The Sixth International Conference on

Critical Thinking
and
Educational Reform

Sonoma State University
The Eighth Annual & Sixth International Conference on

Critical Thinking
and
Educational Reform

August 7-10, 1988

Program
and
Abstracts

Under the Auspices
of the
Center for Critical Thinking and Moral Critique
and
Sonoma State University
From Previous Conferences:

Michael Scriven

Carol Tavris

Neil Postman

David Perkins
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INTRODUCTION

Critical Thinking in North America: A New Theory of Knowledge, Learning, and Literacy

The pace of change in the world is accelerating, yet educational institutions have not kept pace. Indeed, schools have historically been the most static of social institutions, uncritically passing down from generation to generation outmoded didactic, lecture-and-drill-based models of instruction. Predictable results follow. Students, on the whole, do not learn how to work by, or think for, themselves. They do not learn how to gather, analyze, synthesize, and assess information. They do not learn how to analyze the diverse logic of the questions and problems they face and hence how to adjust their thinking to those problems. They do not learn how to enter sympathetically into the thinking of others, nor how to deal rationally with conflicting points of view. They do not learn to become critical readers, writers, speakers, and listeners. They do not learn how to use their native languages clearly, precisely, or persuasively. They do not, therefore, become "literates," in the proper sense of the word. Neither do they gain much in the way of genuine knowledge since, for the most part, they could not explain the basis for what they believe. They would be hard pressed to explain, for example, which of their beliefs were based on rational assent and which on simple conformity to what they have been told. They have little sense as to how they might critically analyze their own experience or identify national or group bias in their own thinking. They are much more apt to learn on the basis of irrational than rational modes of thought. They lack the traits of mind of a genuinely educated person: intellectual humility, courage, integrity, perseverance, and faith in reason.

Happily, there is a movement in education today striving to address these problems in a global way, with strategies and materials for the modification of instruction at all levels of education. At its foundation is an emerging new theory of knowledge, learning, and literacy, one which recognizes the centrality of independent critical thinking to all substantial learning, one which recognizes that higher order multilogical thinking is as important to childhood as to adult learning, to foundational learning in monological as in multilogical disciplines. This educational reform movement is not proposing an educational miracle cure, for its leading proponents recognize that many social and historical forces must come together before the ideals of the critical thinking movement will become a full academic reality. Schools do not exist in a social vacuum. To the extent that the broader society is uncritical so, on the whole, will society's schools. Nevertheless, the social conditions necessary for fundamental changes in schooling are increasingly apparent. The pressure for fundamental change is growing. Whether and to what extent these needed basic changes will be delayed or sidetracked, thus requiring new periodic resurgences of this movement, with new, more elaborate articulations of its ideals, goals, and methods — only time will tell.
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-sideness. 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 driven also 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 points 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 opposing 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 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 of and education for 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 time to meet regularly with colleagues to observe and learn from each other's successes and failures. They need access to critical thinking materials. 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 merely an "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 reallocation of social resources. We could make no wiser decision than to make a commitment to become a nation of educated and fair-minded 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 1988 Conference on Critical Thinking and Educational Reform reflects the development implicit in the seven 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, and 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 were 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 modelling 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 educational circles today the syndrome that H.L. Mencken 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)

In 1986, 280,000 California eighth-grade students took a history-social science test in which 40% of the questions addressed critical thinking skills. The California State Department of Education has developed a continuum of critical thinking skills for the 3rd, 6th, 8th, 10th, and 12th grades. 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 published a national position paper on critical thinking.

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, the National Education Association, and the American Federation of Teachers to facilitate implementation of the highest standards of critical thinking instruction from kindergarten through the university.

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 a simplistic explanation of life wherein opposing groups are identified as essentially "good" or "evil," the growing threat of nuclear holocaust—all argue for the pressing need of fai-minded critical thinking skills.
ORGANIZATION OF THE CONFERENCE

We assume 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 grades need to understand and appreciate the superstructure that is to be built upon the foundations they help to lay. Those who teach the middle grades need to understand and appreciate what has come before and what is to follow. And those who teach the later grades 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. We will be accommodating this need in two ways: 1) by classifying all presentations with a label that indicates possible special interest concerns (e.g. G, E, JH, HS, K-12, CC, U, etc...), and 2) by setting up an early meeting time on Tuesday morning (7:45-8:45) for groups to organize themselves into networks. (See page 125 for more information on these special interest meetings.)

Virtually all sessions have been scheduled for 1 1/2 hours to maximize opportunities for questions and discussion.

The evening social hours are intended to be an integral part of the conference. We are encouraging all of the presenters to make themselves available for the social hours so that the kinds of extended exchanges which are often not feasible in question and answer sessions might be facilitated.

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 "Dialogical Practice, Program F").

CONFERENCE THEME: INFUSING CRITICAL THINKING INTO SUBJECT MATTER INSTRUCTION, KINDERGARTEN THROUGH GRADUATE SCHOOL

The conference theme has been selected to give participants a central concept by means of which they can understand the basic relationships between all of the various presentations. The field of critical thinking research and instruction approaches is rich and diverse, but there are common core concepts and insights which can be used to organize that diversity and render it coherent.

There is no question, for example, that there is a body of intellectual skills presupposed in critical thinking, skills which have broad application across the full range of human thought and action. Whenever humans act or think, they conceptualize or give meanings to their action and thought. These meanings or conceptualizations may be more or less clear (hence the importance of skills of clarification). These meanings organize and give expression to "information," which may be more or less accurate, well-justified, and complete (hence the importance of skills for the gathering, processing and assessing of information). They are based upon beliefs, some of which we take for granted (hence the importance of skills for locating and assessing assumptions). They build toward or entail consequences and implications (hence the importance of skills for pinning down and assessing consequences and implications). Finally, human action and thought is based upon beliefs upon and creates meanings within some perspective, point of view, or world view (hence the importance of skills which locate the perspective or point of view within which a given action or line of thought is developed).

But critical thinking is not just about intellectual skills, for intellectual skills can be used in a variety of ways, some of which are inconsistent with the foundational values of critical thinking: open- or fair-mindedness and a concern to apply the same rigorous standards of evidence and proof to our own thinking — especially that which serves our vested interest — as we do to others. It is easy, of course, to be "critical" when we are hostile to persons or belief systems, very difficult when we are strongly predisposed to favor persons or belief systems. Our egocentric or sociocentric biases may act as blinders to narrow our critical thinking to what are fundamentally self-serving uses of it. This problem was identified in ancient Greece by Socrates and Plato as the problem of sophistry. We know it in the modern world as the problem of demagoguery, propaganda, closed-mindedness and self-deception. This, of course, is not simply a matter of stupidity or of conscious evil.

What it does mean is that critical thinking skills can be used to defeat the ends of critical thinking. Or, less extreme, a person may not yet have learned how to organize and use his or her critical thinking skills with the same degree of consistency within domains where there is emotional blockage. All of the above points highlight the need to emphasize the affective dimension of critical thinking, the dimension of values, commitments, and traits of mind. This does not mean, by the way, that we need to condition or indoctrinate students in an affective way, for the critical spirit can be nurtured only while actually practicing critical thinking in some (cognitive) way. One cannot develop one's fair-mindedness, for example, without actually thinking fair-mindedly. One cannot develop one's intellectual independence, without actually thinking independently. This is true of all the essential critical thinking traits, values, or dispositions. The crucial need is to develop instruction in such a way that, for example, fairminded and independent thinking are required by the very nature of what is done. Examples of assignments and practices that foster the critical spirit and demonstrate how to infuse critical thinking into subject matter instruction, can be found in the Handbooks on Critical Thinking, K-3, and 4-6, which have been published by the Center.
Infusing Critical Thinking Into Subject Matter Instruction, K-12

The Center staff advocates a lesson plan remodelling approach to infusion of critical thinking into subject matter instruction. This approach is built into critical thinking handbooks for teachers. The basic idea behind lesson plan remodelling for critical thinking is simple. When remodelling lessons, the teacher critiques a lesson plan using certain strategies and principles and formulates a new lesson plan based on that critical process. Lesson plan remodelling can become a powerful tool in critical thinking staff development. It is action-oriented and puts emphasis on close examination and critical assessment of what is being introduced into the classroom on a day-to-day basis. It makes the infusion of critical thinking more manageable by paring it down to the critique of particular lesson plans and to the progressive infusion of particular critical thinking principles. Lesson plan remodelling also is developmental in that, over time, teachers can remodel more and more lesson-plans, and what has been remodelled can be re-remodelled. It can provide a means of cooperative learning for teachers.

Results of this process can be collected and shared so teachers can learn from and be encouraged by what other teachers do. Dissemination of plausible remodels also provides recognition for motivated teachers. Furthermore, lesson plan remodelling forges a unity between staff development, curriculum development, and student development. Lesson plan remodelling helps avoid recipe solutions to critical thinking instruction, and integrates cognitive and affective goals into the curriculum.

Lesson plan remodelling is a long-term solution that transforms teaching incrementally as teachers develop and mature in their critical thinking insights and skills.

If teachers can develop the art of critiquing lesson plans they use and learn how to use that critique as the basis for remodelling the lesson plans, they will progressively (a) refine and develop their own critical thinking skills and insights, (b) reshape the actual or living curriculum, and (c) develop their teaching skills.

Infusing Critical Thinking Into Subject Matter Instruction at Colleges and Universities

Instruction at the college and university level is not typically built upon "lesson plans" so much as on course syllabi. All departments and professors play a role in planning how to structure their curriculum and teaching.

The Center staff makes the following recommendations:

1. That a general statement of educational goals as they relate to critical thinking and basic intellectual skills be formulated and included in the catalog as well as a faculty handbook. This statement might, for example, read as follows:

   Becoming an Educated Independent Thinker

   All students are expected to take responsibility for their own learning. This means that students are expected to learn the art of independent study and develop sound intellectual and occupational habits and skills. All work turned in should reflect care, thoroughness, and precision. Should reveal command of the processes of critical reading, writing, speaking, and listening. Should develop independent thinking. Students should not approach their studies as so many disconnected fields, each with a mass of information to be blindly memorized, but rather as organized systems for thinking clearly, accurately, and precisely about interconnected domains of human life and experience.

   In science classes, students should learn to think scientifically. In math classes to think mathematically. In history classes to think historically, and so on, in such a way that if later called upon to respond to an issue in one of these domains, students will know how to begin to interpret and analyze it, to seek and organize information appropriate to it, to reason well concerning it, and to devise a clear and reasonable way to go about finding an appropriate answer or solution with respect to it. To develop into disciplined and independent critical thinkers and learners, all students should be actively involved in their own learning, looking to find in each of their classes the most basic ideas, principles, and meanings that underlie the field and to use these as a basis for analyzing, synthesizing, and assessing all of the remaining information or content covered. Students should recognize that fundamental concepts and processes must be mastered before one can successfully understand a given domain of knowledge and that it is better to learn what is basic to a field deeply and well then to rush on to half-learn and so mis-learn what is less basic. Classes will be structured so as to emphasize in-depth learning of fundamentals as a foundation for more advanced learning. Fundamental concepts and principles will continually be used as organizers for more advanced understandings.

2. That for each area of study a statement of the ideal student be formulated. This statement should help the students grasp in general terms what is expected of him or her as well as what some of the more basic "payoffs" are of studying in that area. As part of this statement, the general critical thinking skills list should be reformulated with the subject area in mind. The history department, for example, might formulate their goals vis-a-vis critical thinking in something like the following way:

   Learning to Think Historically

   All of the history courses have the goal of helping students to learn how to think historically in a critical and insightful manner. This includes learning how to identify historical viewpoints, to gather and organize historical information, to distinguish basic historical facts from historical interpretations, and to recognize historical relationships and patterns as well as the relevance of historical insight to the understanding of current events and problems.

3. That elements of these subject area statements also be incorporated into the college catalog as well as into a student orientation brochure to help students see the common objectives and skills that underlie all fields of study.

4. That course descriptions and syllabi make clear how particular courses tie into these general educational objectives rather than simply specify the particular specialized content of the course. This will help the student make connections between courses within a subject area as well as between subject areas. Rather than seeing only the specializations available, the student will grasp common elements, common goals, and common means to achieve them. For example, here is how an individual instructor, teaching American History, might follow up on the departmental goal statement for his particular course:

   American History

   The fundamental aim of the study of American history will be to aid students in thinking critically, insightfully, and knowledgeably about the American historical past, focusing on the basic issues upon which historians organize and base their research and the development of their divergent viewpoints. Students will learn how to write an historical essay in which they defend an historical interpretation based on organized, analytic historical reasoning, reflecting their careful reading of professional historians.

5. That the students be informed early in the course as to how the course is being designed not only to foster subject matter mastery but also critical competencies and intellectual traits.
6. That a general critical thinking course be developed that can serve as a "core" course for all students and focus on interdisciplinary issues and general critical thinking skills. The faculty should have input into what is covered in the course and should follow up and build upon it in each specialized subject domain.

7. That a campus-wide critical thinking committee be formed to help facilitate on-going faculty development in the area of critical thinking, including locating resource materials, disseminating classroom teaching techniques, organizing follow-up seminars from time to time, and arranging for conference participation that facilitates development in this area.

8. That a faculty critical thinking handbook be developed with submissions from many of the faculty leaders in the area of critical thinking skills. Faculty should be identified who have developed teaching and grading strategies that can be the basis for a shift of emphasis in instruction from a lecture-based, memory-based mode of instruction to one which more actively engages students in their learning and "forces" them to think their way through course material.

Map/Abbreviations

- STEV = Stevenson Hall
- DAR = Darwin Hall
- CS = Cluster Schools
- NICH = Nichols Hall
- SU: MP = Student Union Multi-Purpose Room
- IVES: Warren = Ives Hall, Warren Auditorium
- G = General
- E = Elementary
- JH = Junior High
- HS = High School
- K-12 = Kindergarten-Grade 12
- CC = Community College
- U = University
SUNDAY, AUGUST 7

8:00-9:00 am  REGISTRATION
Student Union

9:00-10:15 am  Richard W. Paul, Director, Center for Critical Thinking and Moral
Critique
Infusing Critical Thinking into Subject Matter Instruction: The Problem
of Restructuring Instruction
Quad Area  G

10:30-12:00 noon  Richard W. Paul
Designing an Elementary or Middle School Inservice Program for Infusing
Critical Thinking into Subject Matter Instruction
Ives: Warren E, JH
Stephen Norris, Douglas Martin, Robert Ennis, Robert Swartz
Infusing Critical Thinking into Math and Science
SU: MP  G
Alma M. Swartz
Facilitating Critical and Creative Thinking Dispositions in Children
DAR 108  E,G
Ralph Johnson, Perry Weddle, Ed Damer, Gerald Nosich
Informal Logic: Recent Developments in the Field
STEV 1002  CC, U
Nicholas Michelli, Wendy Oxman, Mark Weinstein
The Pre-Service Preparation of Teachers for Critical Thinking: The
Montclair State College Model
CS 68  K-12, U

John Chaffee
Practical Strategies for Teaching Critical Thinking in the Disciplines
ART 108  CC, U, HS

Linda M. Phillips
Improving Inference Ability in Reading Comprehension
STEV 2049  G

Matthew Lipman
Critical Thinking and Reliance upon Criteria
STEV 3008  G

Joe Edwards
The Challenges of Keeping a Strong Staff Development/Critical Thinking
Program On-GOing with Enthusiasm and Energy
DAR 112  K-12

12:00-1:30 pm  LUNCH

1:30-3:00 pm  Will D. Robinson, Marek Zelazkiewicz, John Hanson, Pertti Yli-Luoma,
Kurt Bergling
Critical Thinking in Europe: Recent Developments
IVES: Warren  G

Donald Lazere
Literature and Critical Thinking
IVES 119  HS, U, G

Charlie Blatz, Ken Bumgarner, Matthew Lipman, John Barell, Mark
Weinstein, Nicholas Michelli
Critical Thinking Staff Development
SU: MP  K-12

(Sunday, August 7
10:30-12:00 cont’d)

Vincent Ryan Ruggiero
Teaching Thinking Across the Curriculum: A Holistic Approach
STEV 3049  G

Howard Kahane
Critical Thinking Courses as Preparation for Adult Life in a Democratic
Society
STEV 3072  G, CC, U

Kate Sandberg
Collaborative Learning: Making a Difference in Student Thinking
STEV 3046  G, CC, U

Ian Wright
Deciding
STEV 3040  E

Connie Missimer
Why Two Heads are Better Than One: Philosophical and Pedagogical
Implications of a Social View of Critical Thinking
CS 20  G

John W. Thomas
Resource Guides for Self-Directed Learning: A Strategy for Promoting
Critical Thinking by Focusing on Improvements in Students’ Study Skills
NICH 173  K-12

Pertti Yli-Luoma
Development of Critical Thinking Skills in Physics Studies Among Pre-
University Students in Nine Countries
NICH 166  U

12:00-1:30 pm  LUNCH

1:30-3:00 pm  Will D. Robinson, Marek Zelazkiewicz, John Hanson, Pertti Yli-Luoma,
Kurt Bergling
Critical Thinking in Europe: Recent Developments
IVES: Warren  G

Donald Lazere
Literature and Critical Thinking
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<td>Writing Critical Thinking Tests: Part I</td>
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<td>STEV 3072 G</td>
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<td>Thomas Jackson</td>
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<td>Philosophy for Children: A Hands-On Demonstration, K-2 Level</td>
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<td>Kenneth Chuska, John Meehan</td>
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<td>Activating Knowledge and Thinking In and Through Reading and Writing</td>
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<td>3:15-4:45 pm</td>
<td>ConnieMissimer</td>
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<td>Workshop on Critical Thinking About the Nature of Evidence</td>
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<td>CS 20 G</td>
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<td>Jere Jones, Fred Korn</td>
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<td>Teaching Critical Thinking in the General Curriculum: Overcoming Student Differences in Background, Preparation and Ability</td>
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<td>NICH 173 CC, U</td>
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<td>Bradley Bowen</td>
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<td>Good Grief, More on Strong Sense Critical Thinking!</td>
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<td>NICH 166 G</td>
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<td>John Meehan, Ken Bungameter, John Barell, Wendy Oxman, Peter Kneeder</td>
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<td>Critical Thinking: What States are Doing</td>
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<td>SU: MP G</td>
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<td>Matthew Lipman</td>
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<td>Critical Thinking and Philosophy for Children</td>
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<td>DAR 108 G</td>
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<td>Douglas Martin</td>
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<td>Encouraging Critical Thinking in Science Laboratories</td>
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<td>STEV 1002 K-12</td>
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<td>Mark Weinstein</td>
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<td>Integrating Thinking Skills into the Schools</td>
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<td>Jan Talbot</td>
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<td>Think and Think Again</td>
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<td>Gus Bagakis, Bernice Goldmark</td>
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<td>Critical Thinking for Social Change</td>
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<td>STEV 2049 K-12</td>
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<td>Charlie Blatz</td>
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<td>Enhancing the Use of Critical Thinking, K-12: Understanding and Designing a Schoolwide Staff Development Program</td>
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<td>Donald Lazere</td>
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<td>Leftist Criticism of Mass Media</td>
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<td>DAR 112 U, G</td>
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<td>Vincent Ryan Ruggiero</td>
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<td>&quot;Hai! Hai! I'm Thinking&quot;</td>
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<td>STEV 3049 G</td>
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<tr>
<td>Time</td>
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</table>
| Sunday, Aug 7 3:15 - 4:45 cont'd | Robert H. Ennis  
Writing Critical Thinking Tests: Part II  
STEV 3072   G
Ralph Johnson  
Is Conventional Logic Sexist? Is a Feminist Logic Needed?  
STEV 3046   G
Paul Baker, Dean Dorn  
Critical Thinking in the Social Studies and Social Sciences: Active Learning Strategies that Foster Literacy  
STEV 3040   Grades 8-U, G
Dennis Rohatyn  
The Future of Critical Thinking  
CS 20   G
John K. Wilson  
Developing Critical Thinking Skills with Developmental Students  
NIC 173   CC
Corinne Bedecarré  
Do-It-Yourself-Courses: Help Might Be Closer than You Think  
NIC 166   CC, U
Hollibert E. Phillips  
On Appealing to the Evidence  
IVES 44   U
8:00-11:00 pm  Beer and Wine Social  
Dining Commons  
Videotape Program  
Dining Commons Alcove

**MONDAY, AUGUST 8**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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</table>
| 8:45-10:15 am | Nigel Dower, Rachel Lauer, James Gray  
Critical Thinking and Global Problems  
IVES: Warren   G
David Martin, Nicholas Michelli, David Imig  
Preparing Teachers for Critical Thinking: A National Perspective  
SU: MP   K-12, U
Clinton Vickers  
Using the Mind Well: An Essential School  
DAR 108   HS, G

