as Design*
STV 1002 G W

Edward Damer, Anthony Blair, Perry Weddle, Ralph Johnson, Mark Weinstein
Panel: *Minimal Qualifications for a Critical Thinking Instructor*
SU:MP G

Lenore Langsdorf, *Secularizing Philosophy: From Technique to Enlightenment*
STV 3008 U

S. Morris Engels, *The Traditional Classification of the Fallacies*
STV 3026 U

Randall Ackley, Dianne Romain, Edward Mooney
Panel: *Critical Thinking & Ethical Issues*
STV 3046 G

Gerard Vallone, Ken Johnson, Robert Pula, *General Semantics: A Self-Reflexive Systematic Approach to Critical Thinking at University Level*
Ives 44 U W

VIDEOTAPE PROGRAM, *Dialogical Practice, 1*
Commons Alcove

4:45 - 6:30 DINNER

7:00 - 10:00 COCKTAILS, Commons

VIDEOTAPE PROGRAM, Commons Alcove

8:45 - 10:15 Ben Bagdikian, *The Political Economy of the Mass Media*
Ives:Warren G

Richard Paul, *Overview of K-12 Critical Thinking Assessment in California*
STV 1002 K-12

Dan Dolan, *Teaching Problem Solving Strategies*
CS 20 6-10

Jonathan Adler, *Philosophical Problems in Everyday Reasoning*
STV 3008 G/U

Mark Battersby, *The Critic: A Computer Program for Practice Analysis & Criticism with Immediate Feedback*
STV 3026 G W

Stephen Norris, *Validating Critical Thinking Tests*
STV 3046 G

Donald Nolen, *Teaching to be Critical: Approaches to Responsible Reflection*
STV 2049 G W

Connie Missimer, *On College Critical Thinking Instruction*
Ives 44 U W

10:30 - 12:00 Roundtable: *Critical Thinking & the Media*
Ives:Warren G

Peter Kneedler, *Assessment of Critical Thinking in California's New Statewide Assessment of History-Social Science*
STV 1002 K-12

David Perkins, *Knowledge as Design in the Classroom*
Darwin 108 G W

Connie DeCapite, *Using Critical Thinking with Remedial &/or Bilingual Students*
CS 20 K-12 W

C. Blaine Carpenter, Bradley Rice, *Integrating & Assessing Critical Thinking in a 2-yr. College Curriculum*
STV 3008 U W

Mary Ann Wolff, *Beyond the Scientific Method: Can Our Schools Encourage Reflective Thinking?*
STV 3026 6-12

Stephen Norris, *Evaluating Ability to Appraise Observations*
STV 3046 G W

Antoinette Worsham, Anita Stockton, *The Thinking Skills Inclusion Process — An Instructional Model*
STV 2049 K-12 W

12:00 - 1:15 LUNCH

VIDEOTAPE PROGRAM, Commons Alcove

1:15 - 2:45 Alita Letwin, *Teaching Civic Literacy: The Law in a Free Society Curriculum*
Ives 119 K-12

Janet Nielsen, *Instructional Television & Critical Thinking Skills*
Ives 119 5-6

Frank Morrow, *Alternative Views: A View from the Inside*
Ives 119 G

Margaret Hyde, *Telecourse Instruction in Critical Thinking*
Ives 119 JC

Joel Rudinow, *Public Access & Critical Thinking Instruction*
Ives 119 JC

Marlys Witte, Ann Kerwin, *Toward a Curriculum on Medical Ignorance: No Trivial Pursuit*
CS 20 U/G W

Ralph Johnson, *On Reasoning*
STV 3026 U W

J. Anthony Blair, *Logical vs. Substantive Criticism*
STV 3046 U

Alice Scofield, *Higher Order Thinking Skills in Reading/ Writing State-wide Assessment* STV 1002 K-12

Richard Lichtman, *The Normative Substance of Critical Thinking*
STV 3008 G

3:00 - 4:30 Alita Letwin, Janet Nielsen, Frank Morrow, Margaret Hyde
(Topics: see 1:15 - 2:45)
Ives 119

Dennis Rohatyn, *Critical Thinking in Radio & Television*
Ives 119 G

John May, *Journalistic Sophistry*
STV 3008 U

Bena Kallick, *Literature to Think About*
STV 3026 K-12 W

Tej Pandey, *Problem Solving in Statewide Math. Assessment*
STV 3046 K-12

Tom Sachse, *Process Skill Assessment in Science*
STV 1002 K-12

Ginny Epstein, *Where the Wild Things Are: An Inquiry into Values in Children's Literature* STV 2049 G

4:30 - 6:30 DINNER

6:30 - 8:00 ROUNDTABLES
K-Grade 1—STV 2075; Grades 2,3—STV 2083; Grades 4,5,6—STV 2091; K-6 Staff Development—N 204; Junior High—STV 3015; HS English—STV 3040; HS Math—STV 3044; HS Social Studies—STV 3046; HS, Other Subjects—STV 3095; G.A.T.E.—N 320; JH/HS Staff Dev.—N 242; JC/U—Critical Thinking Across the Curric.—N 304.

8:00 - 10:00 COCKTAILS, Commons
VIDEOTAPE PROGRAM, Commons Alcove

TUESDAY, JULY 23

8:45 - 10:15 Jan Talbot
Evaluation of Critical Thinking Skills Through Direct Writing Assessment
STV 2049 K-12

Doug Martin
Critical Thinking & Science
Ives 44 G

Mark Weinstein
Teaching Critical Thinking in High School
STV 1002 HS W

Trudy Govier
Against the Mechanization of Reason
STV 3008 U

Gerald Nosich
On Critical Thinking Instruction
STV 3026 U W

Diane Halpern
Analogies as a Critical Thinking Skill
STV 3046 G

Jonathan Adler
Writing, Reasoning & Relevant Alternatives
CS 20 G W

VIDEOTAPE PROGRAM
Dialogical Practice in the Junior High School Classroom (Part 1)
N 304

10:30 - 12:00 Rita King
Teaching Critical Thinking Skills in the Classroom
STV 2049 K-12 W

T. Edward Damer
A No-Text Approach to Teaching Critical Thinking
Darwin 108 U/HS W

Linda Phillips-Riggs
Critical Thinking in Reading Comprehension: Inference Strategies in Text Understanding
STV 1002 G/K-12

Ian Wright, Carol LaBar
An Introduction to Practical Reasoning
STV 3008 G W

David Hitchcock
Enthymematic Arguments
STV 3026 U

Roger Peters
Comparing Knowledge-Based Critical Thinking
STV 3046 U

Thomas Nelson
Evaluating: An Integration of General Semantics and Critical Thinking
CS 20 G/K-12 W

VIDEOTAPE PROGRAM
Dialogical Practice in the Junior High School Classroom (Part 2)
N 304

12:00 - 1:15 LUNCH

VIDEOTAPE PROGRAM
Commons Alcove

1:15 - 2:45 Robert Swartz, Steven Schwartz
Logic, Critical Thinking and Reasoning
STV 1002 K-12

John Hoaglund
Stimulating Thinking About Thinking with Logical Puzzles
STV 3008 G/U

Ian Wright, Carol LaBar
Critical Thinking in Teacher Education
STV 3046 G

Harvey Siegel
Skills, Attitudes and Education for Critical Thinking
STV 2049 G/U

3:00 - 4:30 Dan Dolan
Problem Solving Strategies for Student Involvement
CS 20 6-10 W

Todd Clark, Kathleen Stewart, Marshall Croddy
Teaching Critical Thinking Skills in the Secondary Social Studies Classroom
STV 3026 6-12 W

Lauren Coodley
Math Without Fear
STV 3046 G W

Diane Brooks, Ira Clark
Critical Thinking and the History-Social Science Curriculum
STV 2049 K-12 W

END OF CONFERENCE

PRESENTERS AND ABSTRACTS

Adler, Jonathan E.

Professor
Department of Philosophy
Brooklyn College, C.U.N.Y.
Brooklyn, NY 11210

**Philosophical Problems in
Everyday Reasoning**

A number of common dilemmas in everyday reasoning resemble in source and structure certain classical philosophical problems. These dilemmas help locate one pervasive reason for the continued forcefulness of uncritical thought.

The first practical consequence we draw is that in programs on critical thinking and informal logic it is not just teaching by philosophers, but the actual engagement with, and study of, philosophy itself, that is desired. Second, legal reasoning and its pedagogy provide a model for one facet of critical thinking instruction.

Adler, Jonathan E.

**Writing, Reasoning and
Relevant Alternatives**

An attempt to apply the study of reasoning, informal logic and critical thinking to the teaching of writing.

Bagdikian, Ben H.

Dean
School of Journalism
University of California
Berkeley, CA 94720

**The Political Economy of
the Mass Media**

Some external, social forces have reduced the range of ideas appearing in the mass media of the United States in recent years, but some of this reduction is the result of internal dynamics of the media. A major factor has been the growing importance in media economics of becoming an effective carrier of mass advertising. Other strictures include the tendency in the media toward monopoly and oligopoly, thus reversing the classical assumption of many competing, partisan voices in favor of a model of the single, mediating voice with emphasis on ideas considered safe because they are comfortably within the boundaries of national legend.

Battersby, Mark

Professor
 Department of Philosophy
 Capilano College
 2055 Purcell Way
 North Vancouver, British Columbia
 Canada V7J 3H5

**"The Critic": A Computer Program
 for Practice Analysis and Criticism
 with Immediate Feedback**

The learning of critical thinking requires repeated exercises in the critical dissection of arguments. It is usually taught with extensive discussion, evaluation and criticism of arguments both by students and the instructor. But this approach is restricted by two limitations: 1. student's errors are not corrected immediately and 2. adequate checking of student work requires an inordinate amount of grading time.

In order to meet these difficulties, I have developed a computer program, "The Critic," that provides students with opportunity to practice analysis and criticism with immediate feedback. The mindlessness of multiple choice answers is avoided by involving the student in his own evaluation and by providing opportunity for the student to input disagreement. In this manner the program utilizes and encourages the student's intelligent participation in his own learning. The use of this program should accelerate student learning while freeing the instructor for more individual involvement with the students.

The workshop will involve display and hands-on demonstration of the program.

