7-1-1989

Theory and research in social education 17/03

National Council for the Social Studies. College and University Faculty Assembly

Follow this and additional works at: http://scholarcommons.usf.edu/coedu_pub

Part of the Education Commons

Scholar Commons Citation
http://scholarcommons.usf.edu/coedu_pub/62

This Article is brought to you for free and open access by the College of Education at Scholar Commons. It has been accepted for inclusion in College of Education Publications by an authorized administrator of Scholar Commons. For more information, please contact scholarcommons@usf.edu.
A Note From the Editor

Comparing Teachers' Thinking About Promoting Students' Thinking

Critical Thinking: Schemata Vs. Skills

Teacher Conceptions of History

Videodisc Instruction With Elementary Pupils in Social Studies Education

The Subject Matters: Classroom Activity in Math and Social Studies. Practical Strategies for The Teaching of Thinking. We All Live Downstream: A Guide to Waste Treatment That Stops Water Pollution. And Two If By Sea: Fighting The Attack on America's Coasts.

Information For Authors
Theory and Research in Social Education

Volume XVII  Number 3  Summer 1989

College and University Faculty Assembly
CONTENTS

Millard Clements A Note From the Editor 170
Joseph Onosko Comparing Teachers’ Thinking About Promoting Students’ Thinking 174
Allan R. Brandhorst Critical Thinking: Schemata Vs. Skills 196
Ronald W. Evans Teacher Conceptions of History 210
Helen L. Carlson Videodisc Instruction With Elementary Pupils in Social Studies Education 241
Book Reviews The Subject Matters: Classroom Activity in Math and Social Studies. Practical Strategies for The Teaching of Thinking. We All Live Downstream: A Guide to Waste Treatment That Stops Water Pollution. And Two if By Sea: Fighting The Attack on America’s Coasts. 259
Information For Authors 270
Reviewers

The editors would like to thank these reviewers for the thoughtful attention they have given to the manuscripts they have considered:

Linda Biemer, Cortland, New York
Janet Eyler, Vanderbilt University
Jean Fair, Dearborn, Michigan
Jack Fraenkel, San Francisco State University
Abdullah M. Hothali, Taif, Saudi-Arabia
James Leming, Southern Illinois University
Francis Maher, Wheaton College
Howard D. Mehlinger, University of Indiana
Linda W. Rosenzweig, Pittsburgh, Pennsylvania
Lynda Stone, Swarthmore College
Laura Wendling, Seattle, Washington
William Wilen, Mogadore, Ohio
Myra Zarnowski, New York, New York
Letters
Vietnam

Thunder’s Mouth Press just sent me a copy of the Winter 1989 issue of *Theory and Research in Social Education*. I’m just delighted to see my four poems reprinted in your editor’s note, and gratified by the point you’ve made with and through them.

Hope this finds you well and thriving. Again, thanks for thinking enough of my poems to include them in your journal. Take good care.

Yours,

W. D. Ehrhart
6845 Anderson St.
Philadelphia, PA 19119
A Note From the Editor:

On May 1, 1989 the United Nations Environment Programme held a Youth Forum on "Sustainable Development: Young Action for the Future." More than 1500 students attended and reported on various environmental projects that were developed in their schools. The students in one school wrote 700 letters to government officials; school recycling projects were described; conservation projects of various kinds were reported. I was invited to speak for ten minutes to this group of students. The following is my presentation to that group at the United Nations:

It is a pleasure to address people who not only care about the life systems of our planet but are trying to restore or reclaim the planet from those who are destroying it.

Symbolic of our global situation are local realities: the striped bass in New York waters are afflicted with PCB's; our shell fish are likely to give you hepatitis if they are not thoroughly cooked, and water scarcity and drought is a chronic rather than an occasional reality. We are here today because we know that the life systems of our planet are in serious peril.

The assault on our planet is local; it can be seen in our coastal waters. It is national; it can be seen in the dangerous use of pesticides on grapes, apples and other agri-business products. It can be seen in the use of nuclear power without a solution to the safe disposal of nuclear waste products, and it can be seen in the proliferation of dangerous toxic dumps. Finally, the assaults on the life systems of our planet are global; we have The Greenhouse Effect, the global warming, and acid rain that is related to fossil fuels and fluoro-carbons. In light of these realities and the environmental efforts that are being reported here today—WHAT IS OUR NEXT CHALLENGE?

FIRST

WHAT MIGHT WE STUDY OR SEEK TO KNOW THAT WE DON'T ALREADY KNOW?

After all, we do know quite a bit about garbage, recycling, fossil fuels, the devastation of war, and the longevity of nuclear wastes.

SECOND

What should we try to teach others?

After all, efforts are being made in many states to increase environmental awareness through school programs.

And,
THIRD

What should we do?

After all, many of us are involved with recycling, conservation and life style changes.

What is there to know and do that we already do not know and do?

As I think about our meeting today, these are my questions. Now let me share with you briefly my answers.

What Should we Study and Learn About?

WHAT DO WE NOT KNOW THAT WE SHOULD KNOW MORE ABOUT?

As we recycle, conserve water, and examine environmental calamities, I think we should look for, study, research the connections between our toxic environment and what I think of as toxic social arrangements.

I WILL BRIEFLY CONSIDER TWO CRITICAL TOXIC SOCIAL ISSUES.

1. THE CONNECTION BETWEEN THE WAR ECONOMY OF NATIONS AND THE WAR AGAINST THE ENVIRONMENT.

2. THE CONNECTION BETWEEN THE VIOLENCE OF NATIONS AND THE VIOLENCE OF MEN AGAINST WOMEN.

FIRST,

THE CONNECTION BETWEEN THE WAR ECONOMY OF NATIONS AND THE WAR ON THE ENVIRONMENT

The assault of one nation on another or the assault of business, government or individuals on the life systems of the planet have a similar basis:

Both nations and businesses claim that what really matters is us, our national destiny, our political interests, our profits, our religion, our economic development.

And so, wetlands are cleared, plastic litters our landscape, oil spills destroy natural habitats, and terrorists are sent out into the world for the most patriotic of causes.

The ideas that lead male national leaders to war are very similar to the ideas that lead male business leaders in their assault on the life systems of the planet.

In our nation and around the world the conduct of business and the conduct of war is essentially an affair of males. In these matters as in others it is important to notice the obvious.
NOW, LET ME TOUCH ON MY SECOND TOXIC SOCIAL ISSUE,
THE CONNECTION BETWEEN THE VIOLENCE OF NATIONS AND
THE VIOLENCE OF MEN AGAINST WOMEN

The assault of men on women and the assault men of business and men of
political power on the life systems of the planet have a similar basis:

MALES IN VARIOUS RELIGIOUS TRADITIONS AND CULTURAL
SYSTEMS CLAIM THAT WHAT MATTERS IS THEIR DESTINY,
THEIR EDUCATION, THEIR POLITICAL INTERESTS, THEIR PRO-
FESSIONAL CAREERS, THEIR RELIGIOUS SALVATION AND
THAT WOMEN, NATURE, AND THE LIFE SYSTEMS OF THE
PLANET EXIST FOR MALE CONVENIENCE AND PLEASURE.

THERE ARE CHRISTIAN, JEWISH, ISLAMIC AND BUDDHIST VER-
SIONS OF THIS PERSPECTIVE.

The violence against the life systems of our planet is related to violence
against women expressed as denial of educational opportunity, or exclusion
from the judiciary, from government, from religious leadership, from
science, or from politics. The denial of reproductive choice, educational op-
pportunity, full participation in public life, has been an integral feature of
war economics and the assault on the life systems of our planet.

MY SECOND QUESTION
What Should we Try to Teach?

We should teach the connections between:

The assaults of men on men that we call war.

AND

The assaults of MALES on the life systems of the planet that is sometimes
called business, or progress or development.

AND

The assault of men on women through rape, marriage custom, legal exclu-
sion, denial of reproductive freedom, educational opportunity or full par-
ticipation in the conversation of political, academic and social life.

The status of women, the conditions of war, and the assault on the en-
vironmental are interrelated realities.

MY THIRD QUESTION
3. What Should we Do?

We should work to make these connections clear in our personal life, in our
discussions today, and in our public action relating to environmental issues.
I think that we will not resolve our environmental challenges, or our peace efforts until and unless we face the assault on women and the war economy. Working on any of these issues is working on all of these issues. We cannot have a strong peace movement nor strong environmental movement that is sexist.

If we are to reclaim and restore the life systems of our planet it will take more than technology, law, and science. It will require changes in the ways men and women in different cultural communities make their life together. That change requires reconsideration of the fundamental relationships of men and women, nation and nation.

The progress we have made in the United States in the restoration of the environment is parallel with the growing participation of women in our national affairs.

If we are to continue this progress, we have to challenge COMMON SENSE:

1. It is not us against them: nation against nation or men against women, or our species against all others.

2. It is not just us that matter: males or females, or any one religion, or any one linguistic community, or any one national identify, or any one species.

3. There are limits to the violence our planet can endure and still sustain life in the form with which we are familiar.

The environmental challenge directs attention to fundamental aspects of the life of our species. Technology will not save us, but wisdom and education may.