8:00-11:00 pm  George Hanford  
A Critical Connection  
STEV 1002   G
Will Robinson  
The Development of "Teaching Thinking" Programmes in the British Isles: A Variety of Process-Based Courses  
CS 88   G
Charlie Blatz  
Enhancing the Use of Critical Thinking, K-12: Matters of Perspective  
ART 108   K-12
John Chaffee  
Mini-Critical Thinking Course: Critical and Creative Problem-Solving  
STEV 2049   G
Gerald Nosich  
Teaching Critical Thinking Across the Curriculum: An Approach Through Specific Courses  
STEV 3008   G, CC, U
Vincent Ryan Ruggiero  
Will Thinking Instruction Succeed?  
DAR 112   G
Ross Hunt  
One Public School Teacher's Experience with Richard Paul's Critical Thinking Handbook in the Classroom  
STEV 3049   K-8
Phyllis Berger  
Teaching Critical Thinking Through the Analysis of Advertisements  
STEV 3072   HS, CC, U
Maurice Finocchiaro  
The History of Critical Thinking: Part I  
STEV 3046   G, CC, U
Sharon Ballin  
The Myths of Creativity  
STEV 3040   G
Stuart Keeley  
Tips for Teaching Critical Thinking: What Students Can Tell Us  
CS 20   CC, U
10:30-12:00  noon

George Hanford, Richard Paul
The American High School: What Needs to Be Done to Prepare Students for College
IVES: Warren  HS, G

John Splaine
Critical Viewing: Stimulant to Critical Thinking
IVES 119  G

Lauren Goodley, Michael O'Loughlin, Judi Hirsch, Carolyn Hadley, James Gray
Critical Thinking and Liberation
SU: MP  G

Robert Swartz
Assessing the Quality of Student Thinking: Techniques for Classroom Teachers
DAR 108  K-12, G

Marek Zelazkiewicz
Social Constraints on Critical Thinking and Educational Reforms: An International Perspective
STEV 1002  G

John Barell
Opening the American Mind: Critical Thinking in Higher Education
CS 68  CC, U

Noreen Miller
Strong Sense Critical Thinking for Practitioners: A Miscellany of Experiences and Interest
ART 103  K-12, U

Gerald Nosich
Mini-Critical Thinking Course: Recognizing and Evaluating Misleading Statements
STEV 2049  G

12:00-1:30  pm  LUNCH

1:30-3:00  pm

Karen Jensen, Matthew Lipman, Harvey Lape, Donald Lazere, Sharon Schwarze
Infusing Critical Thinking into Humanities
IVES: Warren  K-U
Lawrence Aronstein, Brendon Desilets, Robert Swartz
Empowering Teachers to Rethink the School Curriculum to Infuse
Teaching for Critical and Creative Thinking
IVES 119 JH, G

Donald Klein, John Feare, Jerry Emmons, Larry Dawson
California's Recent Community College Across-the-Curriculum Critical
Thinking Requirement
SU: MP G, CC, U

John Barell, Mark Weinstein
Reflective Supervision for Critical Thinking
DAR 108 K-12

Richard W. Paul
Why Is It Impressive to Distinguish Weak Sense from Strong Sense
Critical Thinking? A Challenge to All Corners
STEV 1002 G

Lee Winocur
IMPACT
CS 68 K-CC

James Toole
The Looking Glass Program: Self-Esteem, Thinking, and the Performing
Arts
ART 108 G

M. Neil Browne, Stuart Keeley
Mini-Critical Thinking Course: Assignments that Stimulate Critical
Thinking
STEV 2049 G

Angel Villarini
Developing Skills, Concepts and Attitudes of Critical Thinking Through
Academic Subject Matter (K-College)
STEV 3008 K-U

Zachary Secek
Philosophical Chairs: A Format for Classroom Discussion
DAR 112 JH, HS, CC, U

Judi Hirsch
Can Teaching Critical Thinking to Retarded Performers Improve Their
School Achievement and Adjustment?
STEV 3049 Grades 6-8

Dean Drenk
Utilizing Writing Assignments as Thinking Exercises at the College Level
STEV 3072 CC, U
(Monday, August 8
3:15-4:45 cont'd)

Joel Friedman
Philosophy and Critical Thinking in Teacher Education: Or, How
Philosophers' Forms Might Become Teachers' Content
ART 108 K-12

Ralph Johnson
Mini-Critical Thinking Course: Critical Thinking and Advertising
STEV 2049 G

Vincent Ryan Ruggiero
The Administrator's Role in Thinking Instruction
STEV 3008 G

Rachel Lauer
Applying Critical Thinking to International Relations and Peace Studies
DAR 112 G

Perry Weddis
Making a Good Case for X
STEV 3049 6-U, G

Greg Sarris
Storytelling in the Classroom: Crossing Those Vexed Chasms from
Personal Narrative to Critical Discourse
STEV 3072 K-12, G

Jerrold Coombs
Teaching Critical Concepts and Standards as Part of Subject Matter
STEV 3046 G

John DeLandtsheer
Higher Level Thinking: A Basic Skill for All Students
STEV 3040 K-12

Stephen Ducat
The Eclipse of Critical Thinking in the U.S.: The Case of the Reagan
Mythos
CS 20 G

Judith Collison
Evaluation of Critical Thinking Skills Using the Format for Infusion of
Thinking Skills into the Curriculum
NICH 173 G

Nancy Kubasek
Critical Thinking from Day One: Infusing Critical Thinking into the
Syllabus
NICH 166 CC, U

5:30-8:00 pm Banquet Purchase tickets at Conference Desk; space limited.
Dining Commons

8:00-11:00 pm Beer and Wine Social
Dining Commons

Videotape Program
Dining Commons Alcove

TUESDAY, AUGUST 9

7:35-8:35 am Special Interest Groups

Elementary (K-6) STEV 3046
Middle School (7-8) CS 20
High School (9-12) STEV 3008
Community College STEV 2049
4 year College and University DAR 108
Critical Thinking in Literature and Language Arts DAR 1002
Critical Thinking in Social Studies (Including Sociology, Anthropology, History and Psychology) DAR 112
Critical Thinking in Science and Math NICH 173
Critical Thinking Assessment NICH 166
Critical Thinking for the Slow or Disadvantaged Learner STEV 3049
California State Department of Education's Thinking
Skill Network STEV 3040
Learning and Tutorial Centers NICH 166
Feminist Education ART 108

8:45-10:15 am Richard W. Paul
Remodelling Lesson Plans in Middle School and High School to Infuse
Critical Thinking
IVES 119 JH, HS

Lenore Langsdorf, Joel Rudinow, Dennis Rohatyn
Critical Thinking and the Media
SU: MP G, HS, U

John Chaffee, Gerald Nosich, Patricia Foster
Critical Thinking Across the College/ University Curriculum
DAR 108 CC, U

Nicholas Michelli, Wendy Oxman, John Barell, Mark Weinstein
The Montclair State College Institute for Critical Thinking's Approach to
Critical Thinking Across the Curriculum
STEV 1002 CC, U
<table>
<thead>
<tr>
<th>Time</th>
<th>Name</th>
<th>Title</th>
<th>Location</th>
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<tbody>
<tr>
<td>8:45-10:15</td>
<td>Sharon Bailin</td>
<td>Remedial Thinking</td>
<td>CS 68</td>
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<tr>
<td>8:45-10:15</td>
<td>Beau Jones</td>
<td>The Strategic Teacher as a Critical Thinker</td>
<td>ART 106</td>
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<tr>
<td>8:45-10:15</td>
<td>Carol LaBar, Ian Wright</td>
<td>Mini-Critical Thinking Course: Practical Reasoning and Principle Testing</td>
<td>STEV 3049</td>
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<tr>
<td>10:30-12:00</td>
<td>Kevin O'Reilly</td>
<td>Infusing Critical Thinking and Critical Viewing into Middle and High School Social Studies: Part I</td>
<td>STEV 3008</td>
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<tr>
<td>10:30-12:00</td>
<td>Will Robinson</td>
<td>Are there General Rules for Thinking or Do We Need More &quot;Content&quot;?</td>
<td>DAR 112</td>
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<td>10:30-12:00</td>
<td>Ogden Morse</td>
<td>Higher Order Thinking Skills in Domain Specific Classrooms</td>
<td>STEV 3049</td>
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<tr>
<td>10:30-12:00</td>
<td>Vincent Ryan Ruggiero</td>
<td>Dispositions—The Neglected Aspect of Thinking Instruction</td>
<td>STEV 3072</td>
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<td>10:30-12:00</td>
<td>Lauren Coodley</td>
<td>Activities that Promote Critical Thinking About the Nature of Education</td>
<td>STEV 3046</td>
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<td>10:30-12:00</td>
<td>Sharon Scull</td>
<td>Can ESL Students Learn that Critical Thinking Is More than Comprehension and Memorization?</td>
<td>STEV 3040</td>
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<td>10:30-12:00</td>
<td>M. Neil Browne, Stuart Keeley</td>
<td>Practical Lessons Learned from Teaching Critical Thinking for Twenty Years</td>
<td>CS 50</td>
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<tr>
<td>10:30-12:00</td>
<td>Carol Steedman</td>
<td>The Advantages of Teaching Informal Logic Within a Decision-Making Framework</td>
<td>NICH 173</td>
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<td>10:30-12:00</td>
<td>Roberta Ahlquist</td>
<td>Developing Our Own Voice: Alternatives to &quot;Weak Sense&quot; Critical Thinking</td>
<td>NICH 166</td>
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<tr>
<td>10:30-12:00</td>
<td>Richard Paul, Vincent Ryan Ruggiero, Donald Lazere</td>
<td>Cultural Literacy and Critical Thinking</td>
<td>IVES 119</td>
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<td>10:30-12:00</td>
<td>Greg Sarris, Ogden Morse, Bruce Ronk</td>
<td>Infusing Critical Thinking into Language Arts</td>
<td>SU: MP</td>
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<tr>
<td>10:30-12:00</td>
<td>Karen Jensen</td>
<td>Making Connections—Critical Thinking in Foreign Language Learning</td>
<td>DAR 108</td>
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<tr>
<td>10:30-12:00</td>
<td>John Barell</td>
<td>Empowering Teachers and Students Towards Critical Thinking: K-12</td>
<td>STEV 1002</td>
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<td>10:30-12:00</td>
<td>Robert Swartz</td>
<td>Infusing Teaching for Critical and Creative Thinking into Standard Subject Area Instruction</td>
<td>CS 68</td>
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<td>10:30-12:00</td>
<td>Connie DeCapite</td>
<td>Critical Thinking Through Thematic Units</td>
<td>ART 106</td>
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<td>10:30-12:00</td>
<td>Paul Baker</td>
<td>Fostering Critical Thinking for Administrators</td>
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<td>10:30-12:00</td>
<td>Kevin O'Reilly</td>
<td>Infusing Critical Thinking and Critical Viewing into Middle and High School Social Studies: Part II</td>
<td>STEV 3008</td>
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<td>10:30-12:00</td>
<td>William A. Dorman</td>
<td>Mass Media and Critical Thinking</td>
<td>DAR 112</td>
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<td>10:30-12:00</td>
<td>Nigel Dower</td>
<td>Thinking Globally</td>
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<td>10:30-12:00</td>
<td>William Zeiger</td>
<td>Teaching the Dialectical Essay</td>
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(Tuesday, August 9
10:30-12:00
cont'd)

Eugene Labovitz
Sociology, Critical Thinking and Educational Reform
STEV 3049 G

Frank Scardilli
The Critical Thinker's Guide to the Art of Negotiation and Conflict Resolution—Interpersonal to International
STEV 3040 G

Judi Hirsch, Gus Bagakis, Ann Kerwin
Taking Care of Ourselves
CS 20 G

Ellen O'Connor
The Practices of Critical Thinking: Experiential Learning Exercises for College and Graduate-Level Instruction
NICHE 173 CC, U

Michael O'Loughlin
Critical Pedagogy: A Necessary Prerequisite for Critical Thinking in Schools
NICHE 166 G

12:00-1:30 pm
LUNCH

1:30-3:00 pm
Sharon Scull, John Wilson, Heidi Kreklau
Critical Thinking Study Skills and Remediation
IVES 119 K-12

Noreen Miller, Jan Talbot, Ross Hunt, Karen Jensen, Chris Vetrano
Teaching Critical Thinking in the Strong Sense: Practitioner's Perispective
SU: MP K-12

Barbara Presseisen
Teaching Thinking and At-Risk Students
DAR 108 K-12

Richard W. Paul
Cultural Literacy and Critical Thinking: Where E.D. Hirsch Is Right, Where He Is Wrong, and What Is Likely to Come of His Influence
STEV 1002 G

Lynda Jerit, Marilee McGowan
Women's Thought and Creative Imagination
CS 68 G

A.J.A. Binker
Workshop on Questioning: Part I
ART 106 G

(Tuesday, August 9
1:30-3:00, cont'd.)

Donna Benedetti
Philosophical Thinking and Philosophy for Children
STEV 2049 K-12

M. Neil Browne
Seven Keys to Effective Faculty Development Workshops: Stimulating Critical Thinking Across the Curriculum
STEV 3008 CC, U

John Chaffee
Critical Literacy and Critical Thinking: Partners in Education
DAR 112 G, CC, U

Mark Battersby
Critical Thinking and Basic Reasoning Skills
STEV 3049 JH, HS, CC, U

T. Edward Damer
Constructing Moral Arguments
STEV 3072 G

John Fears
Beyond the Weak and the Strong
STEV 3049 G

Perry Weddle
Argument Formats
STEV 3040 G, CC, U

Harvey Siegel
Why Be Rational?
CS 20 G

Rosemarie Bezerra-Nader
Critical Thinking—Therapy for a World at Risk
NICHE 173 K-12

Harvey Lape, Sharon Schwarz
Critical Thinking Across the Liberal Arts
NICHE 166 CC, U

3:15-4:45 pm
Nancy Lyons
Thinking Critically with the Body and the Arts
IVES: Warren G

Richard Paul, Marijane Paulsen, Susan Oliviera, Clifford Pew, Cheri Bishop, Donald Klein, Martin Johnson
A Staff Development Plan to Model Critical Thinking Throughout a Community College
IVES 119 CC, U
3:15-4:45 cont'd)

Frank Scardilli, Marek Zelazkiewicz, Dean Dorn, Angel Villarni
Critical Thinking in Uncritical Societies: Social Constraints Imposed on
Critical Thinking
SU: MP G

Harvey Siegel, Donald Hatcher, Lenore Langsdorf, Dennis Rohatyn,
Maurice Finocchiaro
Educating Reason
DAR 108 CC, U

John Hanson
The Oxfordshire Skills Programme
STEV 1002 JH, HS, G

Ralph Johnson
The Whole Enchilada: An Outline of a Theory of Reasoning
CS 68 G, CC, U

A.J.A. Binker
Workshop on Questioning: Part II
ART 108 G

Martha Rapp-Haggard
Developing Critical Thinking with the Directed Reading-Thinking Activity
SteV 2049 K-12

Thomas Jackson
Philosophy for Children and the Teaching of Values: A Hands-On
Demonstration, Junior High/High School
STEV 3008 JH, HS

T. Edward Damer
Teaching Critical Thinking Without a Text
DAR 112 HS, CC, U

Nigel Dower
Development and Critical Thinking
STEV 3049 G

Dean Drenk
Critical Thinking/Writing in Higher Education?
STEV 3072 CC, U

Jerrold Coombs
Learning Practical Reasoning in Law-Related Studies
STEV 3049 G, CC, U

8:00-11:00 pm
Beer and Wine Social
Dining Commons
Videotape Program
Dining Commons Alcove

WEDNESDAY, AUGUST 10

8:45-10:15 am
Karen Jensen, Noreen Miller, Joe Edwards, Carolyn Sweers, Clinton
Vickers
Critical Thinking K-12: The Practitioner's Perspective
SU: MP K-12

Joel Rudinow
Logic for Children
DAR 108 JH, HS

Peter Blewett
Rediscovering Sir Francis Bacon's Lost Continent of New Atlantis in the
Classroom: A Collaborative Learning Model
STEV 1002 G, CC

Donald Hatcher
Critical Thinking and Ethical Values
CS 68 G

Morris Lamb
Assessing Thinking Skills in Classroom Instruction
ART 108 K-12
J. Robert Hanson
Styles of Thinking for Critical, Creative and Conceptual Thinking
STEV 2049 G

Bradley Bowen
Confusion or Infusion: Is Religious Education Compatible with the Critical Thinking Ideal?
STEV 3008 G

Anton Anatole, Gus Bagakis
Critical Thinking as Power
DAR 112 G

Carol LaBar
But First We Must Distinguish
STEV 3049 JH, HS

Heidi Kreklau
Teaching Critical Thinking to the Learning Disabled
STEV 3072 K-12, G

Priscilla Agnew
The Use of Examples in Critical Thinking Instruction
STEV 3046 G, CC, U

Adrian Frana, Ann Kerwin
Making the Most of Nothing: Looking Critically at Absences, Silences, Spaces, Things Ignored and Things to Be
STEV 3040 G, K-U

Richard Estes
The Problems of a Non-Critical Thinker Infusing Critical Thinking into the Classroom
CS 20 HS

Vincent Comiskey
A Course in Problem-Solving Skills for Adult Undergraduates
NICH 173 CC, U, G

Robert Ennis, Stephen Norris, George Hanford
Critical Thinking Testing: Recent Developments
SU: MP G

Edward Mooney
Gender Difference and Moral Education: The Ethics of Care
DAR 108 G

William Payne
The Questionable Research Paper
STEV 1002 JH, HS

Carolyn Sweers
Socratic Teaching Revisited
CS 68 G, HS

Rosemarie Bezerra-Nader
Critical Thinking and English—An Integrated Curriculum
ART 108 K-12

J. Robert Hanson
Teaching Strategies for Promoting Conceptual Thinking (Concept Attainment and Concept Development)
STEV 2049 K-12

Donna Benedetti
C.S. Peirce's Relevance to Critical Thinking
STEV 3008 G

Judi Hirsch
Pablo Freire's Pedagogy
DAR 112 G

Sr. Eileen Rice
Idea Testing
STEV 3049 K-12, G

Alicia Moreyra
Using Thinking Frames in Staff Development
STEV 3072 K-12

John Feare
Critical Thinking and a Theological Dimension
STEV 3046 G

Dennis Rohatyn
Media Myths
STEV 3040 G

Max Thomas
CS 20 G, CC

Donald Hatcher
Critical Thinking and the Ethics of Belief
NICH 173 G

LUNCH

12:00-1:30

LUNCH

1:30-3:00 pm

Carol LaBar, Jerrold Coombs, Ian Wright, Linda Phillips
Critical Thinking in Canada
SU: MP G
"Weak sense" critical thinking dominates the literature on critical thinking currently. In this session, educators are encouraged to go beyond Bloom's Taxonomy and teach critical pedagogy which enables students to develop their own voice in order to grab hold of their own education and act on it for change. "Weak sense" critical thinking is contrasted against "strong sense" critical pedagogy. Critical theorists such as Giroux, Shor and Freire are discussed and a strong argument is made to take critical thinking in the "weak sense" one step further, to practice "strong sense" critical pedagogy.

Audience: G.
In the last analysis, the question of what are true and false needs must be answered by the individuals themselves, but only in the last analysis; that is, if and when they are free to give their own answer. As long as they are kept incapable of being autonomous, as long as they are indoctrinated and manipulated (down to their very instincts), their answer to this question cannot be taken as their own.

Herbert Marcuse

---

**Allen, Robert D.**  
*Improvement of Critical Thinking Skills in Science*

Dean of Instruction  
Inver Hills Community College  
Inver Grove Heights, MN 55075

**Co-Presenter**  
Stroup, David J.  
Assistant Professor  
Department of Biology  
Furman Marion College  
Florence, SC 29501

College science students typically exhibit serious and enduring difficulties applying scientific concepts to solve problems and practicing analytical and critical thinking skills with those concepts. We have investigated a variety of these difficulties including the ability to draw valid conclusions, make interpretations, identify assumptions and evaluate scientific procedures and have developed instructional material and procedures to improve student skills. Detailed evaluations have revealed that students make significant improvements with appropriate instruction and practice. Instructional material includes carefully designed written exercises, video-tape material, and computer-assisted instruction. Further experiments have investigated the ability to apply concepts in Mendelian genetics and mitotic and meiotic cell division and the development of specific instructional material on these topics. Investigations will be described and results presented which indicate significant improvement of student skills. Instructional procedures and material will be demonstrated and will be available for examination by conference participants.