Blair, J. Anthony

Professor
 Department of Philosophy
 University of Windsor
 401 Sunset Avenue
 Windsor, Ontario
 Canada N9B 3P4

**Logical vs. Substantive
 Criticism**

This paper is an attempt to answer the questions raised by Tom Schwartz in the *Informal Logic Newsletter* (iv. 3): "1) If argument-criticisms are almost always partly logical and partly substantive, when can we say that an arguer has reasoned badly, as opposed to having made a substantive mistake?" and "2) How can teachers of informal logic avoid foisting (possibly controversial) substantive judgements on their students under the guise of teaching them how to reason better?" Dr. Blair argues that the issue is generally misconceived, that there is a third alternative.

**The Nature and
 Meaning of Bias**
Blair, J. Anthony

This paper explores the meaning and use of "bias" as a term of critical art. It argues that the term "bias" is tossed about carelessly, that it is not clear and that it is not clearly stated in many texts what it is to have a bias, or not to have a bias (which some claim is impossible), nor what is involved in avoiding (or counteracting) a bias if or when, having a bias is a bad thing.

Brandt, Ronald S.

Executive Editor
 Educational Leadership
 225 N. Washington Street
 Alexandria, VA 22314

**Approaches to Teaching
 Thinking**

Ron Brandt will review selected approaches to teaching thinking, some of which are incorporated in published programs and some of which are not. The approaches are intended to develop different types of thinking ranging from fundamental cognitive skills through reasoning and creative thinking. This session is especially intended for those looking for a general introduction to thinking skills programs.

Brandt, Ronald S.
**Issues in Teaching
 Thinking**

A discussion led by Ronald Brandt.

Brooks, Diane

Manager
 History-Social Science Unit
 California State Department of
 Education
 721 Capitol Mall
 Sacramento, CA 95814

**Critical Thinking and The
 History-Social Science Curriculum**
Co-presenter:**Clark, Ira**

Consultant
 History-Social Science Unit
 California State Department of
 Education
 721 Capitol Mall
 Sacramento, CA 95814

The content and learning experiences for teaching creative and critical thinking skills should be drawn heavily from the History-Social Science curriculum. Integral to the study of this curriculum area is the examination of issues chosen to teach critical thinking skills. Workshop participants will gain an understanding of the format, organization and content of the recently adopted *Model Curriculum Standards for History-Social Science*. In addition, participants will receive ideas which have been developed by teachers and curriculum specialists in grades K-12 for teacher discussion questions and classroom activities for teaching the critical thinking skills as related to the *Standards and History-Social Science Framework, 1981*.

Browne, M. Neil

Professor
Department of Economics
Bowling Green State University
Bowling Green, OH 43403

Co-author:**Keeley, Stuart**

Professor
Department of Psychology
Bowling Green State University
Bowling Green, OH 43403

This workshop is an introduction to a critical thinking approach based on *Asking the Right Questions* by Neil Browne and Stu Keeley. This approach has evolved from classroom experience with college students at numerous colleges and universities. Critical thinking is developed through the acquisition of an integrated set of question-asking skills. The critical questions that form the basis for this approach can be applied to a wide variety of reading material—from textbooks to magazine essays. Participants in the workshop will receive an informal model of critical thinking, an explanation of how to link critical thinking and values analysis, and suggestions for curriculum materials that facilitate critical thinking education.

Carpenter, C. Blaine

Associate Professor
Department of Biology
Clayton Junior College
P.O. Box 285
Morrow, GA 30260

Co-presenter:**Rice, Bradley R.**

Associate Professor
Department of History
Clayton Junior College
P.O. Box 285
Morrow, GA 30260

In April of 1984, a multidisciplinary committee was appointed and charged to plan and coordinate all work related to the incorporation of critical thinking across the curriculum of the college. This committee is called the *Critical Thinking Outcome Council*. Since its inception, the Council has been working on the description and components of the Critical Thinking Outcome and the development of a process and means for the college-wide assessment of this outcome. It is the intent of this workshop to: 1. Give a brief historical view of the Critical Thinking Outcome at Clayton Junior College, 2. Describe the current status of the description, components and assessment of the outcome, 3. Discuss the "Conceptual Framework" for integrating Critical Thinking into the Clayton Junior College curriculum, and 4. Give examples of assessment instruments that will be used on a pilot basis during Fall Quarter, 1985.

Asking the Right Questions**Integrating and Assessing Critical Thinking in a Two Year College Curriculum****Clark, Todd**

Education Director
Constitutional Rights Foundation
601 South Kingsley Drive
Los Angeles, CA 90005

Co-Presenters:**Stewart, Kathleen**

Associate Education Director
Constitutional Rights Foundation*

Croddy, Marshall

Director, Curriculum and Publications
Constitutional Rights Foundation

This session will use the California Assessment Program Testing Critical Thinking Skills Model as the basis for explaining and demonstrating instructional strategies appropriate for use in United States History, United States Government and World History classes at the secondary level. Materials will be provided.

Coodley, Lauren

Professor
Department of Psychology
Napa Valley College
2277 Napa-Vallejo Highway
Napa, CA 94558

Math Without Fear: Critical Thinking and Problem Solving

In "Math Without Fear", problem-solving is the focus. A wide range of activities, puzzles and games will be discussed in order to encourage logical thinking and self-confidence. Group solutions are encouraged. The fun and play of working with problems is promoted. Students learn that the kind of thinking used in word problems (which they create) can carry over into personal life.

Costa, Arthur L.

Professor
Department of Education
California State University
Sacramento, CA 95819

Teaching for Intelligent Behavior

If we were to adopt "thinking" as a valid goal of education, what would teachers and administrators have to do to include it in our curriculum and instructional practices? Teacher behaviors, instructional materials, assessment procedures and school conditions must work in harmony to enhance the development of the student's intellectual growth. In this presentation, school and classroom conditions for thinking will be described.

Damer, T. Edward
Professor
Department of Philosophy
Emory and Henry College
Emory, VA 24327

A "No-Text" Approach to Teaching Critical Thinking

This workshop will demonstrate how a college or high school course in critical thinking may be taught without the use of a textbook. The working materials of the "no-text" approach are student-selected editorials, letters to the editor, advertisements, and conversation. An outline of such an approach will be presented with handouts of sample materials and assignments.

DeCapite, Connie
*Reading Resource Specialist/
Mentor Teacher*
601 W. Alpine
Santa Ana, CA 92707

Using Critical Thinking with Remedial and/or Bilingual Students

This workshop is designed in two parts. Initially, a rationale for infusing instruction in critical thinking into reading and language programs offered to remedial and bilingual students will be presented. The second part of the workshop will be focused on how to develop and implement reading and language activities which include critical thinking skills. These activities utilize interdisciplinary materials and are geared to students in grades 6-9. However, with some modification, they could be used in either elementary or high school.

Dolan, Dan
*Mathematics/Computer Education
Specialist*
Department of Basic Instructional
Services
Office of Public Instruction
Helena, MT 59620

Teaching Problem Solving Strategies

The mathematics curriculum must change. Problem solving must become the focus of math instruction. This presentation will explore specific techniques for teaching strategies which have wide application in mathematics. The materials presented have been classroom tested and proven effective with students throughout the country.

Problem Solving Activities for Student Involvement

Dolan, Dan

Students need to be involved in the mathematics learning process. During the workshop, activities will be presented which can be used to teach, develop, and/or review math concepts. All of these activities incorporate a problem solving approach. All are classroom tested with students and proven effective. Strategies discussed during the speaker's previous session, "Teaching Problem Solving Strategies" will be used and reinforced.

Engels, S. Morris
Professor
Department of Philosophy
University of Southern California
Los Angeles, CA 90007

The Traditional Classification of the Common Fallacies

An account of the traditional way in which the fallacies are classified and why this classification is still the best that has been proposed. The paper will explore the wisdom of this classification and explain why it continues to have the strong appeal to the writer that it still does.

Ennis, Robert
Professor of Philosophy of Education
Department of Educational Policy Studies
University of Illinois at
Urbana-Champaign
1310 S. Sixth Street
Champaign, IL 61820

A Conception of Critical Thinking

On the assumption that a liberally educated person should be able to think critically in handling the civic and personal problems of daily life, as well as those of the standard subjects as taught in school, Robert Ennis will offer a conception of critical thinking that bridges all of these concerns. Starting with the idea that thinking critically is reasonably going about deciding what to believe and do, he will suggest a number of skills and tendencies that might well constitute a critical-thinking set of goals for the school, K-U. He will draw upon his own vivid experience in a murder trial to illustrate these goals.

Ennis, Robert

How to Write Critical Thinking Test Questions

In this workshop, Dr. Ennis will help the participants to learn how to frame questions that test critical thinking skills

Epstein, Ginny
Professor
Department of Education
Regis College
West 50th Avenue & Lowell Blvd.
Denver, CO 80221-1099

Where Wild Things Are: An Inquiry Into Values in Children's Literature

One way that value issues in children's literature have been analyzed has been from a cognitive-developmental perspective. A feminist criticism of this approach is that it neglects women's concerns, which are said to include more contextual considerations and compassion. This paper critiques the developmental approach to children's literature and proposes several ways to use literature as a means to critically analyze and evaluate moral issues to promote responsible decision-making. These means include the analysis, evaluation, and reconstruction of the aesthetics of children's books, the value positions of the authors, the differing contexts and interpretations of issues, the treatment of controversy, and the processes of decision-making used by characters. This presentation will include some hands-on application of this approach to a variety of children's and adolescent books.

Giery, Ronald

Professor
 Department of History and
 Philosophy of Science
 Indiana University
 Bloomington, IN 47405

**Logic, Cognitive Science
and Critical Thinking**

This paper is concerned with the question of whether the cognitive sciences might provide a useful framework in which to develop critical skills. This framework might be thought of as a supplement to, or even a replacement for, the logical or linguistic framework now prevalent in the teaching of critical thinking. The issue is specifically explored in the context of scientific reasoning but its general application will also be canvassed.

Giery, Ronald**Understanding Scientific
Reasoning**

This workshop will provide instruction on how to help students learn to evaluate and utilize scientific information and teach them how to deal intelligently with scientific issues. As a society we are becoming more and more aware of the role of science and technology in our lives. People are expected to understand, and often presumed to be able to use this information to make intelligent decisions even though they are not specialists in nuclear engineering, environmental medicine, etc. We do not have to look far to find evidence which suggests that many times this presumption is mistaken. The ability to evaluate and utilize scientific information is therefore, a very important skill which needs to be, and can be both learned and taught.