Of course, insects, bacteria and other forms of life may survive whatever the violence of our species. But, we can strive for political equity between men and women, for a resolution of conflict among nations without torture and terror and for an end to the poisoning of the oceans, rivers, lakes and the earth itself. We can struggle for peace with the living earth, not mere survival on a damaged planet. This is not an easy struggle but in my view that is the struggle.

*That was my talk. In my view, these are critical issues for social studies researchers to consider. What social education is germane to life on our planet today?*

Millard Clements
Editor, *TRSE*
Comparing Teachers’ Thinking About Promoting Students’ Thinking

Joseph Onosko
University of New Hampshire

Abstract

Certain beliefs and theories of teachers outstanding at promoting students’ thinking are compared to those of teachers less-than outstanding. Analysis reveals that differences exist between the two groups regarding their instructional goals, conceptions of thinking, and views on the dilemma of depth vs breadth of content coverage. Results may provide direction for pre- and in-service teacher training efforts which attempt to facilitate teachers’ instructional practices in the area of thinking by engaging teachers’ in reflection about practice.

The Problem

A prominent theme of educational reform in the 1980’s is to develop students’ “higher order” and “critical” thinking. This has been reflected in numerous: a) national reports advocating increased emphasis on thinking in schools (Adler, 1982; Boyer, 1983; College Board, 1983; Sizer, 1984); b) scholarly works that attempt to conceptualize thinking (Baron, 1985; Beyer, 1987; Resnick, 1987; Schrag, 1988; Siegel, 1988); c) instructional methods and curriculum materials developed to help teachers promote students’ thinking (Feuerstein, 1980; Lipman, et. al., 1980; Lockwood & Harris, 1985; Raths, et. al., 1986); d) staff development workshops and programs on thinking sponsored by school districts and professional organizations throughout the country (Pressiesen, 1986; Walsh & Paul, 1987); and, e) national and state efforts to incorporate test items requiring higher level thinking on achievement tests and other standardized assessment instruments (Arter & Salmon, 1987). What is strikingly absent in the literature and in programatic reform efforts is an attempt to understand and learn from the work of practitioners. This may be due in part to the consistently bleak portrait of actual classroom practice painted in the literature (Cuban, 1984;
Goodlad, 1984; Hoetker and Ahlbrand, 1969; Sirotnik, 1983). Nonetheless, we know that some teachers do challenge students intellectually (Lightfoot, 1983; Onosko, 1988; Sizer, 1984; Wilson & Wineburg, 1987). How do these teachers approach their work? What are their thoughts and beliefs on ideas and issues related to the promotion of students’ thinking?

**Purpose**

If we are to better understand how to promote thinking in the classroom, we need to learn more about the work of practitioners—particularly from those exhibiting exemplary practice in this area. Over the past ten years research has documented that teachers’ thoughts and beliefs play a crucial mediating role in their classroom practice (Clark & Peterson, 1987; Shavelson & Stern, 1981; Tobin, 1987b; Zeichner & Teitelbaum, 1982). However, research has not focused on the relationship between teachers’ thought and the promotion of students’ thinking. As an exploratory effort we compared the thought of teachers who quite consistently promote students’ thinking (i.e., “high scoring” teachers) to the thought of teachers who do so less consistently (i.e., “lower scoring” teachers). We assumed that certain dimensions of teachers’ thought contributed to the differences we observed in the instructional practices of the two groups of teachers. We also assumed that if we could identify some of the dimensions of thought that differed between the two groups, these differences could provide direction for future research and, more importantly, clues to influencing classroom practice through changing teacher’s thinking about practice.

**Conceptual Framework**

Three areas of teachers’ beliefs and theories were explored: instructional goals, views on the issue of depth vs breadth of content coverage, and conceptions of thinking. Based on previous research and theoretical considerations, brief rationales are provided for selecting these three areas for study. Where employed, conceptual schemes used to guide data collection and analysis are also explained.

Research has documented that teachers’ intentions and objectives play an important role in student achievement outcomes (Brophy, 1986). Therefore, one would expect to find a similar relationship with respect to promoting students’ thinking. That is, the higher the priority given thinking in teachers’ hierarchy of instructional goals, the greater the emphasis given thinking in classroom activities. The plethora of potential instructional goals facing teachers lends support to this assumption. Though not intended as a formal hypothesis, we were curious to see if high scorers placed greater emphasis on thinking as an instructional goal than lower scorers.

Regarding the issue of content coverage, at one end of the coverage spectrum are teachers who emphasize breadth, galloping their learning herd over numerous content pastures at a mind-numbing pace and providing...
students’ with a rather simplistic understanding of a wide range of human experience. At the other end of the spectrum are teachers who emphasize depth, walking their learning herd over a few content pastures and providing students’ with a detailed understanding of a rather narrow range of human experience. Is either approach more likely to promote the development of students’ thinking? The conceptual literature on thinking highlights the importance of thinking skills, dispositions, and content understanding for effective thinking performance (Newmann, 1988a; Nickerson, Perkins, & Smith, 1985). Presumably, time spent developing students’ thinking skills, dispositions, and content understanding will reduce time for content coverage. Some educators have in fact argued that there must be a movement away from content coverage if students are to develop an ability to thinking deeply and effectively about topics and issues (Newmann, 1988b; Sizer, 1984). We were curious to see if high and lower scorers addressed or attempted to resolve the coverage dilemma differently. More specifically, are high scorers less concerned about covering content than lower scorers?

Previous research indicates that teachers possess a variety of theories and beliefs about instruction (e.g., ideas on learning, reading, classroom management, student motivation, discipline, etc.), and, as mentioned above, these theories and beliefs help guide teachers’ instructional practices (Clark and Peterson, 1987; Marland, 1977; Munby, 1983). Presumably, the more elaborate and sophisticated one’s conception of the instructional goal to be pursued (in this case, thinking), the greater the likelihood one will design and deliver thoughtful lessons. The substantial emphasis staff developers of thinking place on developing teachers’ conceptual understanding of thinking supports the above assumption (Newmann, Onosko, & Stevenson, in progress). We wanted to see if high scorers possessed different and/or more elaborate and sophisticated conceptions of thinking than lower scorers.

The framework developed to help analyze teachers’ conceptions of thinking draws upon major distinctions made in some of the scholarly literature on thinking, specifically thinking as dispositions, as content mastery, or as skills. With regard to dispositions, Schrag (1987) has argued that thinking is closely linked to the character traits of reflectiveness and mental flexibility. Other dispositions frequently associated with thoughtfulness include: curiosity to question and explore; an insistence that claims be supported by reasons (and that the reasons themselves be scrutinized); confidence in one’s thinking; motivation; and, a willingness to view an issue or problem from different perspectives. Here are a few excerpts of dispositional language taken from teachers’ conceptions of thinking:

—“I want to develop in students an attitude that nothing is finally closed . . . If that’s skeptical I don’t think it’s skeptical in a negative sense.”

—“A good thinker isn’t afraid if someone challenges a position. A
good thinker is willing to take a look at someone else's hypothesis or theory even if it's 180 degrees apart from his own.

The second component or perspective on thinking highlights the importance of knowledge of subject matter understanding for effective thinking, as suggested, for example, in recent research on expert/novice problem-solving and various information processing models of thinking and learning (Glaser, 1984). According to this perspective, one cannot think in a content vacuum, that is, effective thinking about a problem or task occurs only when one possesses sophisticated understanding of the content to which one's thinking is directed, be it elevator repair or open-heart surgery. Teachers also emphasized content understanding:

— "They can only think when they have enough info to get a detailed picture of an event."

— "Thinking also needs to be tied to a conceptual sense for the whole, an integration of ideas."

Finally, the skills perspective defines thinking in terms that usually transcend specific subject matter (Beyer, 1987). A good thinker, for example, can detect bias, identify a problem, muster evidence, and analyze or evaluate a body of material, etc. Skills can also be construed as domain-specific, for example, legal reasoning in law, or solving proofs in geometry (McPeck, 1981). In short, the skills view states that students must possess a variety of skills, techniques, strategies, and heuristics when approaching a challenging problem or task. Examples of skills language used by teachers:

— "Thinking is determining validity based on reasoning, intuition, and emotional skills."

— "There are five process skills; recall; organization, analysis, synthesis and evaluation."

Methodology

Sample

A sample of 10 teachers were selected from a total pool of 15 teachers from five secondary schools as part of the Higher Order Thinking in the Humanities Project at the National Center on Effective Secondary Schools (Newmann, McCarthy, Onosko, Schrag, & Stevenson, 1988). The teachers are members of social studies departments that have made conscious efforts and progress at emphasizing thinking during instruction. The five schools were selected through a nation-wide search in which 60 promising social studies departments were nominated. The teachers in the pool of 15 are considered by their department chairs to be among the best in their respective departments at emphasizing thinking with students.

Selection of teachers as either high or lower scorers at promoting students
thinking was based upon observational scales designed to capture central elements of thoughtful classroom discourse. Classroom discourse was used as the index of teachers’ effectiveness at promoting students’ thinking because discourse serves as an excellent vehicle to assess the quantity and quality of students’ thinking; that is, one is privy to both the “route” (process) and “destination” (product) of thought (Applebee, 1984; Newmann, 1988c). Second, classroom discourse may be the most accessible evidence of students’ thinking and the most common way teachers engage students in thinking, thereby making it an excellent measure of teachers’ practice in this area. In addition, the mechanics of oral expression are generally perceived by students to be less formidable than the mechanics of writing, making oral discourse easier to generate among students.