 Audience: CC, U, G  
(August 8  
1:30-3:00 pm  
STEV 1040 Apple Lab)

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**Anatole, Anton**  
*Critical Thinking as Power*

Professor  
Department of Philosophy  
San Francisco State University  
1600 Holloway Avenue  
San Francisco, CA 94132

**Co-Presenter**  
Gus Bagakis  
Professor  
School of Humanities  
San Francisco State University

"In the last analysis, the question of what are true and false needs must be answered by the individuals themselves, but only in the last analysis; that is, if and when they are free to give their own answer. As long as they are kept incapable of being autonomous, as long as they are indoctrinated and manipulated (down to their very instincts), their answer to this question cannot be taken as their own."

Herbert Marcuse
There has recently been considerable debate about the merits of teaching critical thinking through individual courses versus infusing thinking skills into the curriculum. In this paper, I shall argue that if the way we teach in all subjects at all levels does not reflect the critical and creative nature of knowledge, then attempts to teach thinking skills late in a student’s career will remain courses in “remedial thinking.” Even the notion of infusion seems to imply the injection of additional elements into standard curriculum, whereas I shall argue that what is necessary is a reconceptualization of what it means to learn a discipline.

Audience: G

Bailin, Sharon

The Myths of Creativity

This presentation will involve a critical examination of some of the currently popular notions of what creativity is and how it can be developed. In particular, I will argue that there are serious problems both with the notion that there is a distinct creative process of thought which is different from ordinary logical thought and with the notion that it is meaningful to speak of persons as being creative independent of their production of valuable products. The alternative view which will be proposed connects creativity with skills and rules, with critical inquiry, and with significant achievement.

Audience: G

Baker, Paul J.

Critical Thinking in the Social Studies and Social Sciences: Active Learning Strategies that Foster Literacy

This workshop addresses the fundamental problem of helping students read and think at the same time. Students are taught to bring reading and thinking together as an integral process. Several thinking frames are integrated in a systematic critical thinking model that can be applied to a wide array of case materials: newspaper items, political speeches, articles from professional journals and popular magazines. This workshop will also consider the larger questions of fostering well-informed citizenship through various critical thinking strategies.

Audience: Grades 9-12, G

Bailin, Sharon

Creative thinking is exciting when focused on the assumptions and values of students rather than on skills development. Concerns with assumptions and values require students to reflect and act with an awareness of the larger social context. The problem is to turn classrooms into inspiring places where groups of students learn about themselves and their connection to society. One available technique for implementing this task is the use of the metaphor as a device for stimulating thought.

This working meeting will give teachers ideas and examples for their own classrooms.

Audience: K-12, G, U

(August 7 3:15-4:45 pm STEV 2049)

Bagakis, Gus

Taking Care of Ourselves

Co-Presenters

Hirsch, Judi
Kerwin, Ann

In order to be effective models of critical thinking, teachers must find ways of coping with the isolation of an oppressive and alienating educational system. Separation and competition as well as poor working conditions and poor pay often make it difficult for us to be effective models. Join us for a discussion of ways to develop networks and find other means to empower ourselves so that we can most effectively teach our students.

Audience: G

(August 8 10:30-12:00 noon CS 20)

Bailin, Sharon

Remedial Thinking

Professor
Department of Educational Administration and Foundations
Faculty of Education
University of Manitoba
Winnipeg, Manitoba
Canada R3T 2N2

There has recently been considerable debate about the merits of teaching critical thinking through individual courses versus infusing thinking skills into the curriculum. In this paper, I shall argue that if the way we teach in all subjects at all levels does not reflect the critical and
This seminar is designed to share the results of research with faculty at one college about the nature of thinking in the disciplines. This inquiry focused upon the nature of effective teaching, thinking in the various disciplines, and strategies for challenging students. A subsequent project has led to a more in-depth focus upon the nature of critical thinking within college disciplines—an attempt to help faculty define the nature of domain specific inquiry and how that may affect our pedagogical practices. Part of this seminar will focus upon participants’ observations about domain specific inquiry and how it is reflected in their teaching.

Audience: CC, U
(August 8 10:30-12:00 noon CS 68)

School administrators encounter an endless stream of prescriptions to solve educational problems. Yet these prescriptions are often presented in a concrete and quick-fix format that is supported by the rhetoric of conclusions. Administrators need critical thinking skills to better interpret conflicting opinions about school improvement and to establish a collegial system of problem solving with teachers. This workshop addresses these issues by articulating a critical thinking model that examines various educational topics as theory, research, and practice.

Audience: K-12, G
(August 9 10:30-12:00 noon STEV 2049)

This session is an attempt to produce a prioritized, illustrated and relatively brief list of basic reasoning skills, the acquisition of which should enable a student to deal confidently with any discipline. By making the list prioritized—prioritized both as to importance and order of presentation—the list should serve as a useful guide to the most important skills to stress within the limits of any course. This session will introduce participants to a program that focuses upon empowering students, teachers and administrators with strategies for improving performance, achievement, and the quality of life in schools. Based upon research on staff development, the nature of thinking, and strategic planning for success, this program fosters more self-direction and independent thinking through goal-setting, infusion of problem solving/critical inquiry throughout the curriculum, and written reflection upon our own thinking processes. Participants will practice these programmatic elements.

Audience: K-12
(August 9 10:30-12:00 noon STEV 1002)

This seminar is designed to share the results of research with faculty at one college about the nature of thinking in the disciplines. This inquiry focused upon the nature of effective teaching, thinking in the various disciplines, and strategies for challenging students. A subsequent project has led to a more in-depth focus upon the nature of critical thinking within college disciplines—an attempt to help faculty define the nature of domain specific inquiry and how that may affect our pedagogical practices. Both projects involved interviews with faculty, classroom observations of practice, and conferences. Part of this seminar will focus upon participants’ observations about domain specific inquiry and how it is reflected in their teaching.

Audience: CC, U
(August 8 10:30-12:00 noon CS 68)
Corrinne I shall consider Peirce's notions of (a) the irritation of political, product, and service ads questions. In this way, participants will be able to get a taste of the philosophical community of the program written for elementary school children. They then will have the opportunity to raise questions about the passages read and engage in a philosophical discussion generated by those questions. In this way, participants will be able to get a taste of the philosophical community of whatever actual constraints you would like to remedy using undergraduate teaching assistants.

Judging from the existing curricula of most elementary and secondary schools, one might think that philosophy has no place in the K-12 classroom. Those who hold such a view, however, may have a basic misconception about philosophy. In the first part of this workshop, the nature of philosophical thinking will be examined. It will be shown that such thinking consists of two fundamental elements: a critical examination of ideas and information, and a sense of wonder about oneself and the world. Next, it shall be argued that K-12 students can think philosophically and that there are good reasons for wanting these students to engage in such thinking. Finally, a program which successfully promotes philosophical thinking in elementary and secondary school students shall be described. That program is called Philosophy for Children. It was developed in the 1970's by professors Matthew Lipman and Ann Sharp, of Montclair State College. In the second part of the workshop, a demonstration of Philosophy for Children will be presented. Workshop participants will read a chapter from Pixie, one of the novels in the program written for elementary school children. They then will have the opportunity to raise questions about the passages read and engage in a philosophical discussion generated by those questions. In this way, participants will be able to get a taste of the philosophical community of whatever actual constraints you would like to remedy using undergraduate teaching assistants.

Charles Sanders Peirce, the founder of American pragmatism, wrote extensively and seminally in many areas, including logic, science, and semiotics. However, he generally is not considered to be a philosopher who addressed issues of interest and importance to the "ordinary" person. It is thought that he certainly could not have had anything to tell us about a subject which we educators of the 1980's are becoming increasingly concerned with: critical thinking. In this paper, I hope to dispel this myth. I shall argue that Peirce provides us with many insightful views relevant to the teaching of critical thinking today. I shall examine those views in two broad categories: (1) as reasons for thinking critically, I shall consider (a) beliefs as leading principles in inferential reasoning, and (b) beliefs as establishing habits of actions; and (2) as elements of thinking critically, I shall consider Peirce's notions of (a) the irritation of doubt, (b) abduction, (c) fallibilism, and (d) the self-correcting method. I believe this discussion will show that Peirce has much to say to the critical thinker on critical thinking.
Participants will be given specific methods for integrating critical thinking skills into English classes. Topics will include: literature, term paper writing on controversial issues, using analogies in writing, and the use of student-made video tapes. Handouts will be given.

**Audience:** K-12  
**Location:** ART 108  
**Date:** August 10, 10:30-12:00 noon

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Participants will recognize that, unlike many special programs in education, critical thinking offers concrete and immediate strategies for counteracting factors which are known to contribute to a poor self-image, substance abuse, and teenage suicide. The strategies presented can be easily and inexpensively adapted to any content area. The positive and powerful impact critical thinking can have in the intellectual and personal lives of students and adults will become apparent.

**Audience:** K-12  
**Location:** NICH 173  
**Date:** August 9, 1:30-3:00 pm

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Participants will be given specific methods for integrating critical thinking skills into English classes. Topics will include: literature, term paper writing on controversial issues, using analogies in writing, and the use of student-made video tapes. Handouts will be given.

**Audience:** K-12  
**Location:** ART 108  
**Date:** August 7, 10:30-12:00 noon
session talks about what this process suggests for conceptualizing and designing a school-wide (content-driven) staff development program of critical thinking enhancement. Goals, objectives, needed activities and a possible timetable will be discussed.

Audience: K-12
(August 7 3:15-4:45 pm STEV 3008)

Blatz, Charlie
Enhancing The Use of Critical Thinking, K-12: Matters of Perspective

A concern with enhancing the use of critical thinking K-12 begins with a concern to clarify one's general and subject matter class goals. It then proceeds through the identification, introduction and practice of elements of critical thinking necessary to achieve these goals. This session talks about this process, focusing in particular on understanding and using the reasoning of taking a perspective. Lesson plan sketches, K-12, will be reviewed.

Audience: K-12
(August 8 8:45-10:15 am ART 108)

Blewett, Peter
Rediscovering Sir Francis Bacon's Lost Continent of New Atlantis in the Classroom: a Collaborative Learning Model

A new paradigm of mind and learning is emerging and calls for radically different modes of classroom instruction. In this session, a model for collaborative learning is presented based on Sir Francis Bacon's classic triad of careful reading, dynamic discussing, and precise writing. Visualizing or imaging adds a fourth dimension of mind to the model. This collaborative learning model integrates cognitive, affective, intuitive and psycho-motor facets of mind in a holistic process of critical and creative thinking.

Audience: G, CC
(August 10 8:45-10:15 am STEV 1002)

Bomstad, Linda
Teaching Critical Thinking Through Writing

What is religion? What is religious education? To what extent, if any, is critical thinking compatible with religion and religious education? In this session, I will discuss historical background and conceptual groundwork needed to properly relate critical thinking to religion and religious education. I will also outline my conception of a religious education that would incorporate the central principles of the critical thinking ideal.

Audience: G
(August 10 8:45-10:15 am STEV 3008)

Bowen, Bradley
Confusion or Infusion: Is Religious Education Compatible with the Critical Thinking Ideal?

In this session, I will discuss various recent criticisms of Dr. Richard Paul's conception of critical thinking. I shall present a qualified defense of Dr. Paul's position, attempt to clarify
the issues raised by critics and present an overview of the conflicting positions. My presentation will focus on last year's panel discussion of "strong-sense" critical thinking and on recent criticisms made by Dr. Harvey Siegel.

Audience: G

(August 9 8:45-10:15 am CS 20)

Brown, Rexford
Six Approaches to Thoughtfulness
Director
Policy and the Higher Literacies
Education Commission of the States Project
1860 Lincoln Street, Suite 300
Denver, CO 80295

With a grant from the John D. and Catherine T. MacArthur Foundation, ECS has been exploring relationships between policy and efforts to make students more thoughtful in six school districts located in the Mississippi delta, urban Pennsylvania, southern California, the Navajo Nation, the urban midwest and Ontario, Canada. Researchers have been asking: What are the districts' policy intentions with respect to "thoughtfulness" (e.g. critical thinking, problem solving, whole-language instruction, higher-order thinking skills, etc.)? What state or provincial intentions are influencing district policy? How are these intentions understood or acted upon by people charged with carrying them out? What relationships exist between the level of student thoughtfulness and the level displayed by adults in the system?

What has emerged is a chronicle of students, teachers, administrators, and policy-makers trying to think their way through or around the complexities of modern schooling.

Dr. Brown will share some of the experiences researchers had in rural, urban, and suburban schools, in elementary and secondary schools, in all black, all native American, and racially

Audience: G

(August 8 1:30-3:00 pm STEV 2049)

Browne, M. Neil
Professional Lessons Learned from Teaching Critical Thinking for Twenty Years
Co-Presenter
Keeley, Stuart M.

Based on their experience teaching a critical thinking course and their efforts to integrate critical thinking into their courses in economics, law, history, and psychology, the presenters will provide practical classroom strategies that facilitate the learning of critical thinking. Teaching tips on organizing syllabi, questioning behavior, discussion formats, assignments, and exams will be provided. The presenters will encourage dialogue among participants, focusing on typical problems that teachers face when first trying to integrate critical thinking into their course objectives.

Audience: G
The development of sophisticated thinking abilities is closely tied to the development of complex language abilities—and vice versa. This workshop will review an NEH funded program in which students enrolled in a Critical Thinking course linked to writing, reading and oral communication courses have consistently demonstrated gains in language skills and thinking abilities. Participants will engage in a variety of activities which illustrate the integration of critical thinking with critical writing, reading, speaking and listening.

Audience: G, CC, U
(August 9 1:30-3:00 pm DAR 112)

Chaffee, John
Mini-Critical Thinking Course: Critical and Creative Problem-Solving

Solving problems effectively involves an integrated set of critical and creative thinking abilities. This workshop will introduce a versatile approach useful for analyzing complex problems in an organized and creative fashion. Individually and in small groups, participants will work through a sequence of problems that will allow them to critically reflect on and discuss the learning process. They will also explore ways of incorporating problem-solving approaches into the courses they teach.

Audience: G
(August 8 8:45-10:15 am STEV 2049)

Chaffee, John
Practical Strategies for Teaching Critical Thinking in the Disciplines

This session will explore an established program which teaches and reinforces fundamental thinking skills and critical attitudes across the curriculum. This NEH funded program involves an interdisciplinary course in Critical Thinking in which over 800 students enroll annually, as well as a professional development initiative consisting of faculty training and curriculum redesign. In addition to reviewing the content and pedagogy of the Critical Thinking course, the workshop will emphasize key practical strategies for fostering critical thinking and problem-solving abilities in the disciplines. Participants will examine and engage in a variety of sample activities drawn from diverse disciplines which illustrate these strategies.

Audience: CC, U, HS
(August 7 10:30-12:00 noon ART 108)
Collison, George

Practical Strategies for Using Computer Simulations as Critical Thinking and Problem-Solving Tools in Social Studies, Science, and Mathematics

Computers are most properly used, not as electronic workbooks, but as simulation tools that provide students a bridge between concrete and abstract understanding. Within a highly compressed time frame, simulations permit students actively to experiment with ideas governed by an accurate representation of the experimental process. Students generate data, and personally become involved in making, testing, and refuting conjectures. This workshop explores several new programs, including The Geometric Supposer, Micro-Gardener, Heredity Dog, and Geography World.

Audience: Grades 8-U
(August 8 8:45-10:15 am NICH 166)

Collison, Judith

Evaluation of Critical Thinking Skills Using the Format for Infusion of Thinking Skills into the Curriculum

Accountability is an important issue in critical thinking education. Testing for critical thinking skills is a difficult task, because objective evaluation of how mental processes work is not nearly as simple as objective evaluation of information recall. The greatest problem here is that the criteria are almost hopelessly complicated, because they are used to evaluate responses that are, at least to some degree, unpredictable. Any test that includes original contributions from the students will face the same difficulty. I believe that using my critical thinking model can facilitate evaluation of original student work. Using the categories of information, implication, inference and imagination as criteria, students' work can be judged quite objectively, complete or lacking, correct or incorrect. The model provides a context for critique as well as form or guidelines for writing.

Audience: Grades 8-U
(August 8 3:15-4:45 pm NICH 173)

Collison, George

Developing Skills in Definition and Analogical Reasoning: Practical Strategies for Teachers in the Subject Areas

Collison, George

Activating Knowledge and Thinking In and Through Reading and Writing Activities

There is a lot more to the definition of a word than a dictionary formulation. In fact, in natural language and argumentation, we rarely use words in their standard lexical meanings. The richness of a discipline as well as its language and styles of argument can be well served by an introductory exploration of rhetorical, stipulative, and theoretical definitions of the key words or concepts. A clear grasp of the variety and use of definitions can aid students in becoming aware of their reading in depth.

Analogical reasoning is another powerful pedagogical tool; it can be used to make connections within and between disciplines. It also serves to make learning open-ended because, by nature, analogical reasoning points beyond itself.

This workshop provides instructors with practical strategies to develop students' understanding and use of definition as well as ways to clarify and extend content using analogical argument.

Audience: Grades 8-U
(August 8 10:30-12:00 noon NICH 166)
Cognitive skill development. The use of math manipulatives has a central role in bridging the gap between concrete and abstract reasoning. Workshop participants will design sample lessons using this structure.

Audience: E

(August 8 1:30-3:00 pm STEV 3040)

Comiskey, Vincent P.
Teacher & Consultant, Learning Disabilities
The Norman Bleshman Regional Day School
333 East Ridgewood Avenue
Paramus, NJ 07652

This presentation describes the components of a course in Problem Solving Skills given recently to a group of 20 adult undergraduates at Empire State College (SUNY) in Nyack, NY. The undergraduates ranged in age from 25 to 58 years, with a mean and mode of 37 years. This workshop reports on the reactions of these adults to the presentation of the theory and practice of problem-solving and on their efforts at generalizing these skills to social and work situations. They evidenced a constructive pattern of relating to one another in group problem-solving and a willingness to explore linkage to prior knowledge; these will be discussed along with student recommendations for improving the course. A comparison to the "expert/novice" literature will be attempted.

Audience: CC, U, G

(August 10 8:45-10:15 am NICH 173)

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

I will describe and demonstrate activities that promote critical thinking about education itself. Within general psychology courses and a specialized course on active learning, I have been encouraging critical thinking at the community college level for many years. Inspired by Paulo Freire, Ira Shor, and feminist Pedagogies, I have developed games, writing exercises, debates and role plays that focus on education itself. Class requirements, testing, and grades are part of the critical focus. Students love to critique schooling! It's a very successful topic and one which changes their role.

Audience: G

(August 9 8:45-10:15 am STEV 3049)

Coombs, Jerrold R.
Learning Practical Reasoning in Law-Related Studies
Professor
Faculty of Education
Main Mall 2125
University of British Columbia
Vancouver, British Columbia
Canada V6T 1Z5

Various kinds of reasoning are used in justifying laws and applying them to particular cases. To a considerable extent, the competencies required for good reasoning about matters of law are similar to those required for good practical reasoning, i.e., good reasoning about what to do or what one ought to do. This talk explores the ways in which initiating students into legal reasoning may be fruitful in fostering better practical reasoning as well as better understanding of law.

Audience: G, CC, U

(August 9 3:15-4:45 pm STEV 3049)

Coombs, Jerrold R.
Teaching Critical Concepts and Standards as Part of Subject Matter

When one learns subject matter, one is learning, among other things, elements of content like concepts, explanations, justifications, proofs, theories, interpretations, rules and the like. Such "elements" may be more or less adequately and accurately represented in texts or class discussions. This talk considers the possible advantages of explicitly teaching students the standards of adequacy and accuracy for such elements in order to enable them to frame relevant critical questions about the subject matter presentations available to them.

Audience: G

(August 8 3:15-4:45 pm STEV 3046)

Damer, T. Edward
Mini-Critical Thinking Course: What the Fallacies Can Teach Us About Arguments
Professor/Author
Department of Philosophy
Emory and Henry College
Emory, VA 24327

This section of the "mini-course" on critical thinking will demonstrate how a knowledge of the fallacies commonly found in arguments can inform and guide us toward the construction of good arguments. A fallacy is defined by the workshop leader as a violation of one of the three criteria of a good argument. Special attention will be given to the process of identifying such errors and of finding effective ways of turning poor arguments into better ones. A handout of common fallacies from the workshop leader's Attacking Faulty Reasoning will be distributed to workshop participants.