Glaser, Edward M.

President
 Human Interaction Research
 Institute
 10889 Wilshire Blvd.
 Westwood, CA 90025

**The Watson-Glaser
Critical Thinking Appraisal**

Dr. Glaser will provide an overview of, and introduction to the Watson-Glaser Critical Thinking Appraisal. Interpretation of score patterns and use of test responses for individualized training in critical thinking will be covered.

Govier, Trudy

Professor
 Interdisciplinary Studies
 University of Calgary
 Calgary, Alberta
 Canada T2M 4J8

**Against the Mechanization
of Reason**

For a variety of reasons, computers could neither construct nor appraise substantive argumentation. This limitation is very important when we contemplate the real significance of artificial so-called intelligence. In addition, seeing why this is the case reveals interesting and under-emphasized aspects of human understanding and evaluation. Because of the way in which meaning is bound to context and social expectations within the context, computers cannot understand many arguments expressed in natural language. Nor could they duplicate the insight that is required when we distinguish those features of an argument that are logically incidental from those that are logically central. Such distinctions are made whenever arguments are formalized and whenever logical analogies are used so that one argument is refuted in virtue of its structural similarity to another flawed argument. Computers must work by rules, and there are, here as elsewhere, limits to what rules can do. Mention is made of elaborations of this point in the work of Kant, Wittgenstein, Carroll, and Godel.

Halpern, Diane

Professor
 Department of Psychology
 California State University
 San Bernardino, CA 92707

**Critical Thinking
and Analogies**

Although analogies are a common component in many critical and creative thinking courses, there is little empirical evidence on the extent to which they can serve as an aid in comprehension and problem solving. Research that has investigated the use of analogies as a critical thinking tool will be reported. Results suggest that well-chosen analogies can improve understanding and memory for events explicitly stated in scientific prose passage.

Hanford, George H.

President
 The College Board
 888 Seventh Avenue
 New York, NY 10106

The Higher Connection

In the early years of this decade, numerous studies of the sorry state of secondary education in the United States led to the identification of many causes of that condition. One was that young people were not thinking or reasoning as well as they used to. In response, schools have been seeking remedies. In the process, the critical thinking movement has burgeoned. Now the reform movement has spread to higher education. Again there is agreement on the need for improvement. Again one of the reasons given is that young people aren't thinking or reasoning as well as they used to. But because higher institutions are so much more diverse in purpose and their course offerings so much more diverse in nature, concocting remedies is going to be a lot more complex. Devising them will require the best critical thinking that higher education can muster.

Hitchcock, David

Professor
 Department of Philosophy
 McMaster University
 1280 Main Street West
 Hamilton, Ontario
 Canada L8S 4K1

**The O.M.S.I.T.O.G. Approach: A
 General Procedure for the
 Critical Thinking Appraisal
 of Expository Prose**

“The O.M.S.I.T.O.G. Approach: A General Procedure for the Critical Appraisal of Expository Prose”, will deal with a checklist for systematic critical appraisal of expository prose. After a demonstration of the approach, participants will try it out in small groups on selected passages. The workshop will conclude with a discussion of the merits and drawbacks of teaching students to use such an approach.

Hitchcock, David**Enthymematic Arguments**

This paper, entitled “Enthymematic Arguments”, will build on an earlier work by the same author, in which a general theory was developed for natural languages of the circumstances in which an argument which is not deductively valid can best be regarded as incompletely expressed (rather than a mere non sequitur). Dr. Hitchcock will propose and defend a general procedure for attributing additional premises to the authors of such “incomplete” arguments.

Hoaglund, John

Professor
 Department of Philosophy
 Christopher Newport College
 50 Shoe Lane
 Newport News, VA 23606

**Stimulating Thinking About
 Thinking with Logical Puzzles**

This is a practical workshop on using logical puzzles in ordinary language (no symbolism) for teaching critical thinking skills. Participants will work one relatively straightforward puzzle, then solutions will be shared. This brings an awareness of the challenge and some of the skills brought into play. Next, a second puzzle will be worked together by the grid method. Then this solution will be studied from the vantage points of the logical relations of consistency, inconsistency, implication, and contradiction. Finally a method of teaching these relations along with examples and sample problems will be treated.

Hyde, Margaret

Bay Area Television Consortium
 Evergreen Valley College
 3095 Yerba Buena Road
 San Jose, CA 95135

**Telecourse Instruction in
 Critical Thinking**

A progress report on the FIPSE-funded Telecourse Development Project for use in critical thinking instruction at the junior college level.

Johnson, Ralph

Professor
 Department of Philosophy
 University of Windsor
 Windsor, Ontario
 Canada N9B 3P4

The New Logic Course

In this workshop, Professor Johnson will update his article entitled, “The New Logic Course” (*Teaching Philosophy*, for: 2: 123-143, 1981) by taking account of developments in the last four years regarding new techniques of argument analysis. (Copies of this article will be distributed at the workshop).

Johnson, Ralph**On Reasoning**

In this workshop, a schema for understanding reasoning proficiency with particular emphasis on recent studies in cognitive psychology will be presented.

Johnson, Tony

*Assistant Professor of
 Educational Foundations*
 College of Social and Behavioral
 Sciences
 University of Texas
 San Antonio, TX 78285

**Philosophy for Children: An
 Approach to Critical Thinking**

Philosophy for Children is a systematic and complete curriculum which fosters the improvement of reasoning skills through the discussion of philosophical topics. In this presentation, the assumptions underlying the program will be identified and examples given to show how the *Philosophy for Children* program develops critical thinking skills in children and adolescents.

Kallick, Bena

Weston Woods Institute
 Weston, CT 06883

**The Literature to Think
 About Series**

This workshop will be centered on two films, *Doctor De Soto* by William Steig and *Changes, Changes* by Pat Hutchins. It will consist of the following elements: 1. An overview to using children’s literature as the basis for developing critical thinking in the elementary school, 2. A viewing of the films, 3. A discussion, much the same as what might go on in a classroom among the participants, 4. Preparation of a group book based on the experience, and 5. A video of a classroom, using the same techniques, with an opportunity for analysis and discussion.

King, Rita

Educational Consultant
P.O. Box 880082
San Diego, CA 92108

**Teaching Critical Thinking
Skills in the Classroom**

Rita King, Chairperson of a subcommittee of the History-Social Science Assessment Advisory Committee, called the "CTS Implementation Committee," will describe specific activities designed to help teachers and students understand the critical thinking skills addressed in California's new grade 8 statewide assessment. Recommended activities are contained on "idea sheets" and include individual student and group activities. The idea sheets were piloted among 300 California teachers last spring. Participants will receive copies of the idea sheets for review and will be invited to participate in the piloting process.

Kneedler, Peter E.

Consultant
California Assessment Program
California State Department of
Education
721 Capitol Mall
Sacramento, CA 95814

**Assessment of Critical Thinking
in California's New Statewide
Assessment of History-Social Science**

In the spring of 1985, California introduced a new test to its 300,000 eighth grade students. Forty percent of the assessment items on the test assess 12 specific critical thinking skills. In this session, Dr. Kneedler will describe the new test, how it was constructed, and who was involved. Descriptions of the 12 critical thinking skills with illustrative items will highlight the session. Participants will receive blackline masters of the transparencies shown along with several other documents that describe the assessment and the critical thinking skills.

La Bar, Carol

Professor
Faculty of Education
University of British Columbia
Vancouver, British Columbia
Canada V6T 1Z5

**An Introduction to
Practical Reasoning**
**Co-presenter:
Wright, Ian**

Professor
Faculty of Education
University of British Columbia
Vancouver, British Columbia
Canada V6T 1Z5

Practical reasoning has to do with deciding what oneself or one's social group ought to do. Such reasoning involves conceptual questions (how is the problem to be defined?), empirical questions (what alternatives are open and what consequences are likely to follow from each alternative?), and normative/value questions (what rules and principles should be applied?).

In this workshop a social issue will be explored. Participants will work through a number of critical thinking activities with emphasis on those related to value reasoning.

La Bar, Carol**Co-presenter:****Wright, Ian**

Ian Wright and Carol La Bar will lead a discussion on the importance and role of critical thinking in teacher education.

**Critical Thinking in
Teacher Education**
Langsdorf, Lenore

Professor
Department of Philosophy
University of Texas
P.O. Box 19527
Arlington, TX 76019

**Secularizing Philosophy: From
Technique to Enlightenment**

Critical thinking is often taught simply as a set of tools which can be used to strengthen or sharpen critique for whatever purpose the thinker desires and irrespective of whether or not the tools further a person's insight into herself and her basic values. Dr. Langsdorf defends Richard Paul's position that critical thinking instruction ought to have a "socratic" and not a "sophistic" effect. She develops an argument in favor of the significance of imagination in strong-sense critical thinking. She argues as well, that Paul Ricoeur's text theory provides a way of grasping the importance of fiction in getting beyond one's natural egocentricity.

Lazere, Donald

Professor
Department of English
California Polytechnic State
University
San Luis Obispo, CA 93407

**Teaching About Psychological
Blocks to Critical Thinking**

Most theory and teaching in critical thinking has emphasized the structures of formal or informal logic, to the neglect of the psychological and emotional blocks to rationality that frequently motivate illogical, fallacious reasoning. This workshop will focus on classroom exercises for a unit on blocks to critical thinking in writing and a variety of other courses (mainly at the college level, but with applications to high school). These exercises are designed to bring students to awareness of the following blocks in both their own thinking and that of sources of information such as politicians, mass media, and research resources: culturally conditioned assumptions, authoritarianism, prejudice and stereotyping, egocentrism and sociocentrism, parochiality, compartmentalized thinking, rationalization, and sentimentality.

Letwin, Alita

Director of Educational Services
 Center for Civic Education/Law in
 a Free Society
 5115 Douglas Fir Road, Suite I
 Calabasas, CA 91302

**Teaching Civic Literacy: The
 Law in a Free Society Curriculum**

A hands-on workshop on multi-media instructional materials for use in teaching civic literacy in grades K-12.