The six observational scales are identified below along with a brief rationale for their use in assessing teachers’ efforts at promoting students’ thinking. A 5-point scale was employed on each of the six dimensions of practice, with “1” representing a low and a “5” a high degree of appearance in a lesson. The sample of 10 teachers taken from the initial pool of 15 were selected as high or lower scorers based upon their percentage of lessons receiving a score of “4” or “5” on each of the 6 observational scales. The five “middle scorers” were excluded from the analysis. The six observational skills are:

1. “There was sustained examination of a few topics rather than superficial coverage of many.” Thoughtful discourse is unlikely to occur when subject matter is addressed in a superficial or hurried manner, as students fail to develop understanding of or skilled thinking about the content under study (Newmann, 1988b; Sizer, 1984). Because the cognitive complexity of a task is related to the tasks’ content complexity, teachers need to delimit their field of coverage and explore topics in greater depth.

2. “The lesson displayed substantive coherence and continuity.” Lessons that contain factual and conceptual inaccuracies, gaps in logic and reasoning, inappropriate transitions, etc., are unlikely to contribute to the development of dispositions, skills, and knowledge related to effective thinking.

3. “Students were given an appropriate amount of time to think, that is, to prepare responses to questions.” Research has shown that increased ‘wait time’ results in longer student responses, student-initiated discourse, and more complex and cognitively sophisticated responses (Tobin, 1987a). In addition, wait time helps develop dispositions of reflectiveness and mental flexibility.

4. “The teacher asked challenging questions and/or structured challenging tasks (given the ability level and preparation of students).” By definition thinking is unnecessary unless the task or question posed is challenging (Schrag, 1988). Likewise, thoughtful discourse will not occur in situations that do not require students to think.

5. “The teacher was a model of thoughtfulness.” Effective thinking is as
much a set of attitudes or dispositions one brings to a task as it is a set of
skills or body of knowledge one possesses (Dewey, 1933; Passmore, 1967;
Schrag, 1988). Collectively, these dispositions might be called "thought-
fulness." Teacher modeling of thoughtfulness includes showing an ap-
preciation for students' ideas and for alternative approaches if based on
sound reasoning, acknowledging the problematic nature of knowledge, ex-
plaining how she/he thought through a problem, and, a coherent (rather
than scatterbrain) approach to ideas and issues.

6. "Students offered explanations and reasons for their conclusions."-
Classroom discourse by definition involves teacher and students in language
production and exchange. In addition, thoughtful discourse should involve
students not only in sharing statements (i.e., answers, ideas, and opinions),
but also in sharing the underlying explanations and reasons of these
statements. The frequency with which students provide their reasoning is,
in good part, a function of the teachers' insistence that students do so.

Data Collection

A group of four researchers operating in 2-person teams made 4-day
school-site visits to each school on three occasions (i.e., fall, winter, spring)
during the 1986-87 academic year. Each teacher was observed on nine occa-
sions, except one high and one lower scorer whom were observed on eight
occasions due to personal illness.

Data collection of teachers' thought included teachers' written responses
to open-ended and structured questionnaire items that were mailed one
week in advance of site-visits, and researchers' notes and tape recordings of
interview sessions with teachers. Teachers were interviewed for at least two
class periods (approximately 100 minutes) during each of the three site-
visits, or a total of five-six hours.

When initially contacted teachers were told the study was on higher and
lower thinking, and that we wanted to observe and discuss with them their
efforts in this area. However, teachers were unaware of the specifics of the
study's research agenda, including the use of observational scales. Re-
searchers did not know which teachers from the pool of 15 would comprise
the two groups of teachers, as the analysis of classroom practice to select
high and lower scorers occurred months after the data was gathered.

Data Analysis

In comparing the thoughts of five high versus five lower scoring teachers
we considered group differences exceeding two or more teachers on a given
questionnaire item potentially meaningful (e.g., when four or five high
scorers but only two of five lower scorers cite coverage pressure as a
primary barrier to the promotion of students' thinking). A number of
related questions were asked of teachers regarding each area of teacher
thought probed. If patterns or consistencies emerged in the responses of
high and lower scorers, there was greater confidence that true differences
were being uncovered. Questions posed to teachers are included in the results section that follows.

Results

The two groups are similar with respect to personal characteristics (i.e., % male, years of teaching experience, formal education, job satisfaction), and with respect to important working conditions (i.e., course subject matter, number of course preparations, average class size, and minority composition). Where substantial differences in school conditions do exist, lower scorers tend to have the more favorable situation; smaller total student load (98 vs 132), fewer teaching periods (3.6 vs. 4.6), and more classes comprised primarily of high achieving students (three versus one). These data are surprising, and are not presented to suggest that giving teachers a larger student load, more periods of instruction and a greater percentage of low achieving students will improve classroom thoughtfulness. Rather, they are provided to show that explanations for observed differences in the instructional practices of the two groups need to rely on sources other than the above personal and organizational dimensions of teachers and their work.

Instructional Goals

Most high scorers (four) but only a few lower scores (two) cited “critical thinking and problem solving” as their highest priority goal (see Table 1).

In another query of teachers’ goals we asked high and lower scorers if exposing students to subject matter content is, in general, “more,”

<table>
<thead>
<tr>
<th>Highest Priority Goal</th>
<th>High Scorers</th>
<th>Lower Scorers</th>
</tr>
</thead>
<tbody>
<tr>
<td>—develop critical thinking &amp; problem solving abilities</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>—teach facts, concepts, &amp; theories of history and the social sciences</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>—teach past &amp; present problems &amp; issues faced by the U.S. &amp; World</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>—teach social values &amp; foster citizenship</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>—develop reading and writing abilities</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>—develop creative thinking abilities</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>—develop discussion skills</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>—teach students how to study, take notes and learn</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>—develop self-confidence &amp; self-esteem</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>—other</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>7</strong></td>
<td><strong>6</strong></td>
</tr>
</tbody>
</table>

*Note: some teachers cited more than one highest goal.
“equally,” or “less interesting” to them as “developing students’ thought and reasoning processes.” All five of the high scorers find exposing students to subject matter content less interesting compared to only one lower scorer. A majority of lower scorers (three) find content exposure equally interesting while another finds it, in fact, more interesting than developing students’ reasoning. Interestingly, both groups (four of five) agree that it is more “difficult” to develop students’ thinking.

Differences between the two groups also emerged when teachers were asked what gives them satisfaction as a teacher. All of the high scorers (five) cite as satisfying student behaviors one would associate with thinking (e.g., “seeing students start to make connections,” “seeing students gain a more precise understanding,” “students wrestling with values and making links,” “leading students to grasp concepts/skills,” “teaching students to generalize from data,” etc.), whereas only one lower scorer cited a satisfaction one might associate with thinking—and that rather vaguely (i.e., “touching a young mind”). All lower scorers (five), however, say they derive satisfaction when students are responding in class (e.g., “when students show interest,” “when students are generally responsive,” “the responses of students,” etc.), whereas only one high scorer made a comment indicating satisfaction when students are responding (i.e., “students commenting”).

The rather profound differences between the two groups regarding student behaviors they find satisfying may simply be a matter of semantics; that is, lower scorers may actually mean thinking-type student behaviors when they say they derive satisfaction from responding-type behaviors. Even assuming this were the case (which is not at all clear), responses nonetheless indicate that high scorers identify with greater specificity the kinds of student behavior they find exciting and satisfying, and that these behaviors are more closely associated with acts of thinking.

Similar findings emerged between the two groups when teachers were asked on an open-minded question to identify the kinds of thinking tasks less receptive students are likely to resist. The following thinking tasks are cited by high scorers as most frequently resisted: giving reasons for statements, giving opinions, doing a critical analysis, defending one’s viewpoint, engaging in value reflection, supplying metaphors, using precise language, dealing with abstractions, essay writing, and work requiring extended effort. Lower scorers on the other hand cite activities that for the most part may or may not involve thinking: doing homework, participating in discussion, reading in class, doing vocabulary assignments, anything beyond rote memory, anything without step by step instructions, essay writing, work that is too difficult, and long readings. Again, data suggest that high scorers place greater instructional emphasis on thinking.

The above differences in goal orientation between high and lower scoring teachers are further revealed during an interview session and on a written
questionnaire item when we asked teachers to discuss their instructional goal(s). High scorers’ responses are longer, more elaborate, and place greater emphasis on the development of students’ thinking. In addition, high scorers, unlike lower scorers, hope that students will emerge from their classes transformed in more fundamental, character-like ways.

To illustrate, consider the way one high scorer, Hugh, describes his mission:

Content is a vehicle to teaching critical thinking, though there are certain things you want them to know when they leave economics. No matter what subject, you can get students to think about big issues. I’d like kids to always be questioning, to always be probing. You should always be on the edge, never comfortable, no matter how well you’ve digested the material. I don’t take anything at face value. I never saw a lesson where I went to school where they didn’t know the ‘answer’ at the end of the trail. I want kids to be able to say, ‘Hey, I’m a person, I can think! That’s what I’m all about. I’m supposed to think.’ To think is a hell of a lot better than to know. To ‘know’ can be a dampering experience sometimes because you’re not going to probe anymore, you’ve expended yourself.