Audience: G

(August 7 1:30-3:00 pm DAR 112)
Most of us have found that it is primarily moral issues that engage our attention and deserve our critical energies. Yet many critical thinking courses give little focus to the peculiar character of moral concepts and the part that they play in the force of arguments designed to persuade us toward moral commitment or action. This workshop will focus upon the important task of formulating clear moral premises. Without such premises, many of our arguments violate the criteria of good arguments and, even more importantly, fail to convince others.

Audience: HS, CC, U

(August 9 3:15-4:45 pm DAR 112)

Damer, T. Edward

Constructing Moral Arguments

Most of us have found that it is primarily moral issues that engage our attention and deserve our critical energies. Yet many critical thinking courses give little focus to the peculiar character of moral concepts and the part that they play in the force of arguments designed to persuade us toward moral commitment or action. This workshop will focus upon the important task of formulating clear moral premises. Without such premises, many of our arguments violate the criteria of good arguments and, even more importantly, fail to convince others.

Audience: G

(August 9 1:30-3:00 pm STEV 3072)

DeCapite, Connie

Critical Thinking Through Thematic Units

This workshop explores how to develop a thematic unit through which central concepts are developed, expanded, clarified, reinforced and connected as one moves through a variety of studies and genres of literature. This allows for in-depth, holistic, interdisciplinary study through which critical thinking can flourish. This approach is compatible with the California State Language Arts and Social Studies Model Curriculum Standards. A sample one semester, interdisciplinary thematic unit suitable for intermediate and high school students, will be presented.

Audience: K-12

(August 9 10:30-12:00 noon ART 108)
Drenk, Dean

Utilizing Writing Assignments as Thinking Exercises at the College Level

Though frequently used in higher education, writing assignments are not often effective as thinking exercises. My experience has shown me that writing assignments are often unsuccessful because they are designed as presentations of knowledge, i.e., others' thinking, not designed to exercise the students' thinking in the manner of the field of study. Though the methods of critical thinking vary by discipline; designing successful writing assignments involves developmental sequencing, establishing focus, allowing for mistakes and correction of mistakes, and insistence on clarity of thought. With these concepts in mind, specific writing assignments can be designed and executed which exercise effectively the type of thinking that is required in various disciplines. In this way, students can learn to "make meaning," i.e., think critically.

Audience: CC, U
(August 9
3:15-4:45 pm
STEV 3072)

Ducat, Stephen

The Eclipse of Critical Thinking in the United States: The Case of the Reagan Mythos

Encouraged by a history of narcissistic parenting and an infantilizing political discourse, Americans in the 1980's have been rendered less critical of propaganda, especially from the right, than ever before. Certain traits, shared by many in the United States—the persistence into adulthood of regressive modes of introjection (seen in the way many people toothlessly swallow the values and ideas of social authorities), unconscious fantasies of returning to a state of maternal-infant symbiosis, associated desires for omnipotence, and a dread of dependency—have been personified by a politician with a very similar psychological history. Furthermore, most Americans, being firmly identified with the false community of the nation-state, were still reeling with vicarious humiliation at their leaders' military defeats and political scandals of the 1970's. In the 1980's, for the capitalist order to renew itself, nothing less than an "orgy of re-illusionment" was required, as Paul Erickson describes the New Patriotism. It took a political actor, Ronald Reagan, with his particular developmental deficits, to stage this re-illusionment. With his reassuring demeanor, his sincere belief in his own delusions, and his bizarre but evocative euphemisms and metaphorical constructions, he was the right man for the job. Unfortunately for the American public, it was a snow job.

By analyzing the unconscious basis of Reagan's appeal, Dr. Ducat will provide insight into the historical and developmental origins of the contemporary eclipse of critical thinking.

Audience: G
(August 8
3:15-4:45 pm
CS 20)
To achieve the above aims, I will explain how our staff development program evolved and led to national recognition from the Carnegie Foundation and in turn led to first steps toward full implementation of critical thinking into the curriculum.

The purpose of this presentation is threefold: (1) to demonstrate the value of a strong, ongoing staff development program as a prerequisite to implementation of critical thinking in the curriculum; (2) to review past and present strategies for full implementation of critical thinking into the curriculum and; (3) to present our current state of progress and the challenges to sustaining enthusiasm for an ongoing critical thinking and staff development program.

To achieve the above aims, I will explain how our staff development program evolved and led to national recognition from the Carnegie Foundation and in turn led to first steps toward full implementation of critical thinking into the curriculum.

One segment of a multi-million dollar challenge grant to Kean College from the State of New Jersey has focused on strengthening the core curriculum of the General Education Program. A vital component of the core is the emphasis on critical thinking skills. This past fall a task force comprised of a representative from each core course along with learning assistance faculty and members of past critical thinking committees convened with the stated purpose of developing concrete and workable critical thinking strategies which the faculty could immediately implement. This process of implementation has now begun. The panel will (1) give a brief overview of the interdisciplinary nature of the core courses; (2) discuss ways in which the task force worked with an outside consultant to develop materials; (3) show how the work of the task force has led to the development of resource manuals containing specific critical thinking strategies as well as addressing concerns like global awareness and visual literacy; (4) focus on critical thinking activities that have helped to link courses; and (5) explain how the assessment process has been redesigned to measure critical thinking skills.

Audience: CC, U (August 8 1:30-3:00 pm NICH 173)

Edwards, Joe
Teacher, Social Science Department
McKinleyville High School
1300 Murray Road
McKinleyville, CA 95521

The Challenges of Keeping a Strong Staff Development/Critical Thinking Program On-Going with Enthusiasm and Energy

Mission-Process-Assessment: Implementing Critical Thinking into a General Education Core Curriculum

Edwards, Joe, cont'd.

infusion of critical thinking into our high school district curriculum. In this context, I will discuss the implementation of district programs and PROJECT IMPACT and how they serve the needs of our staff development model. There will be an explanation of previous strategies and challenges to implementing critical thinking that have spanned several years and how this advanced planning avoided the "quick-fix or "here comes another educational fad".

Audience: K-12 (August 7 10:30-12:00 noon DAR 112)

Ennis, Robert H.
Writing Critical Thinking Tests, Parts 1 and 2
Professor
Department of Educational Policy Studies
University of Illinois at Urbana-Champaign
360 Education Building
1310 South Sixth Street
Champaign, IL 61820

In this three-hour workshop (broken up into two ninety-minute sessions), participants will look at some of the issues in critical thinking testing and will participate in the construction and criticism of critical thinking items. Materials will be distributed from the forthcoming book Evaluating Critical Thinking., by Stephen Norris and Robert Ennis.

Audience: G (August 7 1:30-3:00 pm STEV 3072)
(August 7 3:15-4:45 pm STEV 3072)

Estes, Richard L.
The Problems of a Non-Critical Thinker
Mentor Teacher
Anderson High School District
1471 Ferry Street
Anderson, CA 96007

This section will discuss the following two problems encountered by a non-critical thinker: (1) problems when attempting to infuse critical thinking activities in the classroom, and (2) problems when attempting to influence other teachers, through the mentor teacher program, to infuse critical thinking activities in their class work.

In addition, the background, methods, and results of a two-year study of critical thinking vs. the lecture/discussion method will be presented. A control group and an experimental group were set up and the Cornell Critical Thinking Test was given as a pre-test and post-test. The results are surprising.

Audience: HS (August 10 8:45-10:15 am CS 20)
Feare, John
Beyond the Weak and the Strong
Counselor
Grossmont Community College
8800 Grossmont College Drive
El Cajon, CA 92020

Critical thinking is fairlymindedly analyzing, interpreting, evaluating, and synthesizing arguments, information, or experience with a composite of reflective abilities, dispositions, and values to guide our thoughts, beliefs, and actions. The desire and commitment to think critically in all important aspects of one's life is the "critical spirit." Within this holistic formulation there are not different senses of critical thinking but only critical thinking, a very special, rich mosaic of intellectual and affective attributes. Accordingly, each of these attributes is not in-and-of-itself a critical thinking attribute, since each can be and is used uncritically. Thus, in K-U we should teach critical thinking at different levels of sophistication, but not teach, in isolation, reasoning skills and call them critical thinking skills, any more than we would call the skills of observation and prediction scientific-method skills out of the context of teaching the complex method of science. Ample time will be allowed for discussion.

Audience: G
(August 9 1:30-3:00 pm STEV 3049)

Feare, John
Critical Thinking and a Theological Dimension

Are critical thinking and spirituality compatible? The argument will be presented, based on the work of sociologists Peter Berger and Ernest Becker, that not only are they compatible but that "full individually may be liberated only by a fully critical education within a community that lives in and through the most intense religious concern" (Becker). In any case, such "absolutely serious" questions should be raised at all levels of the educational system. Ample time will be allowed for discussion.

Audience: G
(August 10 10:30-12:00 noon STEV 3046)

Finocchiaro, Maurice A.
The History of Critical Thinking, Parts 1 and 2
Professor
Department of Philosophy
University of Nevada, Las Vegas
Las Vegas, NV 89154

The history of critical thinking is discussed in terms of a university course I have been teaching for about fifteen years, and in terms of some of the theoretical problems and conclusions it suggests. The course is an Introduction to Philosophy in which I present Socrates as a supreme exemplar of moral critique, Galileo as a classic model of methodological criticism, and Marx as a paradigm instance of social criticism, leading to a comparison and contrast among the three. I explain the aims, content, structure and rationale for such a course, and I report on some of my pedagogical experiences. I also reflect on these critical thinkers in order to formulate some conclusions, or at least some problems, concerning the nature of critical thinking; its relationship to moral critique and to other kinds of criticism; its relationship to philosophy, to

(Finocchiaro, Maurice, cont'd.)

logic, and to science; the variety of approaches to critical thinking; the relationship between this trichotomy and the current distinction between strong and weak senses, etc. Part I focuses on Socrates and Galileo, Part 2 on Marx and on theoretical reflections.

Audience: G, CC, U
(August 8 8:45-10:15 am STEV 3046)
(August 8 10:30-12:00 noon STEV 3046)

Frana, Adrian
Making the Most of Nothing: Looking Critically and Creatively at Absences, Silences Spaces, Things Ignored, and Things To Be
Teacher, English Department
Rich Township High School
Sauk Trail at Westwood
Park Forest, IL 60468

Co-Presenter
Kerwin, Ann

According to cognitive psychologists, we human beings are biased toward positive information; consequently, we neglect or underestimate the importance of certain negatives—among them: absent events, empty intervals, disconfirming instances, negative evidence—which are essential for thinking and learning effectively. At the same time, many of us grapple daily with concerns others dismiss as nothing. Astronomers, for example, study black holes and currently divide the universe into "stuff" and "non-stuff." Counselors are sensitive to lack of communication, intimacy, support or self-esteem, while educators ask "Why can't Johnny read?" Social critics look at the absence of minorities, workers, women and others in history, literature, and social studies. Some silences speak louder than others.

In this participatory workshop designed for educators at all levels, Dr. Kerwin will explore some "pregnant nothings" central to learning, discovery, critical and creative thinking, and Mr. Frana will share results of teacher experiments using "nothing" to promote critical and creative inquiry in high school education.

Audience: K-U, G
(August 10 8:45-10:15 am STEV 3040)

Friedman, Joel I.
Philosophy and Critical Thinking in Teacher Education: Or, How Philosophers' Forms Might Become Teachers' Content
Professor
Department of Philosophy
University of California
Davis, CA 95616

Children have primary ability in generic philosophy and critical thinking. The main problem is how to get this taught in the schools so as to defeat the offensive fact-imposition now in force, with its emphasis on rote learning. In this paper, a simple model of organization is presented for a cost-effective program in which teams of philosophers and educators work together to achieve the desired goals. A key idea is that current teachers generally lack the forms of...
critical thinking and philosophy as their content. Moreover, Education faculty generally do not have the requisite expertise to teach these forms. A select subset of Philosophy faculty are the natural experts. So, it is essential that teachers take at least a few choice contemporary philosophy courses, in addition to specifically designed interdisciplinary (team-taught) courses in teaching critical thinking in the schools. Now, philosophers, too, have a lot to learn from educators about school pedagogy, child psychology, and school curricula, and consequently must be prepared to do their homework as well. Neither philosophers nor educators can do the job alone. The main contribution philosophers can make is to help give prospective or working teachers such "critical thinking guts" and "philosophical smarts" that even under unfavorable conditions, these teachers would have the mental fortitude and disposition to create critical thinking lesson plans for their students, using, when required, even the most boring curricular materials as a base. This is a realistic plan, since teachers ultimately have control over the lesson plan (the essential unit to be targeted for change), granting they do not control their unfavorable working conditions, including pap for textbooks. Through critical thinking and philosophy, teachers may achieve intellectual autonomy in the classroom, no matter what!

Audience: K-12

(Glienna, Raymond, cont'd.)

This interactive demonstration not only explores issues brought out in materials from the unit, but also discusses team planning for thematic units of study, interactive class sessions, and essay examinations.

Audience: G, CC, U

(August 9 3:15-4:45 pm STEV 3040)

Gottesman, Leslie D. Newspapers: Critical Thinking Text in the ESL Class

College of Humanities and Social Sciences
Golden Gate University
636 Mission Street
San Francisco, CA 94105

Applying critical thinking across the curriculum hits a snag with college-level ESL. What is the curriculum? Usually it's "reading," "writing," "speaking," and "listening." All too often the content of ESL texts is a gift-wrapped version of U.S. culture. Critical thinking quickly bumps up against the walls of neat packaging. However, using daily newspapers to teach critical thinking solves several curriculum problems. Visually interesting, readily available and cheap, newspapers are (nevertheless) ideal ESL and critical thinking textbooks, providing short and medium-length forms for analysis, continuity, variation, and recycled language as the news is followed up day by day. The "inverted pyramid" shape of news stories helps ESL students analyze the structure of writing, of information, and of argument. Newspapers embody the codes and assumptions of our society and also provide many tools for cracking the codes. Newspapers bring today's political, social, cultural, economic, "ethical" and "religion," scientific issues to the students, and even the junk—for critical thinking purposes—it valuable. There's always something students care about—they can even get their responses published. In this workshop I will show specific lessons on induction, deduction, language of argument, fallacies, assumptions, statistical evidence, hypothetical reasoning, problem-solving, decision-making, and creative thinking—all based on newspaper material and tested in my critical thinking, English composition, and ESL classes.

Audience: G

(August 10 1:30-3:00 pm STEV 1002)

Hadley, Carolyn Critical Thinking in Interdisciplinary Studies: Humanities and Women's Studies Course Development for Meeting Criteria for Critical Thinking

Lecturer
Department of Humanities/Women's Studies
California State University, Sacramento
600 J. Street
Sacramento, CA 95819

Interdisciplinary Studies presuppose the individual learner's involvement in developing a coherent view of a variety of disciplines with discrete histories, methodologies and content. A perspective on the content 'knowledge' enables the learner to review and evaluate ideas and works as they exist relative to each other and relative to the learner. Ordinarily, students in Humanities and Women's Studies classes gain familiarity with selected original works and some
(Hadley, Carolyn, cont'd.)

facility in evaluating these works within their historical contexts. The classroom process is qualitatively different when students self-consciously apply the tools of critical thinking in their assessment of past and present "knowledge" as perspectives evolve in the various humanities disciplines. As areas of interdisciplinary studies, both Humanities and Women's Studies Programs and Departments can develop courses which meet the criteria for critical thinking.

The session format will include a step-by-step presentation of how a course for either interdisciplinary Humanities or Women's Studies can be conceptualized to incorporate the critical thinking process and redirect the course focus without sacrifice of content drawn from the traditional disciplines. Using a slide/lecture/discussion format, the session will involve participants in the critical thinking process vis-a-vis the traditional teaching materials in a regular humanities course.

Audience: CC, U
(August 10 1:30-3:00 pm CS 20)

Hanford, George
President Emeritus College Board
22 Central Avenue
Demarest, NJ 07627

There is a critical connection between what the Scholastic Aptitude Test measures and what critical thinking is all about. Those who call for the abolition of or major modifications in the SAT or for a substantial decrease in its use overlook that important connection between the assessment of verbal and mathematical reasoning and the infusion of critical thinking into subject matter instruction. Is the connection, as suggested, critical? Is it understood? Does it need clarification? What will happen to SAT scores if the infusion succeeds?

Audience: G
(August 8 8:45-10:15 am STEV 1002)

Hanford, George
Co-Presenter
Paul, Richard W.

George Hanford and Richard Paul will informally discuss what high schools need to do to prepare students for college. Ample time will be provided for extended audience involvement in the discussion.

Audience: HS, G
(August 8 10:30-12:00 noon IVES: Warren)

Hanson, John
Senior Curriculum Adviser
Wheatley Centre
Littleworth Road
Wheatley, Oxford
OX9 1PH England

Students come to school to learn. They bring with them a train of egocentric and sociocentric beliefs. They often find learning difficult. In a democratic society we value highly the qualities of independence, capability, effective problem-solving and critical awareness. How can we help students to desire and acquire these qualities? We seek strategies across the curriculum, to enhance learning skills through problem-solving methodologies and mediation, and, in engaging critical thinking, to integrate the approaches of cognitive psychology and philosophy.

The Oxfordshire Skills Programme is a Local Authority project involved in development, training and research with local schools (chiefly in the 11-18 age range this year) and schools in other parts of the UK. Its methodology draws significantly on the work of Feuerstein.

Audience: JH, HS, G
(August 9 3:15-4:45 pm STEV 1002)

Hanson, J. Robert
President
Hanson, Silver & Strong Associates Inc.
Corporate, Finance & Publishing Offices
10 West Main Street
Moorestown, NJ 08057

Participants will learn about a model for working more effectively with the demands of higher level thinking content, what can be done to facilitate learning, and what the dominant psychological factors are that facilitate the higher order cognitive processes.

Audience: G
(August 10 8:45-10:15 am STEV 2049)

Hanson, J. Robert
Teaching Strategies for Promoting Conceptual Thinking (Concept Attainment and Concept Development)

Participants will learn practical, hands-on steps for promoting student growth in critical and creative thinking through the utilization of two specific teaching strategies.

Audience: K-12
(August 10 10:30-12:00 noon STEV 2049)
This seminar is designed for people who want a smooth transition between teacher, substitute, and studies by providing help in identifying, adapting, and applying the four different teaching and learning styles to Modeling of Critical Thinking Skills. This workshop will provide practical methods for fostering an environment for critical thinking, thereby providing a common goal for and a link between the teacher, substitute, and student.

Audience: K-12
(August 10 1:30-3:00 pm ART 108)

Hatcher, Donald
Critical Thinking and Ethical Values
Director
Center for Critical Thinking at Baker University Baldwin City, KS 66006

After identifying a few contradictions between the values of critical thinking and contemporary attitudes towards ethical values, we will examine ways that critical thinking techniques can be employed to both undermine ethical relativism and establish certain ethical principles.

Audience: G
(August 10 8:45-10:15 am CS 68)

Hatcher, Donald
Critical Thinking and the Ethics of Belief

Some persons hold that we are morally responsible for the beliefs we hold. If so, are we responsible for the content of the beliefs or for the manner in which our beliefs are acquired? In this presentation, I will argue that we have an ethical obligation to form beliefs through the methods taught in Critical Thinking courses. If this conclusion is accepted, then it follows that teachers have a moral obligation to teach students to be critical of beliefs which have been accepted uncritically. This also entails that teachers have a moral obligation to teach students how to think critically.

Audience: G
(August 10 10:30-12:00 noon NICH 173)
Jensen, Karen
Teacher, Foreign Languages
Department
Bellevue High School
601 108th S.E.
Bellevue, WA 98004

In this session, I will look at problem areas in high school students’ thinking skills as they relate to foreign language study. Some of these areas include: fragmented learning, ethnocentrism, mindless “study,” impulsiveness, fuzzy and impressionistic thinking, low or non-existent standards for accepting or rejecting reasoning. Then I will discuss some techniques of critical thinking I have used to try to remedy the deficiencies. Although I will draw my examples from my own French and Spanish classes, the principles of critical thinking may well apply to a variety of disciplines. Many of the critical thinking strategies I have used are those I studied with Richard Paul during a 1986-87 sabbatical.

Audience: HS, G

(August 9 10:30-12:00 noon DAR 108)
The claim has been made that critical thinking/informal logic/argumentation theories have developed under the sway of militaristic—and therefore sexist—views about the nature and practice of argumentation. Thus, it may be pointed out that the terminology used in logic textbooks speaks of "attacking" and "defending a position," of how to handle one’s "adversary" or "opponent"; or one may make reference to the "arsenal" of evidence, to an "entrenched" or self-sealing position, and so on.