Lichtman, Richard

Professor
 Wright Institute
 2728 Durant Avenue
 Berkeley, CA 94704

**The Normative Substance
 of Critical Thinking**

Critical thinking has, to a large extent, become an economic synecure, an educational fad and an ideological pretense. An analysis of critical thinking implies an object, subject and an activity which embodies such thinking. The object is a certain state of society. The subject is human beings organized to transform that society and the activity is theoretical and practical evaluation and transcendence. In short, critical thinking cannot be defined as a formal enterprise but requires a substantive view of society and human nature, of moral and political principles, and of the social practice that would emancipate the agents of the critique.

Martin, Doug

Professor
 Department of Chemistry
 Sonoma State University
 Rohnert Park, CA 94928

**Critical Thinking
 and Science**

The critical thinking skills employed by scientists are those of critical thinkers in general. These skills include: deductive and inductive reasoning, argumentation, and reasoning about causation, correlation, and statistical matters. These analytical skills are then applied by scientists to the task of justifying or refuting theoretical models on the basis of empirical statements. Scientific reasoning thus provides an effective medium in which to teach critical thinking. Examples of lessons in critical thinking applicable to the public school science classroom will be discussed. It is noted, however, that such a presentation of critical thinking runs the risk of implying to students that scientists are able to function with this critical thinking model as their "method." I suggest that it is important to point out instances where science does not adhere to this model in order to provide students a more correct description of the status of scientific knowledge. One historically pivotal instance is the Copernican Revolution, in which a major theory shift occurred without any clear justification or refutation. The second instance I discuss is atomic theory, in which empirical evidence cannot be generated without using the theoretical model, thus clouding the issue of "objective" theory choice.

May, John D.

Professor
 University of Queensland
 Department of Government
 Michie Bldg., St. Lucia Campus
 St. Lucia, Queensland
 Australia 4067

Journalistic Sophistry

Some routine practices of contemporary journalists give faulty if not false pictures of social reality, as well as of particular events. And they dull the critical faculties of recipients. Among these entrenched malpractices: 1. Lateralism, or equating political events with physical movements (to the left, the right, forward, backward), 2. Personation, or imputing limbs and volition to buildings (the Kremlin, the White House), documents (the Bill), circles, offices and groups instead of to occupants, authors and other real actors, 3. Ghosting, or alluding to mental states ("It is expected," "is believed") as if they do, and thus can, exist apart from particular human vessels, 4. Tendentious Labelling, or co-mingling emotionally charged non-objective labels ("liberal," "extremist," "progressive") with genuine descriptives ("lawyer," "36," "Kansan," "convicted murderer"), 5. Mind-Reading, or pretending to record, and hence to be able to detect and not merely to interpret fallibly, the intentions of named actors and even of named acts, and 6. Pontification, or delivering interpretations of events in the guise of doing straight reportage.

Missimer, Connie

Professor
 Department of Humanities and
 Philosophy
 Los Medanos College
 Pittsburg, CA 94565

**College Critical
 Thinking Instruction**

The book, *Good Arguments: An Introduction to the Language of Critical Thinking*, (to be published in January 1986 by Prentice Hall, Inc.) helps students understand how arguments are structured. As the title suggests, the standard language of good arguments is stressed. It includes chapters on a method of evaluating the three major types of evidence found in arguments, dialogue-writing, following complex arguments, and problem-solving. There is a chapter on deliberating rather than debating so that students learn how to accommodate new information into their cases rather than tying their egos to a position. Another unique feature is a simple visualization scheme that shows students how arguments are structured. This lecture/workshop will demonstrate instruction on the model developed in the text.

Mooney, Edward

Professor
Department of Philosophy
Sonoma State University
Rohnert Park, CA 94928

**Integrating Critical Thinking
Into the Arts and Humanities**

Professor Mooney will read a short paper (15 minutes) on the problem of integrating critical thinking into the Arts and Humanities. Then he will lead a discussion involving the participants. Those particularly interested in strategies for such integration at the college and university level are especially encouraged to attend.

**Morel-Christianson, Deborah Critical Thinking Across
The Junior High Curriculum**

Instructor/Mentor Teacher
Howell Mountain Elementary
School
Angwin, CA 94508

Young people, especially junior and senior high students, are beset with conflicts: the world in which every issue was painted in clearly identifiable black and white is now blurring into varying shades of gray, the defining edges muted and smudged. On the one hand, young teen-agers wish again for the security of assuring explanations and directions from adults; on the other hand, they find themselves questioning beliefs and attitudes - attempting to analyze issues independently, seeking to understand what to believe, what to do.

This is the very age when we as teachers could do the greatest service: by helping them develop those skills of critical reasoning which will enable them to sort out the jumble of conflicting "Gray-issues" continually besieging them. Approaches to teaching critical thinking in literature, composition, social studies, and science will be discussed. Particular attention will be given to a successful thinking/writing program used across-the-curriculum in one junior high classroom. I will also share various ways dialectical thinking became an integral part of this classroom's learning process. A video-tape of a lively pro/con Vietnam War discussion followed by student development of position papers will be seen.

Morrow, Frank

Co-producer, "Alternative Views"
Alternative Information Network
P.O. Box 7279
Austin, TX 78712

**"Alternative Views": A View
from the Inside**

A one-hour documentary program commemorating the fifth season of the Austin Community television series "Alternative Views". An inside look at a courageous television series and its production. Video activist Frank Morrow, co-producer of the series, will be present to respond to questions.

Nelson, Thomas

President
AAV Publishing Company
111 Bennetts Farm Road
Ridgefield, CT 06877

**Evaluating: An Integration
of General Semantics
and Critical Thinking**

By utilizing the non-threatening mis-evaluating reactions of the participants, triggered by unique kinesthetic/audio-visual techniques, this hands-on workshop will elucidate the complementary nature of general semantics and critical thinking. It will be demonstrated how the two disciplines may be integrated into a more effective method for training in the principles of proper affective-cognitive evaluating.

Participants will first experience various evaluation training devices in which they will repeatedly mis-evaluate what they are seeing and handling. As there are no gimmicks or tricks involved, it will be discovered that the mis-evaluations are caused by our own deeply-rooted unconscious and habitual evaluating patterns. Participants will enjoy the insights gained and will learn how, through the application of a few general semantic and critical thinking principles, their mis-evaluating patterns could be corrected. It will be shown also that the mis-evaluating patterns of the participants in this neutral workshop situation are the very patterns exhibited in such socially undesirable mis-evaluations as racism, sexism, ethnocentrism, and in other prejudicial attitudes and uncritical modes of thinking.

Nielsen, Janet

Utilization Specialist
KQED-TV
500 8th Street
San Francisco, CA 94103

**Instructional Television and
Critical Thinking Skills**

A training workshop in the use of the award-winning video series "Think About" for instruction in language arts, mathematical concepts, and study skills for fifth and sixth graders.

Nolan, Donald

Professor
Department of Philosophy
Parkland College
2400 West Bradley Avenue
Champaign, IL 61820

**Teaching to Be Critical:
Approaches to Responsible
Reflection**

After discussing differences between teaching "about" thinking and teaching "to" think, focus will be placed upon recent conceptions of stages of cognitive and ethical development. Lessons which stimulate development will be presented, some of which derive from recent research and others which have been classroom tested. Each of these lessons will be offered with a view toward clarifying the role of critical thinking as an "ethics" rather than an "instrument" of thinking.

Nolan, Donald

Critical Theory, Critical Thinking, and Educational Reform

Recent European thinking on the relationship between "technical," "practical," and "critical" rationality serves to illuminate much of the recent debate over the nature and role of instruction in critical thinking, creative thinking and problem-solving. Many current conceptions, for example, McPeck, Toulmin, and the University of Chicago Institute on Liberal Learning and Intellectual Development, can be viewed as a compromise between the national educational reform movement, pragmatic-analytic thought, and technological culture. The nature and prospects of a "critical" conception of critical thinking, its relationship to cognitive and moral development, and to the goals of liberal learning, will be offered as an alternative.

Norris, Stephen

Assistant Professor
Research Institute for Educational
Research and Development
Memorial University of
Newfoundland
St. John's, Newfoundland
Canada A1B 3X8

Validating Critical Thinking Tests

The development and validation of a critical thinking test is a problem of design. This implies that the activity is goal-directed, and that the purposes of the test must always be kept in mind. In particular, the design must ensure that the uses for which the test is intended are justified.

This paper will examine problems relevant to critical thinking test design, such as how to gain evidence on thinking processes, how to allow for differing background beliefs of examinees, and how to examine critical thinking in context. The theoretical nature of these problems will be examined, and some practical guides for addressing them will be offered.

Norris, Stephen

Evaluating Ability to Appraise Observations

Making, reporting, and appraising observations are critical thinking activities fundamental to our knowledge of the world. The ability to do them well is as necessary for watching birds as it is for doing science, for serving on courtroom juries, and for buying automobiles.

This paper will provide a conception of observation appraisal ability and show how this conception can guide the evaluation process. In addition, the *Test on Appraising Observations*, a newly developed critical thinking test, will be described and discussed. Possible uses of the test in evaluating the ability to appraise observations will be examined.

Nosich, Gerald M.

Associate Professor
Department of Philosophy
University of New Orleans
New Orleans, LA 70148

Critical Thinking Instruction

An approach to the teaching of critical thinking based on Gerald Nosich's book, *Reasons and Arguments*.

Nosich, Gerald M.

Teaching Critical Thinking in Arts and Sciences Courses

This paper will provide a set of methods for and examples of teaching critical thinking in courses other than critical thinking courses. It is a practical paper, attempting to show in fair detail how teachers of literature, history, fine arts, etc. (even physical education) can teach, and give creative assignments that test the skills of critical thinking within their disciplines.

O'Reilly, Kevin

Assistant Professor
Teacher, Hamilton-Wenham School
District
Critical and Creative Thinking
Program
University of Massachusetts
Boston, MA 02125

Teaching for Critical Thinking About Historical Interpretation

This is a workshop for teachers to explore ways of integrating critical thinking into what they teach.

Pandey, Tej

Consultant
California Assessment Program
California State Department of
Education
721 Capitol Mall
Sacramento, CA 95814

Problem Solving in Statewide Mathematics Assessment

Dr. Pandey will describe the assessment of problem solving or nonroutine applications of mathematics which are contained in the grade 6 and 8 statewide assessment of mathematics. Illustrative test items will provide participants with information on assessment approaches in specific areas of problem solving, such as problem formulation, analysis and strategies, interpretation, and solution. Plans for mathematics assessment in California's Golden State Examinations will also be described. Participants will be provided with documents that describe the statewide mathematics assessment in detail.