Another high scorer, Hilary, places emphasis on perspective-taking as an essential aspect of critical thinking about social and personal value issues. She states:

Until you can begin to at least temporarily put yourself in the other guy’s shoes, even if you aren’t going to end up there, you cannot evolve a set of social values that are good for you or for society. It’s important for students to be able to step into the perspective of another as it enables them to better understand the total situation, and to defend their own position if they still maintain it after perspective taking. The roots of prejudice and discrimination may lie in an inability to see other perspectives in an over-programmed, media-centered world, decisions and solutions to problems are too often ‘made’ for people. Students develop a pattern of letting someone else do their thinking. There is a need to teach thinking so that kids will think for themselves. I try to get students to question and formulate positions to be able to explain and support ideas to see that question-asking is a sign of intelligence not ignorance to get them to know that they don’t know and want to find out.

Except for one member, lower scorers’ responses to the question of instructional goals were generally much shorter and lacked the impassioned elaboration of high scorers—regardless of the goal cited. Some lower scorers simply parroted from the list of goals we offered as examples on the questionnaire. Lower scorers’ responses include the following:
Larry: Teaching critical thinking. Having students make judgments helps to create positive values in students. Teaching problem solving. Finishing the curriculum that has been demarcated for coverage.

Lloyd: Teaching facts, concepts, and theories of the social sciences. Our district is emphasizing the development of discussion skills, public speaking, and things of that nature. We emphasize discussion within a convergent framework in social studies . . . I take my directions more or less from the district . . . they tell us what it is they expect from us . . . now they are moving toward higher level thinking in the curriculum and getting beyond the literal level . . . In my curriculum right now it's not in there but in some curriculums it is being implemented . . . I think it is their responsibility as an administrator to make known to me what is being taught or should be taught.

When taken as a group such responses illustrate high scorers' more consistent instructional emphasis on thinking. High scorers are more likely to identify thinking as their highest priority goal. When asked what gives them satisfaction as a teacher, high scorers identify student behaviors that are more closely associated with acts of thinking. Unlike lower scorers who find exposing students to subject matter content equally or more interesting than developing students' thinking and reasoning, high scorers unanimously prefer the development of thinking over content exposure. Finally, the goal statements of high scorers are lengthier and more detailed, more impassioned, focus more on thinking, and suggest that high scorers desire to affect students in more far-ranging, character-like ways.

**Depth vs Breadth of Content Coverage**

High and lower scorers were asked a variety of questions to elicit their views on the issue of depth vs breadth of content coverage. Taken together, important differences in the thinking of the two groups again emerge.

Though both groups experience a conflict over the issue of content coverage, differences emerged when they were asked to explain the nature of this conflict. Teachers’ responses were categorized as indicating either an internal (i.e., self) or external (i.e., other than self) source of coverage pressure. All of the high scorers (five) cited external sources of coverage pressure compared to only a few among lower scorers (two). For example, high scorers cited the following external sources: state exam, state or district imposed curriculum guidelines, AP course outlines and exams, students’ lack of knowledge, the department head, and colleagues. The few lower scorers citing external sources mentioned the AP program and district curriculum guides.

Results consistent with the above were obtained when we asked teachers to rank in order of importance the following potential sources of coverage pressure: myself; department colleagues; department head; school administration; district tests or guidelines; state tests or guidelines; and, other
Almost all of the high scorers (four) compared to only a few lower scorers (two) identified sources other than themselves (i.e., external sources) as the primary cause for their coverage pressure.

In another query teachers were asked to consider all facets of their working situation, including features of school and classroom organization, curriculum and instruction requirements and guidelines, students, the administration, etc., and then identify the three factors that most inhibit the promotion of students' thinking. Here, again, almost all of the high scorers (four) compared to only a few lower scorers (two) identified content coverage pressure (e.g., state exams, district guidelines, state guidelines) as a primary factor inhibiting their efforts to promote students' thinking.

Differences are also observed in their attitudes toward the coverage-driven U.S. History Advanced Placement course. To succeed on the exam, "AP" holds students (and indirectly teachers) accountable for understanding a vast sweep of history. Of the five teachers having taught AP courses, four were lower scorers and one a high scorer. All four lower scorers felt the AP course "supported" the promotion of students' thinking whereas the high scorer felt it "inhibited" his efforts in this area. Similar findings emerged at the one school in the sample that administered a breadth-oriented state exam; that is, the two high scorers claimed the state exam inhibited a thinking emphasis whereas their lower scoring colleague found the exam to be supportive.

We also asked teachers to explain the nature of their coverage conflict and how they attempt to resolve it. Responses support the above findings that high scorers are more likely than lower scorers to view coverage pressure as externally imposed and deleterious to their teaching efforts with respect to thinking. In addition, teachers' responses here indicate that high

### Table 2

<table>
<thead>
<tr>
<th>Internal</th>
<th>High Scorers</th>
<th>Lower Scorers</th>
</tr>
</thead>
<tbody>
<tr>
<td>myself</td>
<td>1</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>External</th>
<th>High Scorers</th>
<th>Lower Scorers</th>
</tr>
</thead>
<tbody>
<tr>
<td>department colleagues</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>department head</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>school administration</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>district tests or guidelines</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>state tests or guidelines</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>other: AP Exam</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

TOTAL 6* 5

*One high scorer cited 2 primary sources of pressure (i.e., district guidelines and state tests).
scorers generally attempt to resolve the conflict in the direction of less coverage compared to lower scorers by carefully selecting and prioritizing topics, ideas, and issues for study.

Harold, a high scorer, experiences coverage pressure from state curriculum guidelines and the state exam. He states:

I do not preoccupy myself with finishing the curriculum. Instead, I attempt to teach whatever I teach well and select classroom topics and materials very carefully . . . I don't emphasize content coverage. It's ludicrous to attempt to cover 100 years of history in a month or two. I focus on concepts and ideas. The problem with most school courses is that they are survey courses that are homogenized.

Hans, another high scorer, underscores the state's curriculum guidelines as creating a "monumental" coverage conflict in his 9th grade social studies course. Yet, Hans describes his overall coverage orientation as "tending toward depth in a moderate way." He also offered a half-jest, half-truthful reason for why he experiences less coverage pressure than most teachers:

One of my big advantages as a teacher is that I don't know much. I know a few general principles. I don't know much to tell the kids so I always ask questions. I don't remember any anecdotes so I don't have much to say. And that's one of the things that makes me a good teacher. The more a teacher knows, the more important it is that the teacher have an effective pedagogy to hold the information in restraint.

Hans' colleague and fellow high scorer, Hanson, argues that teachers' attempts at broad coverage are doomed to failure since "... the amount of knowledge in the world has doubled in the last eight years. So I see my job as enabling students to be 'good thinkers.'" He points out that the depth versus breadth conflict is really not the issue as:

... you could survey all of American History in a boring, non-critical, non-thinking way or you could focus the whole 18 week semester on the causes of WWII in a boring, non-thinking, non-critical way. Just going into depth doesn't necessarily mean you're teaching kids to think.

For Hanson the central issue is whether or not one emphasizes critical thinking:

Your commitment to promoting thinking governs your choice of curriculum . . . When I plan curriculum I side on the depth side of the conflict by leaving a lot of things out. I select materials which is representative of particular concepts and generalizations I wish to develop. I hope that the thinking skills developed with these representative selections will be transferred to other examples . . . I think you can teach almost anything in a critical way, in a way that gets kids thinking—but it takes time.
Turning to the responses of lower scorers, Lisa, also experiences breadth of coverage pressure, particularly in her AP course:

There is a comprehensive exam given the second week in May covering all the material from the 1600's to the present. This puts tremendous pressure on my classes to move through the material quickly.

Yet, when asked how she would attempt to resolve the coverage conflict if the AP course did not "impose" a curriculum of breadth, Lisa, unlike high scorers, still sides toward breadth:

If I had to make a choice I would choose coverage because it is perhaps their only experience and probably a concluding experience with history. I really feel an obligation to at least expose them to some of the pressing issues of our time. Not to get to the 1950's and 1960's, the Cold War...is unconscionable...I think it is more important that they get exposure and that has to sacrifice depth...I want them to get as much exposure as I can, you know, shove it down their throats.

Lisa's comments reveal an internal source of coverage pressure of at least equal magnitude to the external pressure imposed by the AP curriculum guidelines. Regardless of the coverage mandates dictated by the AP course, Lisa's resolution of the dilemma indicates an allegiance to exposing students to a vast array of material rather than exploring material with students in greater depth.

Larry, a colleague of Hugh and Harold, admits that the state curriculum guidelines and the state-wide exam "require you to teach in breadth rather than depth." He goes on, however, to identify positive aspects of the exam; "...it provides a framework for the curriculum and keeps you responsible as a teacher." Similarly with his AP course, Larry states that "the breadth requirement can inhibit thinking" but then goes on to identify positive aspects; "it sets a framework for learning and provides another form of evaluation." According to Larry the ever-impending AP final exam has other positive effects as it leads him to administer harder tests and to assign more writing and more difficult readings. The net effect is that the AP exam "supports" rather than "inhibits" thinking. When asked why he couldn't demand the same rigor in another course with the same high achieving students but without the coverage pressure of the AP format, Larry states that he just wouldn't do it knowing that test results no longer weigh in the balance. Larry's notion of teaching success and intellectual rigor is more closely tied to test scores and content coverage than his high scoring counterparts. He therefore does not feel the same kind or intensity of frustration high scorers feel over externally imposed coverage mandates.