Questions concerning gender and thinking or the place of creative imagination in the thinking process are on a frontier which is just beginning to be mapped. Though we do not offer any answers, we believe this workshop will raise many provocative questions. Based on current work in fields as diverse as women's studies, art, physics, and jet fighter design, participants will experience thinking and learning on the distaff side.

Audience: G

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Co-Presenter
McGowan, Marilee
Instructor
Office of Enrollment Management
Oakton Community College

Questions concerning gender and thinking or the place of creative imagination in the thinking process are on a frontier which is just beginning to be mapped. Though we do not offer any answers, we believe this workshop will raise many provocative questions. Based on current work in fields as diverse as women's studies, art, physics, and jet fighter design, participants will experience thinking and learning on the distaff side.

Audience: G

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Johnson, Ralph
Professor/Author/Editor,
Informal Logic
Department of Philosophy
University of Windsor
Windsor, Ontario
Canada, N8B 3P4

The claim has been made that critical thinking/informal logic/argumentation theories have developed under the sway of militaristic—and therefore sexist—views about the nature and practice of argumentation. Thus, it may be pointed out that the terminology used in logic textbooks speaks of "attacking" and "defending a position," of how to handle one’s "adversary" or "opponent"; or one may make reference to the "arsenal" of evidence, to an "entrenched" or self-sealing position, and so on.

In my paper, I plan to review such criticisms carefully. Among the authors whose views will be dealt with are: Carol Gilligan, author of *In A Different Voice*, Belenky et al., author of *Women's Ways of Knowing*, and Charlotte Perkins Gilman. After carefully reviewing these criticisms, I will see what, if any, response can be made on behalf of conventional critical thinking/informal logic/argumentation theory. I would also like to think in the paper about the alternative, often referred to as a "feminist theory of argument" to see whether it is a genuine alternative.

Audience: G

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Johnson, Ralph
Mini-Critical Thinking Course: Critical Thinking and Advertising

Why should a mini-course on critical thinking bother with advertising? First, advertising is an important part of the cultural and information environment and, hence, cannot be ignored. Second, advertising is one of the most powerful communicators, persuaders, and shapers of values and attitudes that has ever existed and, hence, cannot be ignored.

Third, advertising often presents itself as argumentation and reasoning but in fact rarely works at that level. The logic of advertising is not the logic of argumentation. Students need to learn how to analyze advertisements and what to watch for, and this does not mean combining ads for fallacies, as some have suggested. Finally, there is a fair amount of mythology and self-deception in consumer attitudes about and responses to advertising. The premise of the mini-course, then, is that advertising is a territory rich in material for the student of critical thinking. The instructor hopes to demonstrate why and to bring with him thoughts and examples for participants to think over.

Audience: G

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Johnson, Ralph
The Whole Enchilada: An Outline of a Theory of Reasoning

The premise of this paper is that a great many of the disputes about critical thinking stem from the absence of a comprehensive and unified theory of reasoning. Some disputes which it seems reasonable to think might be solved by a unified theory are: (1) the field dependent vs. field independent issue: Are the skills and strategies of critical thinking field dependent, as McPeck and others hold, or are there some field invariant generalist skills, as Paul and others hold?; (2) the conflicting views about the role of affect and cognition in the development of critical thinking—and, indeed, in reasoning generally; (3) the debate as to whether formal or informal logic is best suited to the needs of the critical thinker; (4) the appropriate methods for teaching critical thinking; and (5) the nature of critical thinking.

The purpose of this paper is to provide an outline (and only that) of what would be involved in an adequate theory of reasoning, and to indicate how it would be distinguished from a theory of knowledge and, indeed, a theory of rationality.

Audience: G, CC, U
the processes of problem-solving and scientific inquiry. In contrast, critical thinking in social studies and literature focuses in part on developing and evaluating arguments as well as analyzing the author's purpose. A strategic teacher needs to be informed of these domain-specific issues and account for them in lesson plans. The presentation will provide a general framework for teaching thinking that addresses domain specific thinking skills.

Audience: K-12
(August 9
8:45-10:15 am ART 108)

Jones, Jere
Professor
Department of Philosophy
Somerville, NJ 08876

Teaching Critical Thinking in the General Curriculum: Overcoming Student Differences in Background, Preparation and Ability

Can critical thinking be taught as part of the general college curriculum? Attempts to do so have encountered a number of serious obstacles. There are great disparities among students with respect to background, ability and academic preparation. Further, an instructor cannot reasonably presuppose that students share a common knowledge of some particular discipline or body of knowledge through which critical thinking might be taught. Attempts to deal with this problem by teaching some particular discipline, such as logic, prompt legitimate questions about whether there is a difference between critical thinking and doing logic, and the extent to which critical thinking skills learned in connection with one discipline are transferable to another. Our presentation will explain how an essential element of thinking critically, the ability to analyze the concepts of one's intellectual framework, can be taught as part of the general college curriculum notwithstanding student differences and without presupposing a common discipline or body of knowledge. We will describe a pedagogical approach that accomplishes this objective and demonstrate some of its techniques.

Audience: CC, U
(August 7 1:30-3:00 pm NICH 173)

Kahane, Howard
Professor/Author
Department of Philosophy
University of Maryland
Baltimore, MD 21228

Critical Thinking Courses as Preparation for Adult Life in a Democratic Society

The traditional education most students receive in the United States, as elsewhere, does not adequately prepare students for adult life in a democratic society. It provides students with an overly rosy view of the way their culture functions, particularly by playing down the great gulf between high theoretical ideals and sordid everyday practice. It tends to neglect the irrational side of human nature, the wishful thinking, prejudice, superstition, and herd thinking that mar attempts at rational thought in everyday life. It tells students very little about the reliability of the various available information sources, including in particular the mass media. It does provide students with a certain amount of theory concerning valid reasoning, but it does not successfully relate theory to cogent reasoning about problems encountered in everyday life. A good critical thinking course should try to remedy all of these defects.

I intend first, to defend the claims just made about the inadequacy of education in America today and, second, to suggest some remedies appropriate to a satisfactory critical thinking class.

Audience: G, CC, U
(August 7 10:30-12:00 noon STEV 3072)

Keeley, Stuart M.
Professor
Department of Psychology
Bowling Green State University
Bowling Green, OH 43402

Tips for Teaching Critical Thinking: What Students Can Tell Us

What can students who have been exposed to an intensive 5-credit hour, 15-week course in critical thinking tell us about the short- and long-term meaning of such a course to them and about how we can maximize the impact of such a course? This session will focus upon answers to that question. I will present "teaching lessons learned" from lengthy interviews with juniors and seniors in a midwestern university who had completed a critical thinking course in the fall semester of their freshman year. Emergent themes from the interviews will be discussed in terms of their implications for teaching critical thinking. Also, the potential value of student interviews for formative evaluation purposes will be discussed.

Audience: CC, U
(August 8 8:45-10:15 am CS 20)

Kerwin, Ann
Lecturer
College of Arts and Sciences
University of Arizona
Tucson, AZ 85721

Ignorance and Critical Thinking across the Subject Matter Curriculum

In this participatory workshop designed for educators from K-U, Dr. Kerwin and Dr. Witte will introduce educators to some positive relations between ignorance and learning. Ignorance is the
Important skills can be among the skills teach than are used for critical inquiry. Learning necessarily involves mediation. Learning disabled students have a different knowledge of U.S. history, citizenship, government, world history, economics, geography, and also tests critical thinking skills. The session will also include recommendations for teachers on how to reduce boy/girl differences in the classroom. Handouts and transparency masters will be provided.

**Audience:** K-12

**Date:**
- August 8, 10:30-12:00 noon, STEV 3072
- August 10, 1:30-3:00 pm, STEV 3072

**Kneedler, Peter E.**

**Title:** Differences Between Girls and Boys in History-Social Science Performance

Dr. Peter E. Kneedler of the California State Department of Education will describe the differences observed in performance between boys and girls in California's new statewide assessment in history-social science. The new assessment tests 300,000 eighth-grade students on their knowledge of U.S. history, citizenship, government, world history, economics, geography, and also tests critical thinking skills. The session will also include recommendations for teachers on how to reduce boy/girl differences in the classroom. Handouts and transparency masters will be provided.

**Audience:** K-12

**Date:**
- August 8, 10:30-12:00 noon, STEV 3072
- August 10, 1:30-3:00 pm, STEV 3072

**Knight, Carol Lynn H.**

**Title:** Analyzing Arguments in History and the Social Sciences: An Interdisciplinary Problem and Approach

**Co-Presenter:**
- Dr. Peter E. Kneedler
- Kerwin, Ann
- Witte, Marlys Hearst

This participatory workshop is designed for acknowledged ignorami—for those who have already been introduced to ignorance as a positive tool for critical and creative thinking by Drs. Kerwin and Witte in past CT workshops, and others of a Socratic bent. An "update" on current ignorance experiments will precede a series of large and small group exercises designed to explore learning from the point of view of the not-known.

**Audience:** G

**Date:**
- August 9, 3:15-4:45 pm, NICH 173

**Krebau, Heidi C.**

**Title:** Teaching Critical Thinking to the Learning Disabled

**Co-Presenter:**
- Dr. Peter E. Kneedler
- Kerwin, Ann

Teaching metacognitive skills has been an area of great interest to remedial reading researchers. I have drawn upon this rich source to find several techniques that have been helpful to learning disabled students. Some techniques involved teacher choice, in terms of text and presentation strategies. Other techniques are to share with students (such as study skills). In this workshop, we will become familiar with these various techniques by first discussing and then practicing them. I will supply handouts and materials for practice. Our purpose is to understand and be able to empathize with the many problems besetting learning disabled students and also to familiarize ourselves with techniques to make learning accessible to them.

**Audience:** K-12, G

**Date:**
- August 10, 8:45-10:15 am, STEV 3072

**Kubasek, Nancy**

**Title:** Critical Thinking From Day One: Infusing Critical Thinking into the Syllabus

The first day of class sets the one for the entire semester. One important aspect of that first day is providing students with the course syllabus. Since the syllabus is generally the first written communication from the instructor to the student, it is the logical place to begin helping the
Thinking critically about significant matters requires the ability to use a number of concepts and distinctions. This workshop will focus on some of these distinctions and how they operate in our reasoning. The strategies and exercises used will be suitable for secondary school students.

Audience: JH, HS
(August 10 8:45-10:15 am STEV 3049)

La Bar, Carol
But First We Must Distinguish
Professor
Association for Values Education & Research
Faculty of Education
University of British Columbia
Vancouver, British Columbia
Canada V6T 1Z5

Thinking critically about significant matters requires the ability to use a number of concepts and distinctions. This workshop will focus on some of these distinctions and how they operate in our reasoning. The strategies and exercises used will be suitable for secondary school students.

Audience: JH, HS
(August 10 8:45-10:15 am STEV 3049)

La Bar, Carol
Co-Presenter
Wright, Ian

Mini-Critical Thinking Course: Practical Reasoning and Principle Testing

Critical thinking includes reasoning about what to do, as well as what to believe. This former sort of reasoning, called practical reasoning, involves two logically different types of reasons (1) motivating reasons in the form of value standards which the reasoner accepts, and (2) beliefs about the degree to which the actions under consideration will fulfill the value standard. These two different kinds of reasons lead to a conclusion or judgment about what ought to be done. This session will focus on the use of principle "testing" as a way of assessing the value standard.

Audience: G
(August 9 8:45-10:15 am STEV 2049)
understanding the meaning in visual "texts," such as those provided by everyday activity and television. My thesis here is that these different capacities represent a gap within contemporary culture quite analogous to cultural gaps between different natural languages (e.g., Spanish and English). Insofar as critical thinking—and especially, Strong Sense critical thinking—is taught as a verbal activity, we teachers are, in effect, attempting to work on a sophisticated level in a language which our students hardly speak. I propose that we are more apt to accomplish our goals in teaching strong sense critical thinking if we bring students more securely into verbal language; and, that we can make a start in doing so by focusing on the similarities and differences between visual and verbal literacy. In other words: we need to develop students' capacities for understanding the meaning of verbal texts, rather than going directly into critical evaluation of arguments within those texts.

Audience: U

(August 8) 1:30-3:00 pm  CS 20

Lape, Harvey  Critical Thinking Across the Liberal Arts
Professor
Department of Philosophy
Cabrini College
King of Prussia Road
Radnor, PA 19087

Co-Presenter
Schwarze, Sharon
Professor
Department of Philosophy
Cabrini College

What happens when a small Catholic liberal arts college attempts to bring critical thinking more prominently into its curriculum? Cabrini College under a Pew Memorial Trust grant spent eighteen months engaged in such a project. Although still committed to teaching critical thinking, unanticipated problems and difficulties arose. Our views about the role of critical thinking in the liberal arts curriculum have had to be revised as have those of our colleagues. Despite a high level of initial cooperation, we found that our success in helping colleagues teach students to think more critically about a content area was limited by: (1) unrealistic expectations, (2) diverging goals, and (3) insufficient background knowledge within a contact area.

Audience: CC, U

(August 9) 1:30-3:00 pm  NICH 166

Lauer, Rachel  Applying Critical Thinking to International Relations and Peace Studies
Director
Thinking and Learning Center
Pace University
New York, NY 10038

In this session, I will describe a course for activists, educators and graduate students of peace. For us, critical thinking means examining five world views with which peoples create and solve problems. With analysis of these five, we can identify patterns of thought that lead to aggression or cooperation. Participants learn concepts such as interdependence, cause and effect, reciprocities, patterns of consciousness, etc., and use them to critique readings and speeches. They discover their own biases and identity assumptions behind methods of conflict resolution. Expect to participate actively in a sample lesson. Materials will be distributed.

Audience: G

(August 8) 3:15-4:45 pm  DAR 112

Lazere, Donald  Leftist Criticism of Mass Media
Professor
Department of English
California Polytechnical State University
San Luis Obispo, CA 93407

In this talk, Donald Lazere will summarize the main lines of recent leftist criticism represented in the collection he edited, titled American Media and Mass Culture: Left Perspectives, published this year by the University of California Press. The book presents an approach by democratic Marxists, feminists, and other leftists to teaching critical thinking about mass-mediated politics, and refutes conservative allegations that both the media and higher education have a leftist bias.

Audience: U, G

(August 8) 3:15-4:45 pm  DAR 112

Lazere, Donald  Literature and Critical Thinking

As critical thinking has become a popular trend in education, nearly every academic discipline has come forward to claim that it has been teaching critical thinking all along. In this workshop, Donald Lazere will defend that claim for literature, making the case that, perhaps more than any other discipline, literature and literary criticism contain the potential for fostering the kinds of reasoning and mental dispositions that comprise strong-sense critical thinking.

Audience: HS, U, G

(August 7) 1:30-3:00 pm  IVES 119
How does the body "think?" How does the body think critically? How does engagement in the arts encourage thinking which embraces paradox and ambiguity, and how is this way of thinking also valuable? This workshop will address these and other questions through a dance performance, dialogue and participation.

Audience: G

The demand for critical thinking in education is exploding in all directions: in early childhood education, special education, adult literacy education, junior college and college education, and at every stage in between. In many quarters, two assumptions prevail: it should not be taught as a separate, independent course, and it is best taught by drilling students in a specific number of cognitive skills. In this presentation, it will be argued that these assumptions are misconceived and that the goals of reflective education can be better met by making full use of the logical and conceptual powers of philosophy.

Audience: G

Current implementation of critical thinking is guided by prevailing conceptions of what critical thinking is. Improvement in implementation of critical thinking, therefore, goes hand in hand with the progressive sharpening of its definition. The view is offered here that we need to examine carefully the connection between critical thinking and the use of criteria, if the definition in question is to be improved. This is especially so when critical thinking is conceived of as the making of reasonable judgments and when such judgments are recognized as the result of reliance upon criteria. The role of criteria in critical thinking then comes to be seen as fundamental.

Audience: G

Whether in the practice of automotive repair, dental hygiene, carpentry, anatomy, or English composition, the reliability of reasoned solutions depends upon a full and accurate use of perceptions. Student perceptual acuity can be raised when simple methods for heightening awareness are learned and individual habits of mental interference are identified. This workshop will demonstrate some lively techniques for teaching observation skills together with inductive reasoning fundamentals that are suitable for the range of subject areas mentioned above.

Audience: G, CC, U

This session will address issues in laboratory instruction in 7-12th grade science classes. We will discuss techniques designed to encourage students' active inquiry and critical thought. These techniques will include ways to have students invent labs by getting away from the "cookbook" approach. We will also explore some techniques designed to help students see into the relationships among the ideas behind lab activities.

Audience: JH, HS

Often all we need to clarify our thinking is to recognize and communicate our feelings. But when we deny, repress, or ignore them, we can confuse our justifications with glib answers, our felt understanding with glib answers, and pursue arguments that disguise hidden agendas.

Working from these premises, this workshop will demonstrate methods for teaching observance skills together with inductive reasoning fundamentals that are suitable for the range of subject areas mentioned above.

Audience: G CCS U

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Audience: JH, HS

Teaching Observation Skills: Making Perception Conscious

Audience: G CCS U

Teaching Awareness of Feelings: Friendly Recognition of Some Blocks to Critical Thinking

Martin, Douglas

Encouraging Critical Thinking in Science Laboratories

Martin, Douglas

Director

Department of Chemistry

Sonoma State University

Rohnert Park, CA 94928

This session will address issues in laboratory instruction in 7-12th grade science classes. We will discuss techniques designed to encourage students' active inquiry and critical thought. These techniques will include ways to have students invent labs by getting away from the "cookbook" approach. We will also explore some techniques designed to help students see into the relationships among the ideas behind lab activities.

Audience: JH, HS

Mayfield, Marlys

Teaching Observation Skills: Making Perception Conscious

Mayfield, Marlys

Author, Educational Consultant

Critical Thinking

81 Alvarado Road

Berkeley, CA 94705

Teaching Observation Skills: Making Perception Conscious

Teaching Awareness of Feelings: Friendly Recognition of Some Blocks to Critical Thinking

Audience: G CCS U

Mayfield, Marlys

Author, Educational Consultant

Critical Thinking

81 Alvarado Road

Berkeley, CA 94705

Critical Thinking and Philosophy for Children

Audience: G

Critical Thinking and Reliance upon Criteria

Audience: G

Lyons, Nancy

Thinking Critically with the Body and the Arts

Audience: G

Lipman, Matthew

Thinking Critically with the Body and the Arts

Audience: G
In this discussion, I will consider (1) why the prejudice against formal logic is not a basic concern but is a merely circumstantial development, (2) how the presentation of formal logic can be revised to make it a useful (and much-needed) tool, and (3) my own methods, enhanced by years of student input, for using formal logic as the starting point for teaching critical thinking. Not everyone will want to adopt these methods wholesale, but many of the devices discussed can be of immediate use in any critical thinking class.

Audience: CC, U

(Meucci, Sandra G. Critical Thinking In Human Services
Instructor & Project Manager
California Institute on Human Services
Sonoma State University
Rohnert Park, CA 94928)

Critical thinking is hardly, if ever, extended to the field of human (social) services. Rather, concerns about caregiving professions are expressed within stale and rigidified thought polarities which roughly correspond to the political traditions of liberal democratic and republican social policies. The fact that public discourse on human services is entirely circumscribed by concerns over the merits of more or less funding is a reflection of the dearth of critical appraisals of existing services, especially as they are directed to highly dependent people. Through the use of artifacts of everyday life, this presentation will briefly depict the manner by which organized services: create and maintain deviant social roles for recipients; address purported rather than real needs of people; and function to fulfill hidden social, economic and political purposes. We will then discuss some of the socio-psychological and cultural determinants of this lack of critical thinking, both within and about human services while also exploring the potential change in role of professional and graduate education to address the same issue.

Audience: CC, U

(August 10 1:30-3:00 pm STEV 3040)

McDaniel, Stan Can Critical Thinking Really Do Without Formal Logic?
Associate Professor
Department of Philosophy
Sonoma State University
Rohnert Park, CA 94928

In this discussion, I will consider (1) why the prejudice against formal logic is not a basic concern but is a merely circumstantial development, (2) how the presentation of formal logic can be revised to make it a useful (and much-needed) tool, and (3) my own methods, enhanced by years of student input, for using formal logic as the starting point for teaching critical thinking. Not everyone will want to adopt these methods wholesale, but many of the devices discussed can be of immediate use in any critical thinking class.