Paul, Richard W.

Director
Center for Critical Thinking
and Moral Critique
Sonoma State University
Rohnert Park, CA 94928

**Overview of K-12 Critical Thinking
Assessment in California**

In a session of special interest to K-12 teachers and specialists, Richard Paul will provide an overview of the California Assessment Program (CAP). The statewide assessment program has placed a heavy emphasis on the critical thinking skills and tests critical thinking through the content areas of reading, writing, mathematics, science, and history-social science. Content area speakers from the California Assessment Program who will conduct more extended sessions during the conference will provide brief (5 minutes) descriptions of their upcoming sessions. They are:

Alice Scofield
Tej Pandey
Tom Sachse
Peter Kneedler
Jan Talbot

Reading/Writing
Mathematics
Science
History-Social Science
History-Social Science/Critical
Thinking/Writing
History-Social Science/Critical
Thinking/Inservice

Rita King

Paul, Richard

Co-presenters:

Weddle, Perry

Ennis, Robert

**A Continuum of History-Social
Science Critical Thinking
Skills for Grades 3-12**

In this session, the above presenters will present a continuum of history-social science critical thinking skills for grades three through twelve. The continuum begins with basic concepts, terms, and skills and concludes with concepts that should be internalized by grade 12 where they should be an intrinsic part of spontaneous thinking. Participants will receive a copy of the skills continuum.

Paul, Richard

**Critical Thinking: The
State of the Field**

Richard Paul will report to the conference on the state of the critical thinking movement, its relation to problem-solving, decision-making, cognitive psychology, and to western intellectual history. He will comment on some of the most pressing needs in the field as well as on some of the most recent and exciting developments.

Perkins, David

Co-director
Project Zero
Graduate School of Education
Harvard University
Cambridge, MA 02138

Knowledge as Design

“Knowledge as Design” is a general approach to integrating the teaching of critical and creative thinking skills with the teaching of context. Any piece of knowledge or product of mind -- division by fractions, the Declaration of Independence, Newton’s laws, sonnet form -- is taught as a design with its own unique purpose, structure, model cases, and arguments explaining and evaluating it. The design framework provides a guide to understanding knowledge, thinking critically about it, and going on to apply it inventively. David Perkins will present a lecture/demonstration introducing the fundamentals of knowledge as design.

Perkins, David

**Real World Reasoning
and How it Grows**

Findings from a long-term program investigating real world, informal, or “every-day” reasoning are reported. The results include evidence that 1. normal education has little impact on informal reasoning, 2. even education that puts an unusual emphasis on critical thinking also may have little impact, 3. informal reasoning poses challenges quite different from those of formal mathematical or syllogistic reasoning, 4. people learn to reason better informally by accumulating a repertoire of “thinking frames” by which they guide themselves, and 5. reasoning can be improved by direct instruction.

Perkins, David

**Knowledge as Design
in the Classroom**

During the follow-up workshop for the “Knowledge as Design” presentation, participants will learn practical techniques for applying the knowledge as design framework to subject matter instruction.

Perkins, David

Co-presenter:

Paul, Richard

Director
Center for Critical Thinking and
Moral Critique

**Critical Thinking’s Original
Sin: An Exploration of the
Causes of Monological Thinking**

Richard Paul will present his concept of critical thinking in the strong sense, exploring some causes of one-sided “monological” thinking intrinsic to the fundamental character of human motivation. David Perkins will refer to research from cognitive psychology to explore some causes of monological thinking intrinsic to the fundamental character of human cognition. A discourse will ensue, examining “original sins” of human nature that stand in the way of the development of critical thinking and considering educational remedies.

Peters, Roger

Professor
 Department of Psychology
 Fort Lewis College
 Durango, CO 81301

**Comparing Knowledge-Based
 Critical Thinking**

Critical thinking has been viewed as a single set of generic skills which can be taught apart from other subject matter or as several sets of special skills based on knowledge of, and therefore peculiar to, disciplines. An analysis of generic and knowledge-based descriptions and examples of critical thinking suggests that there are seven key tasks which critical thinkers must perform: evaluating sources, remaining open-minded, defining the meaning of terms, assessing evidence, using logic, tracing implications, and identifying presumptions. These tasks constitute the "SOME LIP" description of critical thinking. The SOME LIP tasks are used as categories for comparative analysis of critical thinking in legal, sociobiological, and "humanistic" epistemologies. In spite of profound epistemological differences, the existence of common tasks raises the possibility of transfer of domain-specific critical skills from one discipline to another. The paper concludes with a description of how the SOME LIP scheme is used in undergraduate psychology courses.

Phillips-Riggs, Linda

Assistant Professor
 Institute for Educational Research
 and Development
 Memorial University of
 Newfoundland
 St. John's, Newfoundland
 Canada A1B 3X8

**Critical Thinking in Reading
 Comprehension: Inference
 Strategies in Text Understanding**

The ability to make inferences is necessary to reading comprehension. Inferencing is a constructive thinking activity because the reader constructs meaning to evaluate understanding. It is reasoning, a step from information in the text to what is offered as a conclusion based upon generalization or explanation. It is on the inference strategies that students use in text understanding that I wish to focus.

This presentation will show that when students make inferences in text understanding they use a number of strategies to do so. It will be shown through examples of the inference strategies that a reader must have the ability to extract relevant information from both personal experiences, and the text, and be able to assimilate the two. Three category divisions are suggested for the strategies: most productive, productive, and counter-productive.

Quellmalz, Edys

Associate Professor
 School of Education
 Stanford University
 Stanford, CA 94305

**Teaching Critical
 Thinking K-3**

Contrary to current practice and some educational philosophies, children at all age levels can explain and support their interpretations and evaluations. Edys Quellmalz has developed model lessons designed to guide students through a process of purposeful information gathering, analysis, and interpretation, as well as explanation of conclusions. The predominate approach is to have students write about material they read as part of their usual class assignments with the objective of the lesson emphasizing four skill areas: analysis, comparison, inference/interpretation, and evaluation. Dr. Quellmalz will explain her approach and provide ample time for questions and discussion.

Quellmalz, Edys
**The New Essay Tests in
 Critical Thinking for
 California State-Wide Testing**

Edys Quellmalz has been actively involved in the development of essay tests to be used in the California Assessment Program. Dr. Quellmalz will explain the state of the art in essay testing and summarize where California is in this important area. Illustrative prompts will be provided.

Rich, Michael

Instructor
 Dan Mini Elementary School
 1530 Lorenzo Drive
 Vallejo, CA 94589

**Critical Thinking
 in Grades 4-6**

The state of California has mandated that critical thinking skills be taught in the public schools. Many districts are attempting to include critical thinking in their courses. Though there is general agreement among critical thinking theoreticians as to the core concept, there is considerable disagreement and indeed, confusion among school practitioners as to what critical thinking entails. In this workshop, some of the key concepts in critical thinking will be defined in terms of specific skills that can be taught at the elementary level. Various means will be developed for teaching critical thinking and integrating it into the general curriculum. The in-pu of the participants in the development of the lessons will be welcomed and encouraged.

Rohatyn, Dennis

Professor
 Department of Philosophy
 University of San Diego/KPBS-FM
 San Diego, CA 92110

**Critical Thinking in Radio
and Television**

This workshop will consist of three parts. Part I is an attempt to demystify the media and will address the questions, "Is critical thinking compatible with media activity?" and "Can technology teach?" In part II, Professor Rohatyn will describe three of his recent programs: *Thinking Things Through*, *Lookout!*, and *The Art of Argument*. Samples from these programs and series outlines will be provided. In part III, the specifics of working in public media will be explained i.e how to "break into" public media, getting an idea, choosing a format, selecting topics, interviewing guests, working without funds, overcoming limitations, what can and cannot be done on radio, similarities and differences between radio and television, etc.

Rudinow, Joel

Research Associate
 Center for Critical
 Thinking and Moral Critique
 Sonoma State University
 Rohnert Park, CA 94928

**"Public Access" and Critical
Thinking Instruction**

This is a workshop in the use of public access television as an enrichment device for instructors of critical thinking at the university and junior college levels. Clips from student-produced televised discussions of the environmental issue of oil exploration off the northern California coast and the issue of conscientious civil disobedience and the provision of sanctuary to Central American refugees will be presented and critiqued.

Ruggiero, Vincent Ryan

Professor
 Department of Humanities
 SUNY Delhi College
 Delhi, NY 13753

**Teaching Critical Thinking
Across the College Curriculum**

This workshop will identify the thinking skills fundamental to a liberal education and suggest ways for instructors to emphasize those skills in a variety of courses across the college curriculum without compromising existing subject matter and course objectives. Special attention will be given to the integration of thinking instruction with instruction in reading and writing.

Ruggiero, Vincent Ryan**Teaching Critical
Thinking in High School**

This workshop will address a number of important questions about the teaching of thinking in high school classes, including the following: Do some courses teach thinking automatically, by virtue of their nature and content? Don't all good teachers teach thinking already, without adding specific objectives? How can thinking instruction be added to a curriculum without detracting from existing course content? Should thinking instruction be limited to honors programs? What benefits does thinking instruction offer teachers? In addition, the workshop will offer suggestions for building a thinking skills program.

Sachse, Tom

Manager
 Science Education
 California State Department of
 Education
 721 Capitol Mall
 Sacramento, Ca 95814

**Process Skill Assessment
in Science**

Science will be added to California's grade 8 statewide assessment in 1986. In this session, Tom Sachse will describe the process skills that will be an integral part of the new assessment. Illustrative items will highlight discussion of the process skills of observing, comparing, organizing, relating, inferring, and applying. Participants will receive documents describing the proposed assessment for science.

Schwartz, Steven

*Co-director, Critical and Creative
Thinking Program*
 Associate Professor of Psychology
 Critical and Creative Thinking
 Program
 University of Massachusetts
 Boston, MA 02125

**Logic, Critical Thinking
and Reasoning****Co-Presenter:****Swartz, Robert**

*Co-director, Critical and Creative
Thinking Program*
 Professor of Philosophy
 University of Massachusetts
 Boston, MA 02125

This paper will involve a discussion of the role of logic and of empirical studies of reasoning in promoting critical thinking.