Lou began by emphasizing the importance of chronology and how "students should know how things fit together and have a sense for time and place when analyzing a question, event, etc." The conflict is an internal
one for Lou, as on the one hand he feels “the most important learning occurs when I focus on something in greater depth” yet he also has “a commitment to having kids see the connecting cords in history.” Lou does not highlight external sources of coverage pressure, but his unwillingness to give up chronological understanding and the breadth of coverage it implies aligns him with his fellow lower scorers on the issue of content coverage.

**Conceptions of Thinking**

As was the case with goals and content coverage, analysis of teachers’ conceptions of thinking reveals important differences between high and lower scorers. Two representative conceptions of thinking from the high and lower scoring groups are summarized below to illustrate these differences.

Because many of the ideas and principles guiding teachers’ practices are implicitly understood and are therefore difficult for teachers to articulate (Clark & Peterson, 1987), we used several questions to elicit information on teachers’ conceptions of thinking. The two most direct questions were:

—Do you have a conception of thinking that guides your teaching? If so, summarize its main aspects.

—Consider your best thinkers, what distinguishes them from other students?

The first question asks teachers directly to explain their conception. The second question, an indirect probe, assumes that a teacher’s conception of the good thinker is closely related to his/her conception of thinking. Other questionnaire items that happened to elicit elements of teachers’ conceptions of thinking were included in the analysis.

Beginning with high scorers, Hugh, primarily uses dispositional and skills language when articulating his conception of thinking. Content is “a vehicle to teaching critical thinking,” though Hugh emphasizes “there are certain things you want them to know” when they leave a course. Skills that receive mention include the ability to “understand, analyze, and manipulate data . . . and generalize readily from data.” Thinking also involves the ability to “understand the relevance of data to a central theme under discussion,” or to “formulate conclusions, hypotheses, and subject some to criticism,” or, finally, to “relate learnings to their own life experience or to current affairs.” At one point Hugh refers to thinking as “a skill that lies dormant” in most students, and that “some get beyond this and creatively use their ‘newly-acquired’ tool.” Hugh states that when he started teaching over 20 years ago he was “very ‘fact oriented’ but Bloom’s (1956) model made me see more types of questions.” Though acknowledging the importance of Bloom’s taxonomy for his development as a teacher of thinking, he qualifies this by emphasizing that “I am more a product of my 21 years in the field.”
The core of Hugh's conception of thinking, however, is to be found in the language of dispositions. For Hugh, thinking involves deriving “great satisfaction” whenever “intuitive leaps” are made, or “inferring without being asked to do so,” or “diligent preparation” and a willingness or desire to “tackle problems beyond the homework assigned.” Hugh contrasts the good from the dogmatic thinker in the following way:

A good thinker isn’t afraid if someone challenges a position. A good thinker is willing to take a look at someone else’s hypothesis or theory even if it’s 180 degrees apart from his own, rather than a dogmatic knower, someone who knows dogma. Most kids think they’re suppose to be dogmatic because they think the teachers are. They’re modelling themselves on teachers who they think are dogmatic.

Hugh is suggesting here that good thinking involves an attitude or willingness to have one’s ideas challenged, and to explore ideas antithetical to one’s own. In addition, Hugh indicates that a disposition of intellectual skepticism is important for thinking:

I’d like kids to always be questioning, to always be probing. You should always be on edge, never comfortable, no matter how well you’ve digested the material... don’t take anything at face value.... I want kids to be able to say, ‘Hey, I’m a person, I can think! That’s what I’m all about... To think is a hell of a lot better than to know.

Hans sees thinking (and instruction) as a three-part model; “design mind,” “active mind,” and “critical mind.” As will be seen, this model closely parallels the content, dispositions, and skills conceptions of thinking used to frame this analysis. “Design mind” refers to the importance of content, of “creating curriculum that will allow students to see organized patterns in the content.” Approaches to thinking that lose sight of the importance of structuring content so that students can “relate parts to the whole” are in Hans’ view, “mindless.” “Without content, without a goal or problem to be solved,” thinking (and the instructional activity) has “no meaning or purpose.”

“Active mind” refers to the need to making thinking “an active experience for students.” In other words, for quality thinking to occur there must be “student involvement... minds that are actively engaged at all times.” Hans’ discussion here enters the language of dispositions. Other dispositions are suggested when he describes the best thinkers as those who “are always looking for the truth,” and those who “consider other alternatives.” For Hans the “highest goal of the natural thinker, whether he be five or 55, is the synthetic building of an organized viewpoint, the making of a world view.” Dispositional components are further revealed when he discusses the antithesis of good thinkers; that is, “psuedo-intellectuals” and
"devil’s advocates." The former, Hans describes, as those who “name drop” and use “proper speech” but don’t really say anything, while the latter “ridicule others’ comments,” announce “points of logical inconsistency” without further purpose, and “use their minds for personal gain and competitiveness.”

“Critical mind” is “the actual thinking part, the tasks students are to perform.” He is quick to distinguish his notion of “critical” from that of “reflective skepticism,” as the latter perspective “ends up with clever skeptics and devil’s advocates.” For students to “truly analyze something” they need “alternative conceptions or views to use and look at in the critique process.” Hans says it is not enough to “simply analyze something and critique or breakdown, the students should be engaged in construction or reconstruction as well.” In other words, analysis must involve not only “a critique but also a defense of a position.”

Skill language emerges during his discussion of critical mind, specifically Bloom’s cognitive skills of recall, comprehension, application, analysis, synthesis, and evaluation. Hans does not see Bloom’s skills as hierarchical, and wonders if “Bloom has been misinterpreted.” He argues that “the complexity of the task at each level” should determine whether or not the task involves higher order thinking; that is, “synthesis or evaluation are not always more difficult than application or analysis.” Nor does Hans believe skills should be taught directly or in isolation as suggested by many in the thinking skills movement. Hans feels that thinking activities not tied to the primary goal of understanding subject matter are “mindless.” Finally, Hans takes issue with the view that thinking about a topic must begin with “recall” level activities. The following comments address this claim, and concisely capture his overall conception:

Low level kids spend years on recall because ‘they still don’t know enough’—BS!! . . . All learning and thinking should begin with high level questions . . . When students are actively pursuing whole, meaningful tasks, they will naturally use all the skills in Bloom’s taxonomy . . . we must effectively encourage students to naturally use and polish the various thinking skills in the process of completing an activity. All that they learn should help them construct an increasingly complete, detailed, precise, and organized view of the world they live in.

Turning to conceptions of lower scorers, Larry, a colleague of Hugh’s, offers a fairly brief conception of thinking but one that includes content, skills, and dispositional language. Larry points out that thinking requires a “good knowledge base.” Thinking skills include the ability to “inquire,” “challenge certain points,” “make judgements based upon the analysis of data,” “utilize various social studies skills in making judgements, for example, interpret maps, cartoons, charts, and understand historical passages,” “understand films in terms of social context,” “interpret data,” and
“organize ideas.” Finally, Larry alludes to dispositions when he suggests that good thinkers “display good judgment,” “and look things up if they don’t understand” (presumably implying dispositions of curiosity and/or motivation) and a “willingness to maintain beliefs if in the minority.”

Lloyd, another lower scorer, also offers a fairly brief conception of thinking that primarily employs dispositional and skills language. Lloyd highlights several skills: “ability to connect seemingly unrelated ideas,” “ability to communicate,” “categorize or group things,” “use application skills,” and “interpretation, categorizing, sequencing . . . analysis . . . and evaluate the facts.” Lloyd mentions that he has read Norris Sanders’ (1966), Classroom Questions: What Kinds, and finds that “it is useful because you can thumb through the book for his hierarchy and see some applications of the questioning techniques.” Though Lloyd did not summarize Sander’s hierarchy, it is reasonable to assume he knows it because many of the skills he mentions are also used by Sanders (i.e., interpretation, application, analysis, evaluation). Lloyd’s concern for dispositions emerges when he defines intelligence as “curiosity and eagerness and ability to connect different ideas.”

Reviewing teachers’ conceptions of thinking, one senses important differences between the two groups. In terms of quantitative fluency, summaries of high scorer’s conceptions of thinking averaged 47 lines of text compared to 19 for lower scorers (see Onosko, 1988 for details). These differences did not result from exhaustive statements of a few high scorers; most high scorers (four) offered rather lengthy and detailed conceptions (compared to only one lower scorer). Though both groups use content, skill, and dispositional language to articulate their conceptions of thinking, high scorers more frequently mentioned different dispositions and thinking skills. In addition, the conceptions of high scorers include points of clarification and subtle but important distinctions between their own views and possible alternative conceptions—features not found in lower scorers’ discussions of thinking. For example, Hans challenges the notion that Bloom’s cognitive skills should be viewed hierarchically, and Hilary argues that “intellectual curiosity” should not be equated with “inherent cognitive capacity,” and Hanson asserts that the development of students’ thinking should not be divorced from the development of students’ values. The statements of high scorers also reveal a close connection between their conception of thinking and their highest instructional goal of promoting students’ thinking. This last difference will be discussed at greater length below.