Audience: CC, U

(August 8 10:30-12:00 noon NICH 173)

Michelli, Nicholas The Pre-Service Preparation of Teachers for Critical Thinking: The Montclair State College Model
Dean
School of Professional Studies
Montclair State College
Upper Montclair, NJ 07043

Co-Presenters

Oxman, Wendy Weinstein, Mark

This session is a presentation and discussion of the model adopted at Montclair State College for infusing the teaching of critical thinking into the undergraduate pre-service teacher education program. Building upon a tradition of work in the field of critical thinking at Montclair State College, including the Institute for the Advancement of Philosophy for Children and Project THISTLE: Thinking Skills in Teaching and Learning and the newly funded Institute for Critical Thinking, faculty have worked to revise the undergraduate program in light of proposed national standards for the preparation of teachers and recommendations of such groups as the Carnegie Forum on Education and the Economy.

Key features of the program to be discussed include: (1) the identification and training of public school personnel to work with prospective teachers in teaching for critical thinking; (2) the orientation of college faculty to teaching for critical thinking; (3) the development and implementation of a new course within the undergraduate teacher education sequence on teaching for critical thinking; and (4) revisions of all elements of the undergraduate teacher education curriculum to foster and support teaching for critical thinking.

A definition of critical thinking, goals for the program, and a philosophy for the program will be shared with participants and discussed.

Audience: K-12, U

(August 7 10:30-12:00 noon CS 68)

Michelli, Nicholas The Montclair State College Institute for Critical Thinking's Approach to Critical Thinking Across the Curriculum
Co-Presenters

Oxman, Wendy Barell, John Weinstein, Mark

The Institute for Critical Thinking has been established at Montclair State College, with Challenge Grant funding from the New Jersey Department of Higher Education to support and enrich faculty development efforts toward critical thinking as an educational goal.

The primary purpose of the Institute is to serve as a catalyst in the development of educational excellence across the curriculum at the college. A collaborative, multi-disciplinary approach has been initiated, with attention to the study of both the theoretical aspects of critical thinking across the disciplines and their implications for teaching and learning at the college level.
In addition, the Institute has assumed a leadership role in helping other colleges and schools to incorporate thinking skills into their curricula. It also plans to offer instructional resources to businesses and members of the professional community to enhance problem solving and reasoning skills.

As a state-funded project designed to promote educational reform at a multipurpose state college (with a distinguished past history as an institution whose primary purpose used to be the preparation of teachers), as a faculty development project involving interdepartmental collegial collaboration, and as a project with inter-institutional responsibilities, the Institute for Critical Thinking serves as a model for understanding the effects of selected change efforts within similar institutional settings.

Audience: CC, U

8:45-10:15 am STEV 1002

Miller, Noreen
Resource Liaison, Adams County
School District
Coordinator
New Directions
3471 Cripple Creek Square
Boulder, CO 80303

High energy and great intellectual stimulation describe the Thinking Critically and Current Issues class offered through the University of Colorado - Denver, for administrators, teachers, and community members. This class is the first step in an Adams County School District No. 12 model designed to integrate critical thinking into the personal and professional lives of participants. Within the adult seminar, issues such as the state banking and economic situation, the ozone problem, Central American policy, the relationship of principals and teachers, models and supercomputer are discussed as the guest speakers and the facilitator integrate the role of critical thinking in the strong sense with the topic.

The second step in the seminar is to apply particular strategies such as fostering reciprocity, clarifying issues and claims, or examining belief systems and assumptions to demonstrate how to remodel a particular situation into a critical thinking lesson. Through questioning strategies, the focus shifts to Socratic dialogue.

The third and practical step takes critical thinking into the work place of the administrator, teacher, or community member. Some of the dynamic results will be shared in the form of a remodeled lesson, unit, and syllabus. In addition, the role of trust and mutual rapport and the relationship to a critical thinking environment are modeled. As a District Resource Teacher and State Department of Education consultant, this presenter offers a potpourri of experience since attending a 1986 Sonoma State University workshop.

Audience: K-12, U

8:45-10:15 am STEV 1002

Missimer, Connie
Why Two Heads Are Better than One:
Philosophical and Pedagogical Implications of a Social View of Critical Thinking

Two contrasting hypotheses about critical thinking are presented: an Individual View and a Social View. The Individual View sees critical thinking as discrete acts which can be judged by a temporal criteria; the Social View holds that critical thinking is a fabric of contrasting theories, and any work of critical thinking must weigh alternative arguments in light of their evidence. Thus critical thinking is quintessentially historical. Three advantages of the Social View are that it is: more explanatory of critical thinking, more encouraging of theoretical innovation, and insistent upon subject-area knowledge without fracturing critical thinking into discipline-specific activities. Critical thinking is seen as the engine which drives intellectual history.

Audience: G

10:30-12:00 noon CS 20

Mooney, Edward
Gender Difference and Moral Education: The Ethics of Care

Kohlberg's theory of moral development is criticized by Carol Gilligan in her book In A Different Voice. I present her views of the difference between moral development in boys and girls and assess its implications for moral education, focusing on her outline of an 'ethics of care'.

Audience: G

10:30-12:00 noon DAR 108
Moore, Kathleen Dean  Arguments by Analogy in Legal and Moral Reasoning
Assistant Professor
Department of Philosophy
Oregon State University
Corvallis, Oregon 97331

Analogy's play an important role in allowing us to draw justified conclusions in law and morality. In law, standards of fairness are served by deciding similar cases in similar ways. In ethics, making moral decisions based on empathy or on universalizability requires the ability to understand and evaluate similarities between cases. In this session, we will learn ways to help university students work with analogies, to the end of improving both their understanding of legal reasoning and their ability to make moral decisions. Sample class activities will be demonstrated, and legal cases and examples will be provided.

Audience: G, U
(August 10 1:30-3:00 pm DAR 108)

Moreyra, Alicia  Using Thinking Frames in Staff Development
Educational Consultant
9010 S.W. 187 Terrace
Miami, FL 33157

This session will explore the possibilities of using thinking frames in staff development. The following questions will be discussed: (1) Do thinking frames produce changes in teachers' instructional effectiveness? (2) Do thinking frames used in conjunction with Richard Paul's principles for remodelling lesson plans produce better critical thinkers? The Convergent Model for staff development, a thinking frame, will be described as it was used in a teachers' inservice of critical thinking where Richard Paul's principles for remodelling lesson plans were used, too. Participants will discuss the thinking frame in the context it was used and its possibilities for future research.

Audience: K-12
(August 10 10:30-12:00 noon STEV 3072)

Morse, Ogden  Higher Order Thinking Skills in Domain Specific Classrooms
Chair, English Department
Joel Barlow High School
100 Black Rock Turnpike
West Redding, CT 06896

Students make sense out of these excerpts from student papers. Also, the group will view a videotape—the final project of a senior high school class.

Audience: HS
(August 9 8:45-10:15 am STEV 3049)

Norris, Stephen P.  TheDisposition to Think Critically in Science
Associate Professor
Institute for Educational Research and Development
Memorial University of Newfoundland
St. John's, Newfoundland
Canada A1B 3X8

If we are not careful, critical thinking instruction will repeat the failures of subject-matter instruction in mathematics, science, and social studies. Children often learn these subjects by rote instead of with understanding. The same fate awaits critical thinking instruction unless students understand what legitimates critical thinking and what values are served by thinking critically. The aim to develop these understandings is captured by the goal to teach critical thinking dispositions, such as open-mindedness and seeking reasons. But how do such dispositions develop? I propose that they begin with understanding, at a fundamental level, the value of critical thinking to the pursuit of knowledge. I choose science to illustrate the point. Having the disposition to think critically in science depends upon understanding how critical thinking serves science which, in turn, depends upon understanding the nature of scientific knowledge: its development, trustworthiness, and reliance upon standards of moral and ethical conduct. Understanding these fundamental issues makes sense out of being disposed to apply to scientific matters what might be considered more down-to-earth critical thinking, such as judging the credibility of scientific information. But unless students make sense out of these "mundane" acts of critical thinking, then I fear a slide toward thinking critically by rote which, of course, is not thinking critically at all.

Audience: G
(August 7 1:30-3:00 pm STEV 2049)

Nosich, Gerald  Teaching Critical Thinking Across the Curriculum: A Unified Approach
Professor/Author
Department of Philosophy
University of New Orleans
New Orleans, LA 70146

(This seminar and the one listed immediately below mesh together in covering two aspects of teaching Critical Thinking across the curriculum, but attending one does not presuppose attending the other).

Initiating a program in Critical Thinking across the Curriculum requires doing two tasks that often seem opposed. First, you need to induce a unified idea of critical thinking (skills, attitudes, values) in both teachers and students, so that what is learned in one course can be seen to be transferable to other, different courses and situations. Second, if you're teaching a
This seminar will attempt to cover both tasks, but with a strong emphasis on unified ideas and methods that are central to teaching critical thinking in any courses. I'll then try to give examples of how the unified approach is transferable to some specific courses in the humanities, social sciences, and natural sciences.

Audience: G, CC, U
(August 7 1:30-3:00 pm STEV 3049)

Nosich, Gerald
Teaching Critical Thinking across the Curriculum: An Approach Through Specific Courses

This seminar will try to cover both the tasks outlined in the seminar above, but with the emphasis reversed. Instead of concentrating on what all critical thinking has in common, I will here concentrate on individual courses in Social Sciences (History, Psychology, Sociology), Humanities (English Lit, Fine Arts, Music), Natural Sciences, and Physical Education. In each case, I'll offer some specific and practical methods for teaching Critical Thinking in that particular discipline.

Audience: G, CC, U
(August 8 8:45-10:15 am STEV 3008)

Nosich, Gerald
Mini-Critical Thinking Course: Recognizing and Evaluating Misleading Statements

One of the main ways people deceive themselves and others is by making and believing misleading statements: statements that are true in one sense but false in another. Teaching students (and getting ourselves) to recognize and evaluate deceptive ambiguities in what they read, hear, and think is one of the hardest tasks in critical thinking. The problems go well beyond bias and stereotyping and, I would argue, are not appreciably helped by using the principle of generosity or canons of definition. This workshop will concentrate on three specific methods for teaching students how to interpret what a claim means and to see through deceptive ambiguities, especially in their own thinking.

Audience: G
(August 8 10:30-12:00 noon STEV 2049)
The exercises can be staged, demonstrated or simply described in the workshop, depending on time constraints. Along with each exercise, structured questions are offered for class discussion. These exercises stimulate student interest and generate a great deal of enthusiasm. A structured discussion allows students to sum up what they have learned and to develop practices for thinking critically in their daily lives.

Audience: CC, U

(August 9 10:30-12:00 noon NICH 173)

O’Loughlin, Michael
Assistant Professor
Department of Curriculum and Teaching
Hofstra University
Hempstead, NY 11550

"Teachers who assume the role of transformative intellectuals treat students as critical agents, question how knowledge is produced and distributed, utilize dialogue, and make knowledge meaningful, critical, and ultimately emancipatory." Thus wrote Giroux and McLaren, two leading critical educational theorists recently. In education, considerable strides have been made in articulating a critical theory of pedagogy and curriculum in recent years, but much remains to be done in articulating the psychological basis for such a model, and in suggesting how it might be implemented in practice. My paper will address these issues. In the session I will attempt to do the following: (1) briefly explore the lack of a critical inquiry emphasis in education, both historically and in most of the recent "excellence in education" type of reform reports; (2) introduce the notion of critical pedagogy, as embodied in the work of Giroux and other critical educational theorists; (3) articulate a psychological model of teacher education as involving a cognitive-developmental shift in prospective teachers' beliefs from simplistic unidimensional concepts of epistemology (i.e., what is the nature of knowledge?) and pedagogy (i.e., what is the nature of learning and teaching?) to more multiplicitic, relativistic and less absolutistic theories of knowledge and teaching; (4) explain how I attempt to implement this type of critical pedagogy in preservice teacher education classes; and, finally, (5) indicate the direction in which I plan to undertake research into the psychological development of teachers and their students.

Audience: G

(August 9 10:30-12:00 noon NICH 166)

O’Reilly, Kevin
Teacher, Social Studies Department
Hamilton-Wenham Regional High School
Social Studies, Parts 1 and 2
South Hamilton, MA 01982

This session will focus on practical techniques for infusing critical thinking into social studies courses. A variety of lessons, including some from the presenter’s four volume Critical Thinking in American History, will be demonstrated to illustrate the following: analyzing complex interpretation problems, writing simpler mystery problems, modifying questioning strategies, introducing skills through concrete demonstrations, using metacognition to establish the criteria for skills, and sequencing skills for guided practice. In addition, excerpts from videotapes will be shown to demonstrate strategies for teaching critical viewing skills. Issues about content vs. skills, textbooks, testing, and teaching load as they relate to critical thinking will be discussed, if time allows.

Audience: JH, HS

(August 9 8:45-10:15 am STEV 3008)

(August 9 10:30-12:00 noon STEV 3008)

Oxman, Wendy
Project THISTLE: Thinking Skills in Teaching and Learning
Institute for Critical Thinking
Montclair State College
Upper Montclair, NJ 07043

In this presentation, Project THISTLE will be described, in terms of its eight-year history as a college/secondary school collaborative program with a focus on the development of critical thinking.

Project THISTLE: Thinking Skills in Teaching and Learning was designed to improve the critical thinking abilities of urban college-bound high school students by working intensively with their teachers in an integrated process of curriculum and staff development. Through Project THISTLE, Montclair State College faculty have been active in the Newark, New Jersey schools continuously since January, 1980, and more than 200 secondary teachers have been enrolled to date.

The major emphasis of Project THISTLE is on the preparation of secondary classroom teachers to strengthen the critical thinking abilities of their students, helping them to develop dispositions and skills necessary for engaging in intellectually active, creative, and reflective encounters with ideas, primarily within the traditional content areas of the secondary school curriculum.

Project THISTLE cuts across disciplines to focus on thinking as an essential, integral part of both subject area learning and basic skills development. Classroom teachers in the various academic disciplines are helped to develop curriculum—not new content outlines nor new lists of discrete suggestions, but more complete, thoughtful, consistent versions of their own curricular plans. The focus of these changes in curricular plans is the development of critical, or reflective thinking, defined, in part, as the "higher order basic skills" of reading comprehension, analytic writing, and word problem-solving in mathematics.

The basic structure of Project THISTLE involves participating teachers in three "phases" of staff/curricular development: (a) an 18-credit graduate program of coursework, in curriculum development, critical thinking, and reading-writing across the curriculum; (b) classroom implementation of refined, or "remodeled" curriculum plans, with the support of college faculty, supervisors, and colleagues; and (c) extension activities depending upon individual personal and professional needs, strengths and preferences.
Paul, Richard W.  
**Remodelling Lesson Plans in Middle School and High School to Infuse Critical Thinking**

This workshop will maximize participant involvement in analyzing, assessing and constructing remodelled lesson plans. Participants are recommended to familiarize themselves—before the session, if possible—with the remodelling format used in the Handbooks published by the Center. Sample remodelled lessons will be available at the conference registration table in advance of the session for this purpose.

**Audience:** JH, HS

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Paul, Richard W.  
**Designing an Elementary or Middle School Inservice Program for Infusing Critical Thinking into Subject Matter Instruction**

Richard Paul will provide a general model for designing an in-service program for elementary or middle schools. After sketching out a brief overview of the problem the floor will be open for questions and discussion. The emphasis will be on practical, long-range strategies for a progressively deeper integration of critical thinking into subject matter instruction.

**Audience:** E, JH
Appeal to evidence—or the evidence, by some accounts—is common practice in supporting or establishing claims. A claim, it is held, is probably no more secure than the evidence upon which it rests. But appeal to evidence is not unproblematic. By virtue of what, for example, is any state of affairs justifiably identified as evidence? In this paper, I argue for evidence as the conferral of a status; hence, that evidence is never "out there" to be discovered.

Audience: U

(August 7 3:15-4:45 pm IVES 44)
"Idea Tasting" is a strategy developed by the presenter for critical and creative thinking which has been used with graduate and undergraduate college students, gifted and "regular" elementary and secondary school students, and museum docents. The process involves methods of asking divergent questions, ways of taking alternative viewpoints (e.g., via a "Meeting of Minds") and simulation, analysis, and discussion will be used to present the strategy, with specific attention given to means for using the DR-TA with both literature and subject matter texts. Suggestions will be made for combining the DR-TA with other language instruction strategies to extend critical thinking throughout the learning episode.

Audience: K-12, G

(August 8 10:30-12:00 noon  STEV 3049)

Robinson, Will D. Are There General Rules for Thinking or Do We Need More "Content?"

Edge Hill College of Higher Education
St. Helens Road, Ormskirk, Lancashire, Great Britain L394QP

From research into computer expert systems, natural language simulation and learning systems comes evidence showing, it is said, that, apart from logic, there are no general rules of thinking (or—:weaker—no very fruitful ones). What is needed always is not an enhancement of the inference engine (the rules) but more specialized knowledge. This demonstrates, it is argued, that syllabi which make room for general skills of thinking, at the expense of factual knowledge, are misguided. This session will examine this argument that threatens to put us all out of a job.

Audience: G

(Rice, Eileen, cont'd.)

The Future of Critical Thinking

University of San Diego
San Diego, CA 92110

Has critical thinking a future? If so, what must critical thinking proponents do to insure its destiny? What obstacles (if any) may prevent critical thinking from fulfilling its goals? Should the leaders of the critical thinking movement pursue a common agenda? How can critical thinking compete with other cultural influences? Is critical thinking an ideology? If so, can critical thinking critique itself without begging the question? Will critical thinking disappear
Rosenberg, Vivian M. Introducing Affective Awareness as a Critical Thinking Skill
Associate Professor
Department of Humanities/Communications
Drexel University
Philadelphia, PA 19104

Critical Thinking in the "strong" sense requires understanding how our minds work. Because human beings are not machines, we must recognize the inevitable intertwining of ideas and feelings at every level of experience. Thus, affective awareness should be included as a major component of Critical Thinking. In the past, too many logic textbooks advocated the avoidance of feelings in the interest of rational deliberation. I recommend, instead, that we learn to examine more rigorously the interactions of feelings and ideas. To illustrate how affective awareness can be taught in the classroom, I describe a program in which students are directed, consciously and systematically, to focus on feelings—to identify how they feel as they deal with ideas and problems, and to consider how others feel. Participants in this workshop will have the opportunity to try out materials designed to facilitate affective awareness and enhance critical thinking in any course where personal psychological insight and empathy with others can improve comprehension and performance. The materials can be used at all levels and are particularly useful for courses in history, literature, psychology, social work, education, nursing and medicine.

Audience: G

(August 9 10:30-12:00 noon DAR 112)

Ronk, Bruce A. Computers and Writers: A Challenge to Critical Thinking
Professor
Department of English
Andrews University
Berrien Springs, MI 49104

Good writers must be good thinkers, a fact often ignored by rhetoric texts. Frustrated college writing teachers are too often content with grammatical sentences, if they can get that much. Thinking skills seem less important to many composition teachers who feel that they must make a choice between mechanics and content. I have developed an interactive computer program, called Autorite(TM), which uses computer technology to save time in teaching mechanics in order to stress the thinking process so necessary to effective expository writing. Autorite(TM) demands critical thinking prior to writing. It teaches and monitors the thinking process throughout the composition.

In my presentation, we will examine the philosophy behind using a computer to teach composition and actually see how it works on a projection computer screen. The program takes advantage of the natural interest college students have in computers while building into their writing the principles of critical thinking. Autorite(TM) answers the technology fears of George Orwell by producing both better writers and better thinkers.

Audience: G

(August 10 1:30-3:00 pm DAR 112)
In this session, I will describe an effective pre-college instructional approach to the "inductive/deductive" distinction, the notion of "argument form" and the concept of "deductive validity."

Audience: JH, HS

August 10 8:45-10:15 am DAR 108

Ruggiero, Vincent Ryan 
Dispositions—The Neglected Aspect of Thinking Instruction

Audience: G

August 9 8:45-10:15 am STEV 3072

Ruggiero, Vincent Ryan
"Ha! Ha! I'm Thinking"

Researchers have long noted that creative thinkers tend to have a well-developed sense of humor. Sadly, recent studies document that most classrooms are humorless places. This presentation will illustrate, with a generous helping of cartoons and jokes, how the habits of mind used to generate (and appreciate) humor can help students think more creatively and more critically. Giggling and chuckling will be permitted during this presentation, but guffawing will be prohibited.

Audience: G

August 7 3:15-4:45 pm STEV 3049

Ruggiero, Vincent Ryan
Teaching Thinking Across the Curriculum: A Holistic Approach

This presentation will detail a holistic approach to the teaching of thinking that combines creative and critical thinking, covering both problem-solving and issue analysis, and filing a wide variety of courses across the curriculum. In addition to explaining this approach, the presentation will address the following related matters: setting instructional objectives, developing general and subject-specific thinking exercises, and assessing student progress.