Scofield, Alice

Professor
 Department of Education
 San Jose State University
 San Jose, CA 95192

**Higher Order Thinking Skills
 in Reading/Writing Statewide
 Assessment**

In this session, Dr. Scofield will describe the higher order thinking skills assessed at grades 3,6, and 8. Illustrative test questions will be included in her presentation. California's planned direct writing assessment will also be highlighted along with illustrative prompts. Participants will be provided with descriptive materials that describe test content and direct writing assessment approaches.

Shanker, Albert

President
 American Federation of Teachers
 555 New Jersey Ave., NW
 Washington, D.C. 20001

**Critical Thinking &
 Educational Reform**

President Shanker will discuss the role of critical thinking in educational reform. He will tie it to the new emphasis on teaching professionalism and suggest ways to spur critical thinking in teachers and students. He will touch upon AFT's national survey of the states in critical thinking instruction and explain the role that A.F.T. is playing in building critical thinking programs in locals.

Siegel, Harvey

Professor
 Department of Philosophy
 University of Florida
 P.O. Box 248054
 Coral Gables, FL 33124

**Skills, Attitudes, and
 Education for
 Critical Thinking**

Much recent writing on critical thinking espouses the view that critical thinking is fundamentally a matter of mastering generalizable cognitive skills. But, as Richard Paul has pointed out, mastery of cognitive skills alone cannot be sufficient for earning the label "critical thinker", for, without attendant attitudes, such mastery can give rise to sophists, charlatans, and self-deceivers rather than critical thinkers. In this paper, the "skills" conception of critical thinking offered by Robert Ennis is compared with the "strong sense" conception offered by Paul. In so doing, it is hoped that the strengths and weaknesses of each will be exposed, and more importantly, that something of interest regarding the "critical attitude" will be said.

Swartz, Robert

*Co-director, Critical and Creative
 Thinking Program*
 Professor of Philosophy
 Critical and Creative Thinking
 Program
 University of Massachusetts
 Boston, MA 02125

**Integrating Teaching for
 Thinking Into Mainstream
 Classroom Instruction**
Co-presenters:**Schwartz, Steven**

*Co-director, Critical and Creative
 Thinking Program*

O'Reilly, Kevin

*Assistant Professor, Critical and
 Creative Thinking Program*

Wolff, Mary Anne

*Assistant Professor, Critical and
 Creative Thinking Program*

Members of the Critical and Creative Thinking Program at the University of Massachusetts at Boston, will demonstrate and discuss lessons and techniques that infuse a focus on critical thinking, and on problem-solving into classroom instruction by restructuring traditional content. The concept of critical thinking and of problem solving that is utilized will be discussed as will issues about the structure of instructional programs in schools and school systems that can foster this kind of integration. Two teachers will discuss their experiences as part of this presentation.

Talbot, Jan

Chairperson
 Subcommittee for Critical Think-
 ing/Writing in History-Social
 Science
 5307 Rimwood Drive
 Fair Oaks, CA 90041

**Evaluating Critical Thinking
 Skills Through Direct
 Writing Assessment**

Individual and group writing exercises are an integral part of the history-social science critical thinking statewide assessment. In this session, Jan Talbot will describe a variety of approaches and prompts that were field-tested last spring. Writing prompts require students to construct their own arguments, analyses, and evaluations. Students are given the opportunity to pursue extended lines of thought while considering the points of view of others. The subcommittee has identified three categories of writing assessment: reasoned advocacy, focused (cued) response, and group problem solving. All writing prompts are based on history-social science content. Participants will receive descriptive materials on the proposed direct writing assessment.

Vallone, Gerard

Professor
Department of Philosophy
The College of White Plains of
Pace University
78 North Broadway
White Plains, NY 10603

Co-presenters:

Johnson, Kenneth

Professor
Department of Communications
University of Wisconsin
Milwaukee, WI 53201

Pula, Robert P.

Director
Institute of General Semantics
3029 Eastern Avenue
Baltimore, MD 21224

Thinking Critically about critical thinking involves self-reflexiveness, that remarkable human capacity to be aware of our awareness, to evaluate our evaluations. Our language is similarly self-reflexive: we can make statements about statements, question our questions. General semantics provides a way to use self-reflexiveness systematically to monitor our on-going evaluations. This session will deal with the basic structure of general semantics and will theoretically and experientially demonstrate its power as a dynamic approach to critical thinking that can readily be taught at many different educational levels and in conjunction with diverse curricular content.

Vallone, Gerard

Co-presenters:

Johnson, Kenneth

Pula, Robert P.

Language is self-reflexive. It is self-reflexive in that any statement is self-referring on two levels: a statement in a language can be said to be about the language, its structure, syntax and (largely unconscious) epistemological assumptions and a statement, whatever its announced subject, also reveals something about the statement maker, his assumptions, etc. In this workshop, Gerard Vallone, Kenneth Johnson and Robert Pula will describe the basic structure and theory of general semantics and demonstrate its importance as an approach to critical thinking.

**General Semantics: A
Self-Reflexive Systematic Approach
to Critical Thinking K-12**

**General Semantics: A
Self-Reflexive Systematic
Approach to Critical Thinking
at the University Level**

Walsh, Debbie

Assistant Director
Educational Issues Department
American Federation of Teachers
555 New Jersey Avenue, N.W.
Washington, D.C. 20001

**Developing Critical Thinking
Skills in the K-12 Curriculum:
Strategies from the AFT Critical
Thinking Project**

This session will provide an example of a critical thinking awareness workshop for K-12 classroom teachers. The presentation will include an overview of the concept and issues related to critical thinking instruction, as well as initial strategies for integrating critical thinking skills in classroom instruction. The American Federation of Teacher's Critical Thinking Project will also be described.

Weddle, Perry

Professor
Department of Philosophy
California State University
6000 J Street
Sacramento, CA 95819

Choice Thinking

This workshop will present two practical modules for teaching critical thinking, both having to do with constructing and evaluating sets of options.

First will be a student drill unit on how to handle sets of options. A checklist of guidelines, "Dilemma Defense," will be distributed and subjected to evaluation by everyone. Participants will try the checklist on an array of supplied examples, from a variety of everyday sources, and will explore questions of application, educational value and improvements.

Second will be a related unit on testing by multiple-choice. With California Assessment Program test questions, and others, as examples, we will consider the critical thinking necessary to construct, answer and evaluate multiple-choice questions. The value of having students construct and evaluate their own questions will be entertained. Suggestions for "deepening" multiple-choice testing will be proposed. A system will be explained whereby students may attempt, by argument, to defend their "wrong" multiple-choice answers.

Formal presentations will be relatively brief, leaving time for discussion and exploration. Participants are encouraged to bring materials of their own to share.

Weinland, Mary

Reading Consultant
Bureau of Curriculum
State Connecticut - Department of
Education
P.O. Box 2219
Hartford, CT 06145

**Connecticut's Project to
Integrate Critical Thinking into
the K-12 Curriculum**

Dr. Weinland, representing the Bureau of Curriculum and the Critical Thinking Advisory Committee, will give a report on Connecticut's progress in introducing critical thinking into the K-12 curriculum.

Weinstein, Mark

Professor
 Department of Philosophy
 Hunter College - CUNY
 695 Park Avenue
 New York, NY 10021

**Teaching Critical Thinking
in High School**

Critical thinking in the high school raises problems that reflect the special concerns of the secondary school educator. These include: the special needs of adolescents, teacher specialization and integration into the curriculum, and social concern over adolescent behavior.

The workshop will begin with a brief review of these special issues and then will turn to practical solutions to these problems. We will look at materials developed by *Philosophy for Children*, *The Ethical Culture Schools*, *OISE*, *Educators for Social Responsibility* and others. Informal logic texts appropriate for use in high school will also be explored, as will the use of traditional philosophical texts. Approaches to teaching critical thinking in math and science will also be looked at.

Educators with experience teaching critical thinking in secondary school are encouraged to actively participate.

Williams, Joseph

Professor
 Department of English
 University of Chicago
 Chicago, ILL 60637

**Writing and Thinking
Three Myths/Three Tru(?)ths**

Among the commonplaces that most teachers of writing live by are these: 1. To write clearly, you must think clearly, 2. To think clearly, you must write clearly, and 3. If we could teach writing and thinking effectively at the earliest point in a person's education, we could get on to the serious work of education. On the basis of the best evidence available, none of these commonplaces is true. On the other hand, among three testable hypotheses that have a shot at being both true and pointed are these: 1. For most writers, especially writers working with new knowledge or in new areas, it is crucial to instantiate that knowledge in clear and coherent discourse before that knowledge can be manipulated, before it can be made an object of critical analysis, 2. While it is fashionable in some places to argue that language can never be "as clear as a pane of glass," it is nevertheless true that there are some universal principles of effective writing and thinking that characterize all universes of discourse, and 3. One cannot learn to write/think once and then apply what one has learned across universes of discourse without substantially rehearsing how to write and think.

While these three claims can inform education at all levels, they are particularly relevant at points of transition. If the educational community fails to recognize that the simple-minded versions of the critical thinking/writing nexus have no straightforward application to curriculum design, we should not be surprised if those who make decisions for the community decide that the effort to teach critical thinking/writing has failed.

Witte, Marlys H.

Physician
 Department of Surgery
 College of Medicine
 University of Arizona
 Tucson, AZ 85724

**Toward a Curriculum on
Medical Ignorance: No
Trivial Pursuit****Co-presenter:****Kerwin, Ann**

Professor
 University of Arizona

Although traditional education focuses primarily on the acquisition of knowledge of the day, ignorance - that vast and fertile domain of unknowns and uncertainties - provides both conditions and materials for all inquiry and a departure point for creative and critical thinking and activity. Interdisciplinary collaborations from the pioneering Curriculum on Medical Ignorance at the University of Arizona, College of Medicine will discuss dynamics of socratic ignorance as they have applied it to medical education and research. Through a participatory format, the nature and potential uses of recognizing, dealing with, and using ignorance to revitalize and strengthen the educational process at every level will be explored.