Discussion

This exploratory study of teachers’ thought about instructional goals, the coverage dilemma, and conceptions of thinking found interesting and potentially important differences between teachers scoring high and low at
promoting thoughtful classroom discourse. Lower scorers tend to emphasize content acquisition as their primary instructional goal whereas high scorers view content more as a vehicle to promoting thinking. Stated another way, thinking is incorporated into lower scorers’ content mission, whereas high scorers place thinking as the central focus with content understanding a valued outcome. Lower scorers prefer to expose students to ideas and issues, whereas high scorers prefer to explore ideas and issues with students in greater depth.

It is therefore not surprising that lower scorers in their discussion of the coverage dilemma tend toward greater breadth than high scorers given their primary instructional goal of content exposure and acquisition. Conversely, high scorers’ emphasis on thinking and content exploration leads them to view breadth of coverage more negatively, to identify their source(s) of coverage pressure as externally imposed, to voice greater objections to this pressure, and to resolve the coverage dilemma in the direction of greater depth than lower scorers. Recalling for a moment high scoring Hans’ statement that the more a teacher knows the more important it is that one possess “an effective pedagogy to hold that information in restraint,” findings from this study suggest that the goal of thinking may serve as an important restraint on teachers’ impulse toward exposition and coverage.

There appear also to be linkages between teachers’ goal statements and their conceptions of thinking. High scorers not only place greater emphasis on thinking as a goal than lower scorers, they also offer lengthier, more detailed, and more elaborate conceptions of thinking. More importantly, the character-like changes high scorers state they would like to effect in students when discussing their goals reappear in the form of dispositions when conceptualizing thinking. For example, high scoring Hilary’s primary goal of cultivating in students a willingness to explore the world of another before arriving at a decision (“It’s important for students to be able to step into the perspective of another as it enables them to better understand the total situation, and to defend their own position if they still maintain it after perspective taking.”) reappears as a disposition when she discusses her conception of thinking and the good thinker. Links between goals and conceptions are also to be found with respect to three of the four remaining high scorers. Lower scorers, on the other hand, apply dispositional language when discussing their conception of thinking but not when discussing their instructional goals.

To conclude, study findings lend support to previous research that highlight a connection between teachers’ thought and practice. The study design did not permit the inference that teachers’ thinking on general issues directly “causes” their thinking and practice in specific lessons. Nonetheless, findings indicate that it may prove beneficial to engage teachers in reflection on goals, conceptions of thinking, and the coverage dilemma.
Endnotes

1. The procedure used to score teachers as either high or low at promoting thoughtful classroom discourse is explained below in the methodology section.

2. For example, in the field of social studies Newmann (1977) cites 8 goals or approaches with respect to "citizenship education" alone.

3. For further discussion of thoughtful classroom discourse and the assessment of thinking using observational scales see Newmann (1988d), Schrag (1987), and Onosko (1988).

4. Inter-rater reliability among researchers using Pearson correlations across all lessons observed finds agreement well above .80.

5. Meaningful effect sizes (i.e., more than 1 standard deviation) emerged between the two groups on each dimension of practice except "giving students time to think." See Onosko (1988) for details.

6. All high scorers' names will begin with the letter "h" as in "high", while lower scorers' names will begin with "l" as in "lower".

7. Teachers' responses are either direct quotes from taped interviews or written summaries from researcher's notes. Researchers' notes capture the ideas expressed but may not represent the teachers' comments verbatim. Whenever possible efforts were made to return to the audio-tapes to check for response accuracy.

References


Newmann, F. M., Onosko, J., & Stevenson, R. (in progress). Staff development for higher order thinking: A synthesis of practical wisdom. Contact authors, National Center on Effective Secondary Schools, University of Wisconsin, Madison, WI 53706.


Critical Thinking: Schemata Vs. Skills

Allan R. Brandhorst
University of North Carolina-Chapel Hill

Abstract

Critical thinking is analyzed from a phenomenological perspective. The thesis that critical thinking is not a skill is advanced. An alternative thesis, that critical thinking is a restructuring of schemata, is advanced. Implications of an information processing perspective on the teaching of critical thinking are discussed.
outgrowth of two decades of work on the conceptualization of critical thinking skills has been the publication of a number of tests and a curriculum for the direct teaching of critical thinking skills (Ennis, Millman, Tomko, 1985; Harnadek, 1976; Harnadek, 1980). Current work in social studies on critical thinking seems to be following this newer tradition.

The social studies have a major stake in the outcome of this change in direction. In light of the public’s increasing concern for evidence of skill mastery in public education programs an assertion by social educators that critical thinking is a skill might lead to a day of reckoning when the public demands demonstration of skill mastery. If critical thinking is a skill, and the methods and techniques advocated are effective for teaching that skill, then social educators should move ahead with the development and dissemination of relevant instructional materials. If, however, critical thinking is not a skill, then social educators should quickly disavow this new direction as an untenable approach to effective social education.

The critical thinking as skill paradigm has been repeatedly challenged (Mishler, 1979; McPeck, 1981; Cornbleth, 1985). The essence of the arguments presented center on the domain dependence of critical thinking. It has been argued that critical thinking occurs within the constraints of particular knowledge domains, and does not readily transfer to other knowledge domains. This argument calls into question the utility of teaching critical thinking skill as an independent curricular component, because it would have no applicability outside the domain in which it was learned. As this argument has been presented effectively elsewhere it will not be repeated here. The rejection of the skills approach to critical thinking however, does not resolve the issue of definition. We are still left with the question; if critical thinking is not a skill, what is it? The answer is important to our profession. Without a more adequate theoretical foundation, it is difficult to conduct a systematic program of research on methods for fostering critical thinking.

This paper offers an answer in two parts. First, from the phenomenological perspective of Edmund Husserl critical thinking is considered in relation to its groundedness in a situation and in relation to the intentionality of the critical thinker. Secondly, from the hermeneutic perspective of Martin Heidegger, critical thinking is considered in relation to Heidegger’s modes of engagement. Following these analyses, a metaphor for critical thinking drawn from cognitive science, particularly schema theory and Tulving’s model of multiple memory, will be offered as a tool for reflection on the dynamics of critical thinking. Finally, instruction for critical thinking will be discussed in light of the foregoing analyses and the cognitive science metaphor.

The Phenomenology of Edmund Husserl In Relation to Critical Thinking

A science of phenomenology was proposed by Husserl at the turn of the century in an attempt to set up a science of consciousness with claims to ab-
solute knowledge in contradistinction to naturalistic psychology. Husserl realized that there were inherent flaws in the application of the methods of natural science to the immaterial phenomena of consciousness (Jennings, 1986). Because consciousness had no physical being, naturalistic psychologists could only approach consciousness indirectly through behavior, which could be studied experimentally. Husserl proposed a science of phenomenology to complement naturalistic psychology by exploring the essential nature of consciousness. Accordingly, phenomenological studies had to precede experimental research and lay a groundwork by establishing the ‘essences’ of acts of consciousness.

Critical thinking as a phenomena emerges from a condition of consciousness of a logical contradiction. As such, any study of critical thinking must begin from an examination of the essence of the act of consciousness which gives rise to critical thinking. On an informal basis I have posed critical thinking problems (for example, the Ennis-Weir Critical Thinking Test) for undergraduate and graduate students, and then asked them to talk about how they knew a statement constituted an error in logic. The most frequent response has been that the error was felt. If the subjects in my informal inquiries have been honest with me, and can report reliably on their states of consciousness, then the essence of consciousness which gives rise to critical thinking must be an affect. At first glance this assertion seems odd, but we will return to this later.

Husserl’s argument was that ‘the quintessential property of consciousness is intentionality.’ ‘Every act of consciousness... is always directed toward, or pointing toward some object’ (Jennings, 1986). Thus, it is not possible to be conscious, except as being conscious of something. Given this directionality of consciousness, it is conceivable that for an individual at a given point in time the directionality of consciousness is inattentive to logic or rationality, because it is attentive in another direction. This is a very important issue in a phenomenological understanding of critical thinking, with profound implications for education for critical thinking; more on that later.

The issue of intentionality has entered contemporary social science literature under the term ‘frame’ (Goffman, 1972). Erving Goffman proposed the concept of frame as a phenomena which organizes direct whole life experience episodes (social contexts, roles, cultural mores). In Goffman’s view the frame which has been activated at any given point in time places limits and interpretations on the reality which is perceived.

Goffman’s treatment of frames leads to the notion that frames are activated by experience, but most often remain in the preconscious as a kind of background to conscious awareness. They impose limits on the range of behaviors the actor will exhibit during the framed episode, but those limits often operate outside of consciousness. Thus a frame is activated by perceptual experience of the environment (a magic show, for example). The frame for a magic show includes the non-logical expectation that discrepant events
will occur, but it is ‘okay’ if they do. This is like a suspension of rationality within the magic show frame, or at least an intention to accommodate events which are non-rational. Of course this raises the question, are there other frames in which the suspension of rationality is ‘okay’?

The evidence for the existence of rational and non-rational frames is available all around us in everyday life. Certainly such phenomena as impulse buying, the popularity of television viewing, risking one’s life in combat, spending money on original art when perfect copies are available, falling in love, or having children and raising a family, at a cost of tens of thousands of dollars in expenses incurred and opportunities foregone, stretch the credibility of the purely rational model of humanity. Herbert Simon addressed this problem (1957) and concluded that humans are both rational and social. More recently, the question of rational-logical humans as assumed by the psychological models used in economics have been called into question (Tyler, Rasinski & Griffin, 1986). The implication is that sometimes human beings function rationally, and sometimes they function non-rationally. Therein arises the need presumably for training in critical thinking.