Audience: G

August 7 10:30-12:00 noon STEV 3049

Ruggiero, Vincent Ryan
The Administrator's Role in Thinking Instruction

This presentation will advance the idea that administrators have an important role to play in the thinking movement, a role upon which the ultimate success of the movement could well depend. The presentation will examine the nature of this role, identify numerous ways in which administrators can promote and facilitate thinking instruction in their schools or colleges, and discuss the benefits such initiatives will bring to administrators themselves and to their institutions.

Audience: G

August 8 3:15-4:45 pm STEV 3008

Ruggiero, Vincent Ryan
Will Thinking Instruction Succeed?

The thinking movement is almost a century old. Yet thinking instruction does not yet occupy a central place in education. For current initiatives to be successful, the numerous threats to the movement must be recognized and overcome. This presentation will examine the major threats, including "cultural literacy" and the related condition of informania, misplaced loyalty to the academic disciplines, popular culture's continuing affair with irrationality, and a deeply entrenched pessimism about the human mind. It will also recommend ways for educators to combat these threats.

Audience: G

August 8 8:45-10:15 am DAR 112

Sandberg, Kate
Collaborative Learning: Making a Difference in Student Thinking

Though not widely practiced, collaborative learning—group members working toward a shared goal—offers a number of benefits. It helps students think clearly by giving them the opportunity to vocalize opinions, deal with other perspectives, negotiate and take risks among a community of peers. The presentation includes a collaborative experience, a discussion of the
conditions, rewards and challenges for this type of learning, an example of how to develop a successful curriculum and an annotated bibliography.

Audience: G, CO, U
(August 7 10:30-12:00 noon STEV 3046)
Sarris, Greg
Lecturer
Department of Modern Thought and Literature
Stanford University
Stanford, CA 94305

It has long been established, as Debbie Walsh has so aptly noted, that "without a knowledge base, critical thinking skills exist in a vacuum, if indeed they exist at all." The culturally diverse student is less likely to have problems with the processes of critical thinking than she is with access to a knowledge base determined and maintained by a teacher outside the cultural context with which the student is familiar. Storytelling, say about a given text, enables the student to engage her cultural experience in the classroom, which in turn opens the knowledge base, providing all students a wider and more truly representative cultural framework in which to scrutinize the nature of their thinking. After a paper presentation, participants will have the opportunity to participate in a storytelling exercise that exposes differing cultural norms and expectations so that critical reflection about what constitutes those differences can follow.

Audience: K-12, G
(August 8 3:15-4:45 pm STEV 3072)
Scardilli, Frank J.
Senior Staff Counsel
U.S. Court of Appeals
2nd Circuit, Room 2803
Foley Square
New York, NY 10007

Far more than in any other country, law, "the secular religion of America," and lawyers, exert a pervasive influence in shaping American society and institutions. Yet, even well-educated non-lawyers are often only dimly aware of how our legal system really works. This has been noted as a major void in American education. Unfortunately, the traditional rhetoric of well-intentioned lawyers and judges often tends to obscure rather than illuminate the enormous difference between law-in-the-books and law-in-action, myth and reality, shadow and substance in American justice. Using a critical thinking approach, I shall explore this endlessly fascinating subject from the perspective of a 35-year legal career as practitioner, educator and court mediator. The emphasis will be on eliciting and examining questions important to you. The following are, however, suggestive: Are law and justice synonymous? What factors are likely to affect our legal rights more than rules of law? How does the law's treatment of change and the humanity of judges create illusions? Why are our adversarial trial methods increasingly falling into dispute, and what alternative dispute resolution methods are being favored? What are some other emerging trends in law and lawyering?

Audience: G
(August 8 10:30-12:00 noon STEV 3040)
Scardilli, Frank J.
The Critical Thinker's Guide to the Art of Negotiation and Conflict Resolution—Interpersonal to International

"Some people think they are thinking when they are merely rearranging their prejudices." If you think negotiation and conflict resolution skills are not important, not intellectually challenging or too intuitive to teach, think again. Negotiation is one of the most pervasive, useful and socially powerful tools we use when we want something from someone or seek to resolve or reduce conflict. Interest and research in this subject have grown phenomenally in the past ten years, as have the number of courses, books and articles. Using an interactive format, we shall explore: (1) Insights from some of the latest research literature (especially regarding the exciting new socially responsible problem-solving negotiation); (2) Some lessons from my 11 years as a professional court negotiator/mediator in wide-ranging matters both small and large. These include such high visibility cases as Texaco-Pennzoll and the Bhopal India disaster; and (3) How the critical thinker can bring crucial skills to the negotiation process. These include self-awareness, adroitness in communication, fair-mindedness, the ability to avoid the tyranny of assumptions and to perceive more accurately, evaluate more carefully, judge more soundly and behave more successfully.

Audience: G
(August 9 10:30-12:00 noon STEV 3040)
Scull, Sharon
Associate Professor/Staff Development Officer
Department of English
Glendale Community College
1500 North Verdugo Road
Glendale, CA 91208

Can we effectively teach critical thinking skills to ESL students whose education in their home countries is often based on memorization and rote learning? Is it possible to instill in these students, whose skills in language and logic are sometimes very unsophisticated, the critical spirit of challenge? The answer is an unqualified "yes." They can master the techniques of logical argument and learn the comparative and analytical skills necessary to examine intercultural values. They can develop confidence in their abilities to analyze materials that they read, synthesize their findings, and propose new ideas. They can learn to clarify and expand meanings. Indeed, ESL students must develop these abilities in order to succeed in...
courses across the disciplines. This workshop presents teaching strategies that are especially suited to ESL students, but are effective for all students and can be used in most courses that require student writing. Both individual and group activities that stimulate critical thinking are demonstrated.

**Audience:** G, CC

**Seech, Zachary**

**Philosophical Chairs: A Format for Classroom Discussion**

Philosophical Chairs encourages and develops critical thinking skills as students work together on the discovery and analysis of evidence on a specific issue. The rules of participation invite open-mindedness and constant reevaluation of a position in the light of new evidence.

**Audience:** JH, HS, CC, U

**Siegel, Harvey**

**Why Be Rational?**

Critical thinkers must be critical about critical thinking itself. The quest for reasons and justification which is central to critical thinking must be respected even when the quest involves reasons for engaging in critical thinking. "Why should I (or anyone) engage in critical thinking?" and "Why should I value critical thinking?" are questions which must be respected, and seen as legitimate, by proponents of critical thinking. Since such proponents conceive of their commitment to critical thinking as itself justified, they are bound to justify that commitment. If they don't, or can't, their commitment to critical thinking is inconsistent with their own ideal of having their commitments in accord with reasons which justify them.

Because of the close conceptual connection between critical thinking and rationality, the demand for reasons which justify a commitment to critical thinking is tantamount to a demand for reasons which justify a commitment to rationality. The operative question, then, is "Why should I (or anyone) be rational?" (or, alternatively, "Why should I value rationality?").

The problem of justifying rationality is a classic philosophical problem. Many eminent philosophers have dismissed the problem as confused; others have argued that it cannot be answered in a non-question-begging way; still others have argued that we should not be rational. If any one of these views is correct, however, then the advocate of critical thinking is in trouble, for her commitment to critical thinking will be uncritical and so, inconsistent with her own ideal. In this paper, I consider the classic problem of justifying rationality and its relevance to the theory of critical thinking. I argue that the demand for a justification of rationality (and so critical thinking) is legitimate, and I offer a justification which I claim satisfies the demand.

**Audience:** G

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**Smith, Raymond**

**Yoking Writing Across the Curriculum and Critical Inquiry: A Cautionary Tale and Some Replicable Models**

The Writing Across the Curriculum movement (if it can be called that) has met with resistance more often than success at large research-oriented universities. At least one reason should be clear: faculty in other disciplines seem unlikely to take on willingly what they perceive to be the work of the English department—that is, the teaching of English composition. Genuine curricular reform seems possible only when instructors integrate writing in their courses, not only to enhance communication skills but also in order to foster critical thinking skills. The presentation will include some model assignments and classroom procedures employed by teachers from disciplines as disparate as biology and history in an attempt to demonstrate how the abilities to pose worthwhile questions, to deal with quandaries and problems that have no pat or unique solutions, and to agree or disagree by measure are fostered in "writing intensive" courses.

**Audience:** G, CC

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**Siegel, Harvey**

**Why Be Rational?**

Critical thinkers must be critical about critical thinking itself. The quest for reasons and justification which is central to critical thinking must be respected even when the quest involves reasons for engaging in critical thinking. "Why should I (or anyone) engage in critical thinking?" and "Why should I value critical thinking?" are questions which must be respected, and seen as legitimate, by proponents of critical thinking. Since such proponents conceive of their commitment to critical thinking as itself justified, they are bound to justify that commitment. If they don't, or can't, their commitment to critical thinking is inconsistent with their own ideal of having their commitments in accord with reasons which justify them.

Because of the close conceptual connection between critical thinking and rationality, the demand for reasons which justify a commitment to critical thinking is tantamount to a demand for reasons which justify a commitment to rationality. The operative question, then, is "Why should I (or anyone) be rational?" (or, alternatively, "Why should I value rationality?").

The problem of justifying rationality is a classic philosophical problem. Many eminent philosophers have dismissed the problem as confused; others have argued that it cannot be answered in a non-question-begging way; still others have argued that we should not be rational. If any one of these views is correct, however, then the advocate of critical thinking is in trouble, for her commitment to critical thinking will be uncritical and so, inconsistent with her own ideal. In this paper, I consider the classic problem of justifying rationality and its relevance to the theory of critical thinking. I argue that the demand for a justification of rationality (and so critical thinking) is legitimate, and I offer a justification which I claim satisfies the demand.

**Audience:** G

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**Splaine, John**

**Critical Viewing: Stimulant to Critical Thinking**

The critical viewing of television is necessary in our electronic age. In this session, critical viewing concepts and skills will be demonstrated and explained. Suggestions for developing critical thinking through the process of critical viewing will be made.

**Audience:** G
The Advantages of Teaching Informal Logic Within a Decision-Making Framework

This presentation describes a short course developed for freshmen and returning college students which introduces them to dialogical reasoning. The course at first appears to be a practical, unified overview of the decision-making process, but with the infusion of Aristotelian rhetoric, informal logic, and a case study with an increasingly complicated plot, the course becomes a vehicle for learning how to investigate, critique, and create numerous alternative arguments for actions impacting the future. Students practice reasoning in the "strong" sense by staying with a complex situation long enough to become "expert" in creating arguments from a variety of premises and contexts. They reason dialogically within a community, and eventually experience the Aristotelian idea that knowledge is something that we do, not simply receive. The course can be used in study skills programs, or as an introduction to writing classes in English, journalism, and business. It also can be infused into informal logic classes and interdisciplinary seminars.

Audience: CC, U

Swartz, Alma M.
Facilitating Critical and Creative Thinking Dispositions in Children

While many in the field of critical and creative thinking acknowledge the importance of the need to teach for critical and creative thinking dispositions, the stress has been on the discrete critical and creative thinking skills. In a previous paper, I argue that teaching for critical and creative thinking attitudes and dispositions, such as openmindedness, or the tendency to seek alternative arguments for actions impacting the future, is a necessary precondition to the acquisition and transfer of the discrete skills.

This paper explores the idea of primary critical and creative thinking dispositions which underly and impel critical and creative thought. These primary dispositions developmentally precede and are more global than the more specific, somewhat language-dependent dispositions which have been previously described by this and other writers. As a basis for analyzing the role of dispositions toward critical and creative thinking processes in children, this paper provides a general overview of biological aspects of cognitive development, pointing out significant correlations with play activity as an expression of these dispositions.

The primary dispositions are categorized and explored as these interact with critical and creative thinking skills. A discussion of the ways in which cultural bias, as expressed in our schools, often runs counter to the child's natural inclination toward critical and creative thought is provided, with suggestions for the encouragement and facilitation of the dispositions as a means of ensuring the attainment of critical and creative thinking skills in the classroom. I thus set the stage for the inclusion of these developmental needs in primary education.

Audience: E, G

Swartz, Robert
Infusing Teaching for Critical and Creative Thinking into Standard Subject Area Instruction

In this presentation, a number of K-12 lessons designed to infuse teaching for important critical thinking skills into standard subject area instruction will be demonstrated. Each of these lessons involves restructuring the way regular curriculum materials are used so that both traditional content and good thinking can be learned together. The structure of these lessons will be explicated, concentrating on how they are designed to maximize chances that students will incorporate the ways of thinking taught, into their thinking habits inside and outside of school. The framework of thinking skills upon which these lessons are based will also be explained together with pointers as to how teachers can develop these lessons themselves.

Audience: K-12

Swartz, Robert
Assessing the Quality of Student Thinking: Techniques for Classroom Teachers

While multiple choice tests have been the standard vehicle used in national and statewide testing programs, assessment needs at the classroom level to diagnose and monitor the quality of student thinking call for other reliable, but less formal, means of assessment. One important way that teachers themselves can design such ways of assessing the critical thinking skills of their students is demonstrated and discussed in this presentation. It involves constructing appropriate prompting questions raised about examples which call for the use of specific critical thinking skills and then assessing students' responses against well-articulated characterizations of these critical thinking skills which teachers use in developing critical thinking lessons. A number of specific lessons will be examined, and participants in this workshop will be shown how they can make use of what is incorporated into these lessons to construct such assessment items.

Audience: K-12, G
When you get right down to it, there are few meaningful, teachable, subject-matter-independent, critical thinking skills. Critical thinking may best be regarded not as something to be taught, but as a way of learning. This way of learning (a) places central responsibility on students for the management of learning activities, and (b) requires students to read, listen, and construct products with a focus on the selection, interpretation, integration, and application of the central concepts and principles of the subject matter area.

John Thomas will present a model for improving students' self-directed learning that incorporates three kinds of curricular reform: (a) teaching the skills of self-directed learning within subject matter areas; (b) instituting both demands and supports for self-directed learning within the assignments and classroom activities of a course; and (c) insuring the long-term use of those skills by changing the classroom reward structure. Six resource guides for teachers have been developed and pilot tested. Their relevance for promoting critical thinking in the classroom will be described.

Audience: K-12

(August 7 10:30-12:00 noon NICH 173)

Instructor . . . . . Division of Humanities
Delta College
University Center, MI 48710

We make moral decisions constantly, but most decisions are not well-organized and, as a result, we often err. This workshop looks at a critical thinking tool, called "SOLVE," which provides a specific method for reaching responsible and defensible moral decisions. SOLVE is an acronym representing five essential steps in moral problem-solving. The method requires no technical expertise; it is easily integrated into a variety of courses, including those in business, health care, technology and education.

Audience: G, CC

(August 10 10:30-12:00 noon CS 20)

Toole, James E. . . . . . . The Looking Glass Program: Self-Esteem, and the Performing Arts
Teacher/Building Arts Coordinator
North Syracuse Junior High School
535 West Taft Road
North Syracuse, NY 13212

The session will begin with a "brief" review of the Looking Glass Program. First, we will look at its creative and critical thinking skills list. This will be followed by a brief description of the program. The primary goal of the program is to improve self-esteem, self-image, through risk-taking in the performing arts of theatre, dance, story-telling and other arts, such as sculpture, architecture, and oral interpretation. The program integrates critical and creative thinking and the arts. It has been successfully infused in the classroom in academic subjects such as English, reading, social studies, science, history, etc. Most of the session will be devoted to participation in creative theatre, dance, and story-telling activities and, at the same time, understanding the thinking skills brought into play. The session will close with an assessment by the participants. Handouts will be available. Participants should plan on interacting with others through voice and movements. Dress should be casual.

Audience: G

(August 8 1:30-3:00 pm ART 108)
Vickers, Clinton J.  Using the Mind Well: an Essential School
Headmaster
Adelphi Academy
8515 Ridge Boulevard
Brooklyn, NY 11209

What is essential in schools and how do schools go about nurturing these goals? An essential school attempts to get its priorities right. Each member school in the Coalition focuses on nine common principles, the first and most fundamental being the intellectual focus of schools, "helping adolescents to learn to use their minds well." This infuses all aspects of program and instruction.

Adelphi Academy serves as one example of what a school can do to directly alter the quality of learning and intellectual activity that students in elementary, middle and high schools are engaged in informal education. This session will pose the questions that need to be asked if education reform is to effect the quality of mind that schools nurture, and will respond to the question how that can be accomplished in any school. What are the priorities, the structure, curricular necessities, pedagogies and student dispositions?

Audience: HS, G
(August 8 8:45-10:15 am DAR 108)

Villarini, Angel  Developing Skills, Concepts, and Attitudes of Critical Thinking Through Academic Subject Matters (K to College)
Director
Project for the Development of Thinking Skills
Center for the Enhancement of Teaching
University of Puerto Rico
GPO Box 4084-G de gato
San Juan, PR 00936

This will be a demonstration and discussion about a model for formulating educational objectives and designing teaching strategies to infuse critical thinking across the curriculum. This model is now being used in Puerto Rico's educational system to guide processes of faculty development and curriculum revision from K to college level. First, we will have a demonstration of the model through the specific example of a teaching-learning activity. Then, from this example we will analyze the elements, theoretical foundations, and advantages of the model for faculty development and curriculum revision.

Audience: K-U
(August 8 1:30-3:00 pm STEV 3008)

Weddle, Perry  Argument Formats
Professor/Author/Editor, Critical Thinking News
Department of Philosophy
California State University, Sacramento
6000 J Street
Sacramento, CA 95819

Ten "formats" will be presented, structures extracted from arguments as actually found in the contexts which students and citizens ordinarily inhabit. Any given format represents the minimum necessary for good reasoning of its type. Easily digested, each format presents, as it were, a pattern, a model against which to compare real examples in order to let their strengths and weaknesses show through. The formats will be explained and tested against examples such as one might encounter in class. Most importantly, the list itself will be subjected to scrutiny by all. Suggestions for change, and about the whole enterprise, will be welcomed.

Audience: G, CC, U
(August 9 1:30-3:00 pm STEV 3040)

Weddle, Perry  Making a Good Case For X
Professor/Author/Editor, Critical Thinking News
Department of Philosophy
California State University, Sacramento
6000 J Street
Sacramento, CA 95819

This workshop tackles the very general question, "What does a good case look like?" Whereas most critical thinking concerns analysis of existing argument, this session concerns the construction of arguments. For those willing to stay to evaluate it, a handout will be distributed on which fundamental argumentation concepts are explained clearly and simply. What a better, or ideal, handout would look like will be explored. Levels: Middle school through college. All subjects, especially language arts.

Audience: Grade 6-U, G
(August 8 3:15-4:45 pm STEV 3049)

Weinstein, Mark  Critical Thinking Across the Disciplines: An Ecological Approach
Assistant Director
Institute for Critical Thinking
Montclair State College
Upper Montclair, NJ 07043

The relevance of critical thinking requires its broad application. A natural adjunct to a specialized course in critical thinking is its infusion in courses in various academic disciplines. An ecological approach affords a model for infusion. The goal is to empower students to understand the principles and values implicit in the subjects they take and to expose the presuppositions that structure the educational milieu in which they function. (Paper written with Professor Wendy Oxman.)

Audience: HS, CC, U
(August 8 10:30-12:00 noon STEV 3008)
An overview of typical problem areas associated with thinking skills programs in the schools is offered. The analysis of institutional, curricular and pedagogical concerns offers a framework for teachers and administrators to organize research and practice.

Audience: K-12
(August 7 3:15-4:45 pm ART 108)

Wilson, John K.
Developing Critical Thinking Skills with Developmental Students
Instructor
Division of Language, Literature and Philosophy
Mott Community College
1401 East Court Street
Flint, MI 48503

Community college open-door recruitment policies, high school deficiencies and a general societal indifference to education have combined to form a sizable developmental community college population. In addition to academic and study skill deficiencies, these students severely lack critical thinking skills. This presentation focuses on conveying critical thinking dispositions and skills in a setting where the opening challenges concern getting them there and having them turn in anything at all. It focuses on creating a critical thinking outlook for the "soft" and "natural" sciences and the use of videotapes to ensure academic transference across the curriculum.

Audience: CC
(August 7 3:15-4:45 pm NICH 173)

Winocur, Lee S.
IMPACT
National Director/Project IMPACT/Advisor
Center for the Teaching of Thinking
21412 Magnolia Street
Huntington Beach, CA 92646

Extensive research has shown that learning just the mechanics of basic skills and the "mindstuffing" of students is no longer acceptable. Real competency requires training in critical thinking. IMPACT (Improving Minimal Proficiencies By Activating Critical Thinking) focuses on effective strategies for infusing the direct teaching of critical thinking into existing curriculum. IMPACT has been successfully implemented in classrooms at all grade levels, K-College. This presentation will give participants an awareness of thinking skills necessary to implement such a program and, in addition, some examples of instructional techniques will be presented.