Wolff, Mary Anne

Assistant Professor
 Teacher, North Reading School
 District
 Critical and Creative Thinking
 Program
 University of Massachusetts
 Boston, MA 02125

**Beyond the Scientific
Method: Can Our Schools
Encourage Reflective Thinking?**

This paper argues that if tomorrow's citizens are to improve their abilities to deal with important issues, schools must move beyond a narrow, technical conception of critical thinking skills that frequently identifies them with the scientific method to a broader and deeper conception grounded in the idea of reflective or emancipatory reason. In social studies education reform the technical perspective has generally prevailed at the expense of a reflective rationality which would aim at uncovering the limits of any one thought system and at enabling people to think across contrasting frames of reference in order to bring larger and more complex perspectives to bear on human concerns. An in-service program designed to help teachers improve their abilities to think and teach about contrasting frames of reference will be described and the implications of the teachers' experiences will be analyzed, particularly as these relate to teacher education, school organization and curriculum development.

Wolff, Mary Anne

**According To Whom?
Analyzing Our Own and
Others' Frames of Reference
(A Workshop for Teachers)**

The purpose of this workshop is to give participants both a rationale for and experience in using a "frames of reference" approach which enables teachers and students to analyze how information is shaped by an author's, researcher's or editor's theoretical and personal background. The approach can also be used to gain insights into one's own conscious and hidden assumptions, values and interests. Contrasting accounts of sex roles in another culture will be presented through short readings from two primary sources. The frames of reference approach will be used to analyze why the accounts differ and where "the truth" may lie. New evidence will be introduced in a short ethnographic film and participants will use several different frames of reference to analyze the information before making inferences about the filmmaker's own perspective. Finally, by trying on an "alien" viewpoint before writing their own conclusions, participants should gain insight into their own frames of reference. The potentials and problems involved in using this approach in the classroom will be discussed.

Worsham, Antoinette M.

English Language Arts Specialist
3706 Echodale Ave.
Baltimore, MD 21206

**The Thinking Skills
Inclusion Process - An
Instructional Model**

Co-presenter:

Stockton, Anita J.

Instructor of Biology and Chemistry
Perry Hall Senior High School
4601 Ebenezer Road
Baltimore, MD 21236

The workshop will feature this instructional model currently being used in four Maryland counties. The model, developed by Dr. Worsham, provides an effective mechanism for incorporating the explicit teaching of thinking skills within any existing curriculum K-12.

Participants will be led through the steps of the "Inclusion Process" and be provided with a packet of sample materials which have been developed by teachers and students currently using the process. Some materials are appropriate for use in English, social studies, math and science at the middle school level. Other materials are appropriate for high school biology.

PANELS

The Minimal Qualifications for a Teacher of Critical Thinking at the College or Pre-College Level.

T. Edward Damer
Professor
Emory and Henry College

Perry Weddle
Professor
California State University- Sacramento

J. Anthony Blair
Professor
University of
Windsor, Canada

Mark Weinstein
Professor
Hunter College-CUNY

Ralph Johnson
Professor
University of Windsor, Canada

Since many new programs and courses in critical thinking are now being offered at all educational levels, the quality of the teaching of such courses is coming to be an important concern. Each of the panelists will make a brief presentation on this very timely issue. There will be some interchange between the panelists, however, the majority of the time will be devoted to an open discussion of the topic.

Critical Thinking and Ethical Issues

Randall Ackley
Professor
Department of English
Yarmouk University
Irbid - Jordan

Edward Mooney
Professor
Department of Philosophy
Sonoma State University
Rohnert Park, CA 94928

Dianne Romain
Professor
Department of Philosophy
Sonoma State University
Rohnert Park, CA 94928

Although some thought has been given to the integration of critical thinking into standard secondary school curriculum, little has been written about bringing critical thinking into the academic disciplines of the arts and humanities at the university level. In this panel, we will discuss the idea that -- taken in a suitably rich sense -- critical thinking defines the spirit of the humanities generally, that the several disciplines can be seen as a series of extended arguments, a dialectically-structured struggle between competing perspectives, each open to our critical appraisal, revision, or transformation.

Critical Thinking and Psychological Perspectives

John Doolittle
Professor
Department of Psychology
California State University
Sacramento, CA 95819

William Ray Smith
Professor
Department of Psychology
California State University
Fullerton, CA 92634

Lauren Coodley
Professor
Napa Valley College

This panel will canvass the many important relationships between critical thinking and psychology.

College Programs in Critical Thinking

Leonard Gibbs
Professor
Department of Social Work
University of Wisconsin
Eau Claire, WI 54701

Bradley R. Rice
Associate Professor
Clayton Junior College

C. Blaine Carpenter
Associate Professor
Clayton Junior College

Leonard Gibbs will describe the University of Wisconsin - Eau Claire's Faculty Development Program which has been designed to develop and implement programs in critical thinking. C. Blaine Carpenter and Bradley R. Rice will describe the Critical Thinking Outcome Council, which was developed at Clayton Junior College for the purpose of integrating critical thinking into the junior college curriculum.

PROGRAMS*

CALIFORNIA STATE DEPARTMENT OF EDUCATION Critical Thinking Assessment Program

Sunday July 21
10:45 - 12:15 p.m.
Ives Hall, Warren Auditorium

Richard W. Paul
Director, Center for Critical Thinking
and Moral Critique

A Continuum of History-
Social Science Critical
Thinking Skills for Grades 3-12

Co-presenters:

Robert Ennis
Director, Illinois Critical Thinking
Project

Perry Weddle
Professor, California State University,
Sacramento

Monday July 22
8:45 - 10:15 a.m.
Stevenson 1002

Richard W. Paul
Overview of K-12 Critical Thinking
Assessment in California

Monday July 22
10:30 - 12 noon
Stevenson 1002

Peter Kneidler
Consultant
California Assessment Program
California State Department of Education

Assessment of Critical Thinking in
California's New Statewide Assessment
of History-Social Science

Monday July 22
1:15 - 2:45 p.m.
Stevenson 1002

Alice Scofield
Associate Director
South Bay Writing Project

Higher Order Thinking Skills in
Reading/Writing Statewide
Assessment

Monday July 22
3:00 - 4:30 p.m.
Stevenson 1002

Tom Sachse
Manager
Science Education
California State Department of Education

Process Skill
Assessment in Science

Monday July 22

3:00 - 4:30 p.m.

Stevenson 3046

Tej Pandey
Consultant
California Assessment Program
California State Department of Education

Problem Solving in Statewide
Mathematics Assessment

Tuesday July 23

8:45 - 10:15 a.m.

Stevenson 2049

Jan Talbot
Chairperson
Subcommittee for Critical
Thinking/Writing in History-Social
Science

Evaluation of Critical Thinking
Skills Through Direct
Writing Assessment

Tuesday July 23

10:30 - 12 noon

Stevenson 2049

Rita King
Chairperson
Critical Thinking Skills Implementation
Committee

Teaching Critical Thinking
Skills in the Classroom

*Descriptions of these presentations will be found in the preceeding pages, alphabetized by surname.

CRITICAL THINKING AND THE MEDIA

Monday July 22

MORNING SESSION:

The Political Economy of the Mass Media

8:45 - 10:15 a.m.

Ives Hall, Warren Auditorium

I. Featured Speaker: **Ben H. Bagdikian**
Dean, School of Journalism
University of California-Berkeley

Chairperson: **Donald Lazere**
Professor, California Polytechnic State
University

10:30 - 12 noon
Ives Hall, Warren Auditorium

II. Roundtable Discussion:
Moderator: **Joel Rudinow**
Research Associate, Center for Critical Think-
ing and Moral Critique

Panelists:

Dierdre English
Executive Editor
Mother Jones Magazine
1663 Mission Street
San Francisco, CA 94103

Richard Bunce
Publisher
The Socialist Review
3202 Adeline Street
Berkeley, CA 94703

Dennis Rohatyn
Professor, University of San Diego
/KPBS-FM

Richard Lichtman
Wright Institute

Donald Lazere

Ben H. Bagdikian

Frank Morrow
Producer, "Alternative Views"
Alternative Information Network

AFTERNOON SESSION:

Showcase and Workshops: Critical Thinking in the Media

Individual sessions will demonstrate model applications of communications technology to critical thinking and critical thinking instruction.

1:15 - 2:45 p.m. and 3:00 - 4:30 p.m.

*(sessions will be repeated)

Ives Hall, Room 119

Janet Nielsen Utilization Specialist, KQED-TV	*Instructional Television and Critical Thinking Skills
Margaret Hyde Bay Area Television Consortium	*Telecourse Instruction in Critical Thinking
Alita Letwin Director, Educational Services Center for Civic Education/Law in a Free Society	*Teaching Civic Literacy: The Law in a Free Society Curriculum
Joel Rudinow Research Associate, Center for Critical Thinking and Moral Critique	"Public Access" and Critical Thinking Instruction
Dennis Rohatyn Professor, University of San Diego/KPBS-FM	Critical Thinking in Radio and Television
Frank Morrow Producer, "Alternative Views" Alternative Information Network	*"Alternative Views" A View from the Inside

Monday July 22

1:15 - 2:45 p.m.
Stevenson 3008

Richard Lichtman Wright Institute	The Normative Substance of Critical Thinking
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3:00 - 4:30 p.m.
Stevenson 3008

John May Professor, University of Queensland	Journalistic Sophistry
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3:00 - 4:30 p.m.
Stevenson 3026

Bena Kallick Weston Woods Institute	The Literature to Think About Series
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VIDEOTAPE PROGRAM*

Videotapes are one of the growing important resources in critical thinking instruction. The Center for Critical Thinking and Moral Critique is producing low-cost videotapes that can be used as discussion-starters and in some cases as examples of student performances, especially in the area of dialogical or dialectical reasoning. These include:

- 1.) Critical Thinking in Science**
A discussion between Richard Paul, Doug Martin (Professor of Chemistry, Sonoma State University), and Eamon Hickey (Sonoma State University Student) on the place of critical thinking in science instruction.
- 2.) Critical Thinking in History**
A discussion between Richard Paul, Robert Brown (Professor of History, Sonoma State University) and Eamon Hickey.
- 3.) Critical Thinking in Elementary Instruction**
A dialogue between Richard Paul and Michael Rich, a fifth-grade teacher in Vallejo, CA.
- 4.) Critical Thinking and Student Perspectives, I**
A dialogue between Richard Paul and Eamon Hickey.
- 5.) Critical Thinking and Student Perspectives, II**
A discussion between Sonoma State University Students; Bronwen Godfrey, Marla Charbonneau, Jane Kelsberg, Eamon Hickey and Virginia Kelly.
- 6.) Dialogical Practice, I**
One of the most important skills of critical thinking is the ability to enter into and reason within opposing viewpoints. In this videotape, Sonoma State University Students, Stacy Goldring-Ray and Jean Hume practice dialogical reasoning using the Israeli-Arab conflict as the subject.
- 7.) Dialogical Practice, II**
In this videotape, Sonoma State University Students, Hub Lambert and Dave Allender practice dialogical reasoning using the issue of abortion as the subject.