The problem that immediately arises with regard to critical thinking is this: If critical thinking begins from a feeling that some events in the perceptual field are not logical, the implication is that critical thinking can only begin under those circumstances when the individual has an intention to view the world rationally. It is only under those circumstances that irrationality can be felt as a problem requiring solution. The enormity of this problem for training critical thinking becomes apparent when we view it from the hermeneutic perspective of Heidegger.

The Hermeneutics of Heidegger in Relation to Critical Thinking

Heidegger’s hermeneutic phenomenology is an investigative approach developed specifically for the study of human action (Packer, 1985). Following Husserl, Heidegger formalized Husserl’s phenomenology by proposing three modes of engagement, the ready-to-hand, the unready-to-hand, and the present-at-hand. These terms refer to radically different ways the individual relates to the world, and focus on the quality of consciousness.

The Ready-to-hand. For Heidegger, all knowledge arises from practical activity. Thus individuals are involved on a daily basis with the on-going practical projects of living in the world, and knowledge arises out of that involvement. The individual’s interaction with the environment under these conditions is labelled the ready-to-hand mode of engagement. Heidegger describes this mode of engagement as a kind of integration of the actor with the situation. As Heidegger characterizes the ready-to-hand, the objects with which the actor is involved have ‘withdrawn’ as entities, and are experienced in the field of awareness in a means-ends functional sense.
The Unready-to-hand. Heidegger's second mode of engagement, the unready-to-hand, arises for the individual out of a difficulty encountered in that individual's on-going activity. Heidegger frequently used the example of a carpenter using a hammer. In the course of using a hammer, the carpenter and the hammer are in a sense integrated in the flow of activity. The hammer is not sensed, that is, it has withdrawn from the scope of awareness. This is the ready-to-hand mode of engagement. However, if the handle of the hammer breaks, the problem causes a shift to the unready-to-hand. Now the hammer is sensed as an element in the situation that is salient, because it has become problematic.

A moment's reflection should lead to the recognition that the unready-to-hand corresponds to the feeling of non-rationality from which critical thinking emerges. An individual who is engaged in a flow of communication (auditory or written) which 'fits' somehow as a rational pattern (more on this later) suddenly experiences an interruption in the flow of meaning because part of the communication doesn't fit. This is the experience of the unready-to-hand in critical thinking.

The Present-at-hand. Heidegger's present-at-hand mode of engagement only occurs when the actors turns to the newly salient problem object (the broken hammer or the illogical statement) and begins to reflect upon the nature of the problem. In the case of the hammer the carpenter must reflect on the nature of the hammer as a form of machine, which allows the user to bring more force to bear on a point by changing the potential of the individual to accelerate the head of the hammer. The carpenter does not necessarily need to know the physics of the hammer's operation reflectively, but he or she will need to know the principle intuitively. Such intuitive knowledge may be associated with past experience in trying to use the hammer head to drive a nail while holding the hammer head in the hand. Of course, this will not work as effectively, because the handle of the hammer is the means for changing the capacity for acceleration. The carpenter without a knowledge of physics can pick up this intuitive knowledge from experience. However, he or she is unlikely to invent an innovation of the hammer, such as the ax, which brings more power to bear by lengthening the handle.2

In the situation of critical thinking, the present-at-hand is the reflective process whereby the critical thinker analyzes the nature of the illogical or non-rational statement.

Heidegger's modes of engagement provide a useful framework for thinking about the complete phenomena of critical thinking, grounding it in a situation. However, the Heidegger model also points up the problem with training for critical thinking. From Heidegger's perspective the unready-to-hand can occur in response to an illogical statement if the individual is engaged in the communication process. However, if the individual is not engaged, that is, he or she is a passive observer, then it is unclear whether
critical thinking can occur, because there can be no unready-to-hand mode of engagement with regard to the rationality of the verbal communication.

When we consider training for critical thinking in relation to the prevalent source of information in our society, the television, it becomes clear that critical thinking is unlikely for many television viewers, because they are not engaged with the rationality of the communication, but rather are passive observers. The problem with training for critical thinking thus becomes the problem of the engagement of the individual with the context in which he or she is to exercise critical judgment. But how is this to be achieved? How do educators who wish to foster critical thinking train their students to become engaged processors of the rationality of media communication, rather than passive observers? As B. F. Skinner has observed, passivity is a pervasive problem of a structural nature in western society (Skinner, 1986).

There is also a serious problem for research on critical thinking. Apparently, empirical research on critical thinking is irrelevant unless it begins by focusing on the intentions of the subjects. It is only by beginning with inquiries into what subjects are trying to do in the behavioral situation that researchers would be able to ascertain how the subjects are engaged.

An Information Processing Metaphor for the Process of Critical Thinking

The problem of engagement appears in the information processing literature as attention. For information processing theorists, the environment is too rich in stimuli for the mind and consciousness to absorb in its entirety. Information processing theories assume limited processing capacity, so that stimuli must compete for space in the channels which transmit signals to consciousness. Only the winning stimuli reach consciousness.

We have now redefined the problem of engagement as a problem of competition for channel space, and in the case of critical thinking, this means that the logic flow must compete successfully with other information in order to become salient in consciousness. Here the information processing models of mind can offer some intriguing prospects for disentangling the issues associated with the ground rules of the competition.

Memory Systems and Information Flow

Endel Tulving (1986) has proposed a complex of nested subsystems for describing memory. Tulving proposes that three related memory systems constitute what we normally consider long term memory. The first of these, procedural memory, is the storage repository for stimulus-response connections, many of which regularly operate outside of consciousness. Thus, the ability to walk is a consequence of a body of stimulus-response connections stored in procedural memory. The act of walking proceeds automatically, without conscious attention to decisions about which leg to move and how fast to move it. Much of our day to day activity is carried on by using the
contents of procedural memory as a control system. When we are so engaged, we are in Heidegger’s ready-to-hand mode. Much of television viewing may be of this nature, particularly if the programming is predictable and offers no surprises. The phenomenal success of television reruns testifies to the power of this modality to provide individuals with some satisfaction, and it is worth recalling McLuhan’s observation that the medium is the message. In hermeneutic perspective this means that the viewer may be engaged with the medium, not with the content of the medium.

The second memory system, semantic memory, is a nested subsystem of the procedural memory. The semantic memory stores abstracts of patterns that have passed through the information processing channels. Presumably, semantic memory can store patterns that underly intuition. Such patterns do not have to have a connection to consciousness, but they are put to use and operate outside the realm of conscious awareness. One of the tasks of semantic memory is to filter the stimuli coming from the environment, and to chunk it so as to turn it into information.

The semantic memory may have a major role in controlling attention. Presumably, we cannot consciously notice those elements in the stimuli field for which semantic memory cannot construct a chunk. This is another way of saying we normally process information, not raw stimuli, to consciousness. And the range of information corresponds to the contents of semantic memory. We will need to return to a discussion of these contents, but first we must consider the third memory system.

The third memory system, the episodic memory, is a subsystem of the semantic memory and is nested in the semantic memory. The episodic memory is a record of the information that has passed into consciousness. Accordingly, it stores feeling and intensity and all of the other elements associated with conscious experience. And it is available for a playback subject to the intensity associated with its prior existence in consciousness, and the time lapse between the original experience and the playback. A playback of episodic memory corresponds to what Bruner calls the narrative mode of thought (Bruner, 1984); the use of an episodic memory playback corresponds to what Luria calls relational-contextual thinking (Luria, 1975).

Episodic memory is central to the process of reflection, because reflection, being conscious, is always a playback of something from episodic memory. The process of reflection, however, can bring intuitive constructs from semantic memory into consciousness, and this process may correspond to Heidegger’s unready-to-hand. Under this mode of engagement, we can consciously experience the intuitive pattern from semantic memory which has become salient. An implication of this mode of engagement is that the channel capacity is now fully occupied by the information about the intuitive pattern, as structured by semantic memory. In other words, attention has been focused upon the intuitive pattern.

Once this has happened, however, the intuitive pattern is transformed,
because it has now been brought to consciousness, and can enter episodic
memory. For those readers who prefer a left-brain, right-brain paradigm,
perhaps this process corresponds to building a bridge between the right (in-
tuitive) hemisphere, and the left (reflective) hemisphere; and language may
be the key tool for bringing about this reflective process, by providing a
structure in the left hemisphere.

We are now ready to return to consideration of the semantic memory.
Once reflection on conscious experience has linked intuitive constructs in
semantic memory with reflective constructs in episodic memory, the informa-
tion processing channel controls in semantic memory can be brought
under the control of consciousness, and attention can be deliberately
directed. Of course it will be directed at that information from the stimulus
field which has a reflective correspondent. This may be the essence of con-
centration. The implication here is that concentration can be directed only
at that information which has a reflective correspondent.

**The Structure of Semantic Memory**

Semantic memory as Tulving describes it is a schematic structure of pat-
terns corresponding to regularities that have been perceived in experience.
The playback of episodic memory is a part of experience, and accordingly,
regularities arising from episodic memory playbacks may produce patterns
in semantic memory. This may be the bridge which allows for the creation
of a semantic memory of abstractions. Thus, episodic memory-based ex-
periences can lead to an intuitive sense of patterns, which patterns are
stored in semantic memory where they can begin to structure information
from the environment. Reflection on that new information from the en-
vironment can transform the intuition of the abstraction into a conscious
awareness of the abstraction as a 'thing'.