Audience: K-CC
(August 8 1:30-3:00 pm CS 68)

Weinstein, Mark
Integrating Thinking Skills into the Schools

Wright, Ian
Deciding

Yli-Luoma, Pertti
Development of Critical Thinking Skills in Physics Studies Among Pre-Students in Nine Countries

Winocur, Lee S. IMPACT
National Director/Project IMPACT/Advisor
Center for the Teaching of Thinking
21412 Magnolia Street
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Audience: K-CC
(August 8 1:30-3:00 pm CS 68)
The classroom climate, as perceived by students, is studied in five different countries: Finland, Holland, Ireland, Sweden, and West Germany. The students are 10 and 14 years of age. The Linear Structural Relationships between different latent variables in the developmental model used in the study are shown in the figure below. In this model, the home background has been taken into account. The fit of the model is good in all the studied populations, even if the equivalent paths in different populations are different. This kind of simultaneous modeling in several populations has not previously been possible, but now is. Recent advances in LISREL-programming have opened up this possibility.

Audience: G

Zelakiewicz, Marek

Social Constraints on Critical Thinking and Educational Reforms: An International Perspective

Formerly, University of Poland, Warsaw
Visiting Professor/Research Associate
Center for Slavic & East-European Studies
University of California
361 Stephens Hall
Berkeley, CA 94720

There is no society without constraints on critical thinking. Ethnocentrism, areas of "taboo," unnoticeable blank spots, unrevealed routine thinking, etc., can differ in various societies but do exist in each one. There is no social system without limitations on educational reforms. Conservative social groups, dependence of schools on other institutions, limited resources, complexity of the changes, the time factor, etc., can bury even the best reform. Experiences from the Soviet Union, Poland and other countries can help to identify social obstacles and barriers for successful educational change.

Audience: G

Zevin, Jack

The Problem with Problems: "Poorly" Structured Problems as Promoters of Critical Thinking

Professor
Department of Education
Queens College-CUNY
Flushing, NY 11367-0504

An argument will be developed based on the work of such theorists as Bruner, Berlyne, Sternberg, and Shulman for designing "problems" that are "poorly" structured or "ill" structured in the sense that these problems contain "unknowns" or gaps, missing elements, which are crucial for promoting critical thinking by learners in the form of high-level inferencing and hypothesizing.

Materials that evoke a sense of (1) mystery, (2) controversy, (3) drama, and (4) contrast have the greatest potential to foster motivation to both discover problems and work toward solutions (with a stress on alternative approaches) in a way that reinforces a sense of playfulness and gives greater freedom for imaginative lines of inquiry.

A participatory demonstration of the inferencing process based on materials from history and the fine arts will conclude the presentation, allowing time for questions and comments from the audience.

Audience: G

Zeiger, William

Teaching the Dialectical Essay

Professor
Department of English
San Diego State University
San Diego, CA 92182

Critical thinking means—in one of its definitions, anyway—to examine an issue from different perspectives. Dialectical thinking works in this way—by alternating perspectives. It works as land surveyors work, or as navigators work, by triangulation. To see a distant object from a single viewpoint does not establish that object's position. The surveyor must move to a different vantage point and look at the object from another angle. This process not only pinpoints the object's position, but reveals another side of the figure. The dialectic examines abstract ideas in a similar way: a single viewpoint does not reveal the depth of a subject; an opposing viewpoint adds an extra dimension, and makes the beginning of wisdom. The dialectical essay attempts to capture this double-visioned wisdom. In the session, I will guide the group in brief writing exercises designed to locate and express antitheses and to seek syntheses in issues of the writers' own choosing. I will also provide examples of this essay form in professional and student writing.

Audience:

Yli-Luoma, Pertti

The Impact of Classroom Climate on the Development of Critical Thinking and Moral Reasoning

The classroom climate, as perceived by students, is studied in five different countries: Finland, Holland, Ireland, Sweden, and West Germany. The students are 10 and 14 years of age. The Linear Structural Relationships between different latent variables in the developmental model used in the study are shown in the figure below. In this model, the home background has been taken into account. The fit of the model is good in all the studied populations, even if the equivalent paths in different populations are different. This kind of simultaneous modeling in several populations has not previously been possible, but now is. Recent advances in LISREL-programming have opened up this possibility.

Audience: G
A Staff Development Plan to Model Critical Thinking Throughout a Community College

Klein, Donald
Professor
Department of Philosophy
Gavilan College
5055 Santa Teresa Boulevard
Gilroy, CA 95020

Oliviera, Susan
Professor
Department of Justice Administration
Gavilan College

Johnson, Martin
Chair, Curriculum Committee/Professor
Department of Physics and Math
Gavilan College

Paulsen, Marijane
Vice-President/Dean
Instructional Services
Gavilan College

Pew, Clifford
Professor
Department of Business
Gavilan College

Bishop, Cheri
Registrar
Gavilan College

Paul, Richard
Consultant, Curriculum Committee & Director,
Center for Critical Thinking and
Moral Critique

This panel will trace the evolution of critical thinking from a group discussion of Title V mandates at a 1986 staff meeting to Critical Thinking as the Staff (Board of Trustees, Administration, Faculty, and Classified Staff) Development theme for Gavilan Community College (Gilroy, California) for the 1988-1989 school year. Each panel member will present their specific role in the plan's emergence. During the Seventh International Conference (next year), the same panel will present the outcome of the program and adjustments that could be made.

Audience: CC, U
(August 9 3:15-4:45 pm IVES 119)

On the Nature of Critical Thinking

Richard Paul
Connie Missimer

Robert Ennis
Gerald Nosich

This panel will discuss definitions of critical thinking and their applications to classroom practice at all levels, K-U.

Audience: G
(August 8 3:15-4:45 pm SU: MP)

Cultural Literacy and Critical Thinking

Richard Paul
Don Donald Lazere

Vincent Ryan Ruggiero

This panel will evaluate E.D. Hirsch's best-selling book Cultural Literacy and the relation between critical thinking and discipline-specific knowledge.

Audience: G
(August 9 10:30-12:00 noon IVES 119)

Critical Thinking in Uncritical Societies:
Social Constraints Imposed on Critical Thinking

Frank Scardilli
Dean Dorn

Marek Zelazkiewicz
Angel Villarini

This panel will examine the kinds of constraints imposed on critical thinking in the societies of the United States and other countries including Poland and Puerto Rico.

Audience: G
(August 9 3:15-4:45 pm SU: MP)

Teaching Critical Thinking in the Strong Sense:
Practitioner's Perspective

Jan Talbot
Karen Jensen
Noreen Miller
Ross Hunt

Chris Vetrano
Teacher, English Department
Lawrence Cook Junior High School
2480 Sebastopol Road
Santa Rosa, CA 95407

In this panel, teachers will share classroom ideas they have successfully implemented for teaching strong-sense critical thinking in grades K-12.

Audience: K-12
(August 9 1:30-3:00 pm SU: MP)
Critical Thinking, Study Skills and Remediation
John Wilson
Heidi Kreklau
Sharon Scull

This panel will discuss means of incorporating critical thinking in teaching study skills to remedial students in various disciplines, K-12.

Audience: K-12
(August 9 1:30-3:00 pm IVES 119)

Infusing Critical Thinking into Language Arts
Greg Sarris
Bruce Ronk
Ogden Morse

This panel will explore means of incorporating critical thinking instruction in the Language Arts curriculum, K-U.

Audience: G
(August 9 10:30-12:00 noon SU: MP)

Infusing Critical Thinking into Social Studies
Gus Bagakis
Dean Dorn
Paul Baker
Bernice Goldmark
Eugene Labovitz

This panel will explore means of incorporating critical thinking instruction into the Social Science curriculum, K-U.

Audience: G
(August 7 1:30-3:00 pm STEV 1002)

Infusing Critical Thinking into Humanities
Karen Jensen
Sharon Schwarze
Matthew Lipman
Harvey Lape
Donald Lazere

This panel will explore means of incorporating critical thinking instruction into the Humanities curriculum, K-U.

Audience: K-U
(August 8 1:30-3:00 pm IVES: Warren)

Infusing Critical Thinking into Math and Science
Doug Martin
Robert Swartz
Stephen Norris
Robert Ennis

This panel will explore means of incorporating critical thinking instruction into Math and Science curriculum, K-U.

Audience: K-12
(August 7 10:30-12:00 noon SU: MP)

Critical Thinking Staff Development
Charlie Blatz
John Bareil
Mark Weinstein
Ken Bumgarner
Matthew Lipman
Nicholas Michelli

This panel will survey both short-term development projects, such as awareness workshops, and long-term projects, such as district-wide planning, assessment, and budgetary support, K-12.

Audience: K-12
(August 7 1:30-3:00 pm SU: MP)

Critical Thinking in Europe: Recent Developments
Will Robinson
Kurt Bergling
Marek Zelazkiewicz
John Hanson
Pertti Yli-Luoma

This panel will feature speakers from countries including the United Kingdom, Sweden and Poland.

Audience: G
(August 7 1:30-3:00 pm IVES: Warren)
Critical Thinking and Global Problems

James Gray  
Professor  
Department of American Multicultural Studies  
Sonoma State University  
Rohnert Park, CA 94928

In this panel, teachers will air problems they have encountered introducing critical thinking into the classroom.

Audience: G  
(August 8 8:45-10:15 am  IVES: Warren)

Critical Thinking in Canada

Carol LaBar  
Ian Wright

A panel of Canadian educators will discuss recent developments there.

Audience: G  
(August 10 1:30-3:00 pm  SU: MP)

Critical Thinking and the Media

Lenore Langsdorf  
Joel Rudinow  
Dennis Rohatyn

This panel will explore the influence of mass media on critical thinking, as well as presenting approaches to teaching critical thinking about the media in high school and the university.

Audience: G, HS, U  
(August 9 8:45-10:15 am  SU: MP)

Critical Thinking and Liberation

Lauren Coodley  
Judi Hirsch  
Michael O'Loughlin  
James Gray

This panel will discuss the approach to critical thinking and liberatory literacy associated with Paulo Freire and American educators influenced by him.

Audience: G  
(August 8 10:30-12:00 noon  SU: MP)
California's Recent Community College Across-the-Curriculum Critical Thinking Requirement

Jerry Emmons
Chairman
Division of Creative Arts
College of the Redwoods
Eureka, CA 95501

Larry Dawson
Coordinator
Learning Assistance Center
College of the Redwoods
Eureka, CA 95501

John Feare
Donna Klein

This panel will discuss the recent revision in Title V requiring each community college to define what is meant by the ability to think critically and to understand and apply concepts of critical thinking in each college course.

Audience: G, CC, U
(August 8 1:30-3:00 pm SU: MP)

Critical Thinking: What States Are Doing

John Meehan (PA)
Ken Bumgarner (WA)

Peter Kneader (CA)
John Barel (NJ)

Wendy Oxman (NJ)

In this panel, representatives from departments of education in several states will survey recent developments in elementary, secondary, and post-secondary critical thinking instruction.

Audience: G
(August 7 3:15-4:45 pm SU: MP)

Informal Logic: Recent Developments in the Field

Ralph Johnson
Gerald Nosich

Perry Weddle
Edward Damer

This panel will discuss the current state of university-level studies in informal logic.

Audience: CC, U
(August 7 10:30-12:00 noon STEV 1002)

Educating Reason

Harvey Siegel
Lenore Langsdorf

Donald Hatcher
Dennis Rohatyn

Maurice Finocchiaro

This panel will be based on Harvey Siegel's new book, entitled Educating Reason: Rationality, Critical Thinking and Education.

Audience: CC, U
(August 9 3:15-4:45 pm DAR 108)

Critical Thinking Across the College/University Curriculum

John Chaffee
Pat Foster
Gerald Nosich

Donald Lazere

This panel will survey interdisciplinary critical thinking projects.

Audience: CC, U
(August 9 8:45-10:15 am DAR 108)

Critical Thinking and Literature

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

Jonah Raskin
Professor
Department of English
Sanoma State University
Rohnert Park, CA 94926

This panel will survey means of emphasizing critical thinking in high school and college literature courses.

Audience: HS, CC, U
(August 8 3:15-4:45 pm IVES: Warren)
Mini-Critical Thinking Course

During the conference an actual course in critical thinking will be conducted. Textbook authors and other experienced critical thinking instructors will provide a crash course on a dimension of critical thinking, as follows:

T. Edward Damer  What the Fallacies Can Teach Us About Good Arguments  Sunday, August 7, 1:30-3:00 pm  DAR 112

Vincent Ruggiero  Hal Hal I'm Thinking  Sunday, August 7, 3:15-4:45 pm  STEV 3049

John Chaffee  Critical and Creative Problem Solving  Monday, August 8, 8:45-10:15 am  STEV 2049

Gerald Nosich  Recognizing and Evaluating Misleading Statements  Monday, August 8, 10:30-12:00 noon  STEV 2049

M. Neil Browne  Assignments that Stimulate Critical Thinking  Monday, August 8, 1:30-3:00 pm  STEV 2049

Stuart Keeley  Critical Thinking and Advertising  Monday, August 8, 3:15-4:45 pm  STEV 2049

Ralph Johnson  Practical Reasoning and Principle Testing  Tuesday, August 9, 8:45-10:15 am  STEV 2049

Carol LaBar  Critical and Creative Problem Solving

SPECIAL INTEREST GROUPS
(Tuesday, August 9  7:35-8:35 am)

In order to facilitate networking within critical thinking special interest groups, a special time has been set aside for such groups to organize themselves if they so wish. A facilitator for this process will be present at the meeting but the nature and extent of the organization that is set up will be dependent entirely upon the will of the members present at the meeting. The Center will continue to schedule meeting times for the groups at future conferences if interest justifies such continuance.

- Elementary (K-6)  STEV 3046
- Middle School (7-8)  CS 20
- High School (9-12)  STEV 3008
- Critical Thinking Staff Development (K-12)  STEV 2049
- Community College  DAR 108
- 4 Year College and University  STEV 1002
- Critical Thinking in Literature and Language Arts  DAR 112
- Critical Thinking in Social Studies (including Sociology, Anthropology, History and Psychology)  CS 68
- Critical Thinking in the Arts  NICH 173
- Critical Thinking in Science and Math  NICH 166
- Critical Thinking Assessment  STEV 3049
- Critical Thinking for the Slow or Disadvantaged Learner  STEV 3040
- California State Department of Education's Thinking Skills Network  STEV 3072
- Learning and Tutorial Centers  ART 108
- Feminist Education  IVES 44
VIDEOTAPE RESOURCES

Videotapes are one of the most important resources for critical thinking in-service education. They can be used in a variety of ways: 1) as discussion starters, 2) as sources of information on the nature of critical thinking, 3) as models of critical thinking, and 4) as models for classroom instruction. All of the following videotapes have been developed as low-cost resources. No attempt has been made to achieve broadcast quality. Some of these videotapes will be shown in an alcove in the Commons during the evening social hours and during the day in the Student Union downstairs lobby. A complete description of available videotapes may be picked up at the conference registration desk. A partial listing of the Center's videotape library follows:

- Critical Thinking in Science
- Critical Thinking in History
- Dialogical Practice I
- Dialogical Practice II
- Critical Thinking: The State of the Field
- Socratic Questioning in Large Group Discussion (4th Grade)
- Socratic Questioning in Large Group Discussion (6th Grade)
- Socratic Questioning in Large Group Discussion (7th & 8th Grades)
- Learning How to Think About Thinking
- The Attributes of a Critical Thinker
- Student Insights into Metacognition
- Four-Part Workshop in Critical Thinking Instruction:
  - Part 1: Introduction to the Concept
  - Part 2: Dialogical Practice
  - Part 3: Reciprocity
  - Part 4: Socratic Questions
- Critical and Creative Thinking
- Coaching Teachers Who Teach Critical Thinking
- Critical Thinking and Women's Issues
- Problems with Teaching How to Use Arguments to Decide What to Believe
- Effective Design for Critical Thinking Inservice
- Critical Thinking and the History-Social Science Curriculum, Grades 9-12
- Bridging the Gap Between Teachers' Verbal Allegiance to Critical Thinking and Their Actual Behavior
- Teaching Critical Thinking Across the Curriculum
- Language Arts and Critical Thinking for Remedial and Bilingual Students
- A Conception of Critical Thinking

How to Write Critical Thinking Test Questions
The Human Image System and Thinking Critically in the Strong Sense
Egocentricity: What It Is and Why It Matters
Philosophy for Children
Critical Thinking in Math and Science
Projects for Integrating Critical Thinking
Varieties of Critical Thinking Tests: Their Design and Use
Teaching Critical Thinking in the Strong Sense in Elementary, Secondary, and Higher Education
Workshop on the Art of Teaching Critical Thinking in the Strong Sense
Critical Thinking's Original Sin: Round Two
Knowledge as Design in the Classroom
The Possibility of Invention
The Role of Thinking in Reading Comprehension
Critical Thinking at the Community College
Teaching Critical Thinking Strategies Across the Curriculum: The Higher Order Thinking (H.O.T.) Project: Elementary Level
Moral Argument as a Means of Introducing Critical Thinking Skills to Elementary School Students
Why Not Debate? Critical Thinking Assignments
Introducing Affective Awareness
Can Critical Thinking Be Taught? A Teaching Strategy for Developing Dialectical Thinking Skills

Mini-Critical Thinking Course:
- Using Arguments to Decide What to Believe
- Critical and Creative Problem Solving
- Learning About Good Arguments Through the Fallacies
- Argument Diagramming
- Stimulating Thinking About Thinking with Logical Puzzles
- Information and the Mass Media
- Practical Reasoning
- The Nature of Critical Thinking through Socratic Interrogation
- Dispositions: The Neglected Aspect of Critical Thinking
- Epistemological Underpinnings of Critical Thinking
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 for 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 Emeritus, 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

Trudy Govier  
Formerly University of Calgary

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Ian Wright  
University of British Columbia

Vincent Ruggiero  
S.U.N.Y. Delhi College

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University of Southern California

Michael Scriven  
University of Western Australia

David Perkins  
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Director, Illinois Critical Thinking Project

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Dolores Gallo  
Co-director, Critical and Creative Thinking Program, University of Massachusetts, Boston

Robert Swartz  
Founder, Critical and Creative Thinking Program, University of Massachusetts, Boston

Gerald Nosich  
University of New Orleans

T. Edward Damer  
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Ralph Johnson  
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California State University, Sacramento

Lenore Langsdorf  
University of Texas

Joel Rudinow  
Research Associate, Center for Critical Thinking and Moral Critique

Ronald S. Brandt  
Executive Editor, Educational Leadership
The Center conducts advanced research, inservice education 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, NY
Robert Ennis, Director, Illinois Thinking Project, University of Illinois, Champaign, IL
Edward M. Glaser, Psychologist, Author, Watson-Glaser Critical Thinking Appraisal, Los Angeles, CA
Matthew Lipman, Professor of Philosophy, Founder and Director, Institute for the Advancement of Philosophy for Children, Montclair, NJ
Israel Scheffler, Thomas Professor of Education and Philosophy, Harvard University, Cambridge, MA
Michael Scriven, Professor of Philosophy, University of Western Australia, Nedlands, Australia

**Research Associates**

J. Anthony Blair, Professor of Philosophy, University of Windsor, Ontario, Canada
Carl Jensen, Associate Professor of Communications Studies, Sonoma State University, Rohnert Park, CA
Ralph Johnson, Professor of Philosophy, University of Windsor, Ontario, Canada
Don Lazere, Professor of English, California Polytechnic State University, San Luis Obispo, CA
Perry Weddle, Professor of Philosophy, California State University, Sacramento, CA
Ian Wright, Professor of Education, University of British Columbia, British Columbia, Canada
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Robert Ennis, Center Fellow
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Don Lazere, Center Research Associate

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Richard Paul, Director
Dianne Romain, Assistant Professor of Philosophy, Sonoma State University
Douglas Martin, Associate Professor of Chemistry, Sonoma State University
Joel Rudinow, Center Research Associate

**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's Degree in Education with emphasis in 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); a resource center for the distribution of tests, documents, position papers; and 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.

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

From Previous Conferences:

Edward M. Glaser  Delores Gallo

Tony Blair  Art Costa

Critical Thinking provides a solid foundation for instruction...

...from kindergarten through graduate school.