OTHER VIDEOTAPES

1.) **Philosophy for Children**

A video program produced by the Institute for the Advancement of Philosophy for Children, showing how children can be taught to think for themselves about basic questions.

2.) **Forum 50:**

“Offshore Drilling - The North Coast”
“Sanctuary for Central American Refugees”

Students of a Sonoma State University critical thinking class play the producer's role in these two programs, broadcast as part of KFTY-TV 50 Santa Rosa's regularly scheduled public affairs series, *Forum 50*. (For a description, see abstract of Joel Rudinow's presentation).

3.) **The Art of Argument, Program I**

Dennis Rohatyn, in the first of a series on critical thinking and public issues, directs a discussion in which the logic, assumptions and tradition behind the recent Supreme Court decision regarding periods of silence in the classroom, will be examined.

4.) **Fourteen Rats and a Rat-Catcher**

This videotape, created by Bena Kallick of Weston Woods Institute for the *Literature to Think About* series, depicts a second-grade classroom session in which children are taught to apply critical thinking skills to the story, *Fourteen Rats and a Rat-Catcher*.

Dr. De Soto

This videotape, also created by Bena Kallick for the *Literature to Think About* series, demonstrates how critical thinking skills can be developed through the use of literature. The fourth-grade students depicted are examining the film, *Dr. De Soto* by William Steig.

5.) **Developing Critical Thinking Skills Through Argumentation at the Junior High School Level**

Georgia Squires seventh-grade class debates, discusses and analyzes the issue of whether or not it is a good thing for religious people to be in political power, by examining the situation which existed in the Middle Ages. Arguments for and against both points of view are presented.

6.) **Teaching for Inquiry in Art**

A fourth-grade art class teacher demonstrates how to use the Inquiry in Art Method to involve the children in using higher-order thinking skills.

7.) **Dialogical Practice in the Junior High School Classroom**

This videotape depicts Deborah Morel-Christianson's junior high school class involved in a discussion of the arguments for and against United States involvement in the Vietnam War. Through verbal and written assignments, students are taught basic critical skills.

8.) **Philosophy in Science and Math**

Produced by the Institute for the Advancement of Philosophy for Children, this videotape depicts elementary school students engaged in conceptual analysis of the concept, time.

9.) **Classroom Demonstrations in the Direct Teaching of Critical Thinking Skills (Project I.M.P.A.C.T.)**

In this videotape, actual demonstrations of I.M.P.A.C.T. lessons are depicted. Thomas Kimball, a Project I.M.P.A.C.T. trainer, will be present to answer questions regarding application of these lessons in other classrooms.

10.) **Teaching Philosophy at Bruce Guadalupe School**

Educators from Bruce Guadalupe School and the Institute for the Advancement of Philosophy for Children discuss and demonstrate techniques for teaching higher order thinking skills at the elementary level.

*Viewing Schedule Follows

VIDEOTAPE SCHEDULE

Saturday July 20

7:00-10:00 p.m.
Commons Alcove

Classroom Demonstrations in the Direct
Teaching of Critical Thinking Skills
(Project I.M.P.A.C.T.)

Sunday July 21

9:00-10:30 a.m.
Commons Alcove

Critical Thinking in Science

10:45-12:15 p.m.
Commons Alcove

Teaching for Inquiry in Art

12:15-1:30 p.m.
Commons Alcove

Forum 50:
"Offshore Drilling - The North Coast"
"Sanctuary for Central American
Refugees"

Developing Critical Thinking Skills
Through Argumentation at the Junior High
School Level

Philosophy in Science and Math

1:30-3:00 p.m.
Commons Alcove

Critical Thinking in History

3:15-4:45 p.m.
Commons Alcove

Dialogical Practice, I

7:00-10:00 p.m.
Commons Alcove

Fourteen Rats and a Rat-Catcher/
Dr. De Soto

The Art of Argument, Program I

Dialogical Practice, I

Monday July 22

12:00-1:15 p.m.
Commons Alcove

Critical Thinking and
Student Perspectives, I

Critical Thinking in History

8:00-10:00 p.m.
Commons Alcove

Philosophy for Children

Critical Thinking in Elementary
Instruction

Dialogical Practice, II

Tuesday July 23

8:45-10:15 a.m.
Nichols 304

Dialogical Practice in the
Junior High Classroom (Part I)

10:30-12:00 p.m.
Nichols 304

Dialogical Practice in the
Junior High Classroom (Part II)

12:00-1:15 p.m.
Commons Alcove

Teaching Philosophy at Bruce
Guadalupe School

Critical Thinking and
Student Perspectives, II

National Council for Excellence in Critical Thinking Instruction

As the term "Critical thinking" gains greater and greater currency in education, there is a growing number of individuals who are declaring themselves experts in the field and promising to provide short-term training for teachers and simple-to-apply programs and strategies. The purpose of the National Council is to draw upon the collective wisdom of those in leadership in the field to articulate minimal standards for quality in-service and instruction in critical thinking and to help serve as a clearinghouse for information about quality programs and strategies:

Membership

Jonathan Kozol

Fellow, John Simon Guggenheim
Memorial Foundation

George Hanford

President, College Board

Albert Shanker

President, American Federation
of Teachers

Joseph Williams

University of Chicago

Matthew Lipman

Director, Institute for the
Advancement of Philosophy for Children

Irving Siegel

Educational Testing Service

Debbie Walsh

Assistant Director, Educational Issues
Department, A.F.T.

Trudy Govier

University of Calgary

John Pihoda

President/Superintendent, Iowa Valley
Community College

Jim Williamson

Mathematics Coordinator, Billings
Public Schools

Ian Wright

University of British Columbia

Michael Scriven

University of Western Australia

David Perkins

Harvard University

Robert Ennis

Director, Illinois Critical Thinking
Project

Stephen Norris

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John Hoaglund

Christopher Newport College

Ronald Giere

Indiana University, Bloomington

Dolores Gallo

Critical and Creative Thinking Program

Richard W. Paul

Director, Center for Critical Thinking
and Moral Critique

Jonathan Adler

Brooklyn College, C.U.N.Y.

Art Costa

California State University, Sacramento

Vincent Ruggiero

S.U.N.Y. Delhi College

Robert Swartz

Co-director, Critical and Creative
Thinking Program, U-Mass.-Boston

Gerald Nosich

University of New Orleans

T. Edward Damer

Emory and Henry College

Ralph Johnson

University of Windsor, Canada

J. Anthony Blair

University of Windsor, Canada

Edward M. Glaser

President
Human Interaction Research Institute

David Hitchcock

McMaster University

Donald Lazere

California Polytechnic
State University

Carol La Bar

University of British Columbia

Edys Quellmalz

Stanford University

S. Morris Engels

University of Southern California

Perry Weddle

California State University, Sacramento

Lenore Langsdorf

University of Texas

Donald Nolan

Parkland College

Joel Rudinow

Research Associate, Center for Critical
Thinking and Moral Critique

Harvey Siegel

University of Florida

Ronald S. Brandt

Executive Editor
Educational Leadership

Center for Critical Thinking & Moral Critique Sonoma State University

The Center conducts advanced research, inservice educational programs, professional conferences, and disseminates information on critical thinking and moral critique. It is premised on the democratic ideal as a principle of social organization, that is, that it is possible

so to structure the arrangements of society as to rest them ultimately upon the freely given consent of its members. Such an aim requires the institutionalization of reasoned procedures for the critical and public review of policy; it demands that judgments of policy be viewed not as the fixed privilege of any class or elite but as the common task of all, and it requires the supplanting of arbitrary and violent alteration of policy with institutionally channeled change ordered by reasoned persuasion and informed consent.*

It conducts its research through an international network of fellows and associates, as follows:

Honorary Fellows

- Max Black, Professor of Philosophy, Cornell University, Ithaca
Robert Ennis, Director, Illinois Thinking Project, University of Illinois, Urbana
Edward M. Glaser, Psychologist, founder Watson-Glaser Critical Thinking Test, Los Angeles
Matthew Lipman, Professor of Philosophy, Institute for the Advancement of Philosophy for Children, Montclair, N.J.
Israel Scheffler, Thomas Professor of Education and Philosophy, Harvard University
Michael Scriven, Professor of Philosophy, University of Western Australia, Nedlands, Australia

Research Associates

- J. Anthony Blair, Professor of Philosophy, University of Windsor, Canada
Carl Jensen, Associate Professor of Communications Studies, Sonoma State University
Ralph Johnson, Professor of Philosophy, University of Windsor, Canada
Don Lazere, Professor of English, California Polytechnic State University, San Luis Obispo
Joel Rudinow, Assistant Professor of Philosophy, Sonoma State University
Perry Weddle, Professor of Philosophy, California State University, Sacramento
Ian Wright, Professor of Education, University of British Columbia, Canada

*Israel Scheffler, *Reason and Teaching* (1973, Bobbs-Merrill Co., Inc.), page 137.

Teaching Associates

- Robert Ennis, Center Fellow and Director, Illinois Thinking Project
Carl Jensen, Center Research Associate and Associate Professor of Communications Studies
Robert Karlsrud, Professor of History
Don Lazere, Center Research Associate and Professor of English
Dianne Romain, Assistant Professor of Philosophy
Eugene Soules, Professor of English

Director

- Richard W. Paul, Center for Critical Thinking and Moral Critique

The work of the Center includes an annual international Conference on Critical Thinking and Education; Master Teacher Program in Verbal Reasoning and Critical Thinking; Supplementary Authorization Program in the teaching of critical thinking (under the Single Subject Waiver Credential Program of the State of California); inservice programs in the teaching of critical thinking; Research Intern Program (for graduate students in the field of critical thinking and moral critique); clearing house for the distribution of tests, documents, position papers, and research in the field of critical thinking and moral critique; research in the field of critical thinking and moral critique and in the reform of education based upon the teaching of reasoning and critical thinking skills across the curriculum. Other recent contributors include the historian Henry Steele Commager and George H. Hanford, President of the College Board.