Abstractions are most often relationships or systems, which would be
represented in semantic memory by schematic structures which bridge
across both hemispheres (presuming that they have passed through the
reflective process). Reflective thought about relationships or systems in-
volves playing back for consciousness the episodic memory traces of the
semantic memory structures as previously experienced in consciousness.

**Critical Thinking and the Memory Systems**

When we experience a flaw in the logic of a communication we have a
case of a mismatch between the information coming in from the environ-
ment, and the schematic structure of semantic memory. The new informa-
tion doesn't fit the existing pattern. There is a flaw, and this is what we
notice. We then replay from episodic memory the flawed information in
order to reflectively examine it. We have entered the unready-to-hand
mode.

In this mode we can determine that the information is wrong and reject it;
or we can conclude that the information is probably right and we have
flawed understandings of the world. Determining that we have a flawed understanding of the world leads up into the present-at-hand, where we must restructure our understanding of the world as stored in semantic memory.

If the reader has been attentive to this point it should be apparent that we still have not resolved the question of attention, or engagement. I shall attempt to do so now. In order to experience a flaw in the logic of a communication we must be engaged in the process of matching the incoming stimuli against schematic structure. But the only stimuli that is so matched, and accordingly channeled to consciousness, is stimuli for which there is appropriate schematic structure in semantic memory. Accordingly, different people watching the same television newscast may be channeling or attending to vastly different parts of the stimuli field. For example, in the case of political press releases, only those people who possess the appropriate schematic structure can notice the logic flaws in a proposed policy position and become critical viewers. These people have been referred to in the literature as political schematics (Markus, 1977). The others are called aschematics, a misnomer because they are merely using different schemata and running different information through their channels. The implication here is that critical thinking becomes dependent upon prior learning, and that learning must be semantic in nature.

Retracing my steps, the final issue here is an account of why a logic flaw is first noticed as a feeling. The answer proposed here is based on the fragmentary research on endorphins and their relationship to the brain.

The mind and the brain are marvelous phenomena which we are only beginning to understand. One of the most profound lines of research on mind-brain relationships concerns the nature of endorphins, or natural brain opiates. Apparently, endorphin receptors are distributed throughout the brain, as metaphorically, keyholes on the surface of brain cells. Endorphins, a kind of chemical manufactured in the brain, fit into those endorphin receptors, and are apparently the source of the experience of pleasure in all of its manifestations (Herkenham & Pert, 1980; Hooper & Teresi, 1986; Panksepp, 1978; Pert & Snyder, 1973). They could, in a metaphoric sense, be considered brain m&m’s. Drug abuse is addictive because the drugs are synthetic endorphins which flood the brain with pleasure. Endorphins and endorphin receptors, however, exist for a functional reason. A slight drop in endorphin activity in the brain can be felt, and all feeling may be associated with changes in endorphin activity.

The feeling which alerts a person to a flaw in logic may be due to a drop in endorphin activity because of an alteration in the smooth flow of electrical activity through a schematic structure. From this perspective, the feeling which alerts one to a flaw in logic depends upon the engagement of the schematic structure which corresponds to the communication in which the flaw is embedded.
Building Critical Thinking Curricula to Accommodate the Attentional Problem

The major problem in the operation of critical thinking is the engagement of the attention of the individual with the logic structure of a communication. Accordingly, the solution to the problem of education for critical thinking should be sought in the cognitive dynamics which predispose an individual to engagement with the logic structure of a communication. We want the individual to approach the processing of communication from a ready-to-hand which is centered on the logic structure of a communication. One way of viewing this problem is to consider the kinds of things in a communication which can distract individuals from attention to logic. Two different kinds of possible distractions surface here. One is the superior attractiveness of some other stimuli pattern; the other is the existence of too many terms in the communication which are devoid of meaning.

Human beings attend to many different kinds of stimuli in their environment. A review of the work of institutions dedicated to persuasion, such as advertising, demonstrate that in a practical sense, visual communication displays centered on sexually attractive models or the human face are highly effective, as are aesthetically attractive or ominous sound patterns (music or interesting voices), and episodes which evoke fear. All of the aforementioned communication patterns, and others, are non-logical, and compete for space in the information channels with the logic of a communication. The edge in this competition usually goes to the non-logical stimuli. The evidence for that assertion is ever present on the television screen, in the content of commercials for soap, beer, and presidential candidates. The power of these kinds of communication patterns to displace the logic of a communication has been repeatedly demonstrated, most recently by the presidential election campaign of 1988.

Yet, this power is not pervasive. Many people were repelled by these strategies, because they perceived the lack of substance, and illogicality, of the campaigns. The logic structure of the communications apparently moved through the information channels to consciousness, and was felt to be flawed. A reasonable presumption, and one that can be readily tested empirically, is that those people who were repelled by the campaign were also those who had more adequate politico-socio-economic schematic structure in semantic memory, and accordingly could function as critical thinkers.

The other possible distraction from the logic of a communication can be labelled the empty term phenomena. Human beings process language by building meaning structures from the meaning of individual words. If too many words in a communication have no meaning for the auditor, it is impossible to build a semantic structure from the communication. This constitutes a distraction on the basis of the decline of competence experienced by the auditor. The verbal communication is tuned out, leaving the channels free to process the visual pattern.
If these presumptions are correct, the key to the education of citizens for critical thinking must rest at least partially, and perhaps primarily, upon the development of a reflective understanding of politico-socio-economic terms, relationships and systems. The effectiveness of such a basis for critical thinking could be explained in terms of a superior capacity for chunking information based on more elaborately networked schemata; with more effective chunking, the logic of a communication would not require as much channel capacity, and accordingly could slip through to consciousness.

Conclusions

If this metaphor for the phenomena of critical thinking is supportable by research, many of the curricular materials for critical thinking currently on the market may be irrelevant to their ostensible purpose. Given the urgency of the need for a populace capable of critical thinking, and given the increasing costs of public education, extensive research based on a phenomenological paradigm of critical thinking is warranted.

There is a pressing need for studies to establish or repudiate the validity of this model of critical thinking. Only through a careful program of research can a solid foundation for critical thinking curricula be established. Whatever the outcome of that research, professional educators will have a more adequate bases for curricular decisions.

Endnotes

1. Goffman’s notion of a frame may come to mind. However, there are differences between the concept of frame and the concept of the ready-to-hand. A frame is a particular perception of a situation, habituated by the individual. As such it is a schematic structure in memory which is evoked in a particular situation to imbue that situation with meaning. Heidegger’s ready-to-hand is more a level of awareness, and thus general, rather than a situational specific phenomena.

2. An interesting aspect of the present-at-hand is its accessibility or lack of accessibility to people, depending upon their cultural experience. A classic documentary film of twenty years ago, *The Sky Above, the Mud Below*, detailed the experiences of a group of anthropologists studying a stone age tribe in New Guinea. They showed the tribesmen how to use their ax to speed up the process of cutting down trees for canoes (the tribesmen had been burning the trees at the base to free them from the ground). The tribesmen took to the ax, and used it effectively, but when the handle broke, they discarded it, because ‘the magic was gone’. The foregoing illustration may suggest that the ability to move from the unready-to-hand to the present-at-hand progressively improves as one moves up a hypothetical cultural ladder. This assumption, however, misses the point. The unready-to-hand is always related to the present-at-hand in terms of a culturally
defined context, because the present-at-hand always operates as a culturally embedded explanatory theory of how the world works. Thus, a westerner has no privileged access to the theoretical structure of a social institution like couvade in a non-western culture, and accordingly it seems bizarre.

References


Teacher Conceptions of History

Ronald W. Evans
College of Education
University of Maine

Abstract

The central purpose of this exploratory investigation is to describe and analyze teacher conceptions of the meaning of history. The study also explores factors which may shape teacher conceptions of the meaning of history. Data collection included survey and interviews. Data were analyzed using content analysis of fieldnotes, frequency analysis and crosstabulation of survey questionnaires. Patterns and themes which emerged were then developed into composite teacher typologies. Teacher typologies included five conceptions of history: the storyteller, the scientific historian, the relativist/reformer, the cosmic philosopher, and the eclectic. Teacher conceptions of history seem related to teacher ideology and to pedagogical orientation.

Teacher Conceptions of History

We are presently in the midst of a national revival of concern over the teaching of history in the schools. Diane Ravitch, an educational historian at Columbia University, Lynne Cheney of the National Endowment for the Humanities, California schools chief Bill Honig, and former U.S. Secretary of Education William J. Bennett, among others, are calling for a revival of history taught as history, chronologically (Ravitch, 1987). However, the current revival of concern is failing to address many of the underlying questions which have kept the teaching of history in the schools in a perpetual state of crisis.

What conceptions do teachers hold of the meaning of history? What conceptions do they have of the purposes of historical study, of patterns in history, of its generalizability? The central aim of this investigation is to explore teacher conceptions of the meaning of history, the relationship between teacher conceptions of history and teaching style, and background factors which may influence development of teacher conceptions.

Correspondence: Ronald W. Evans, University of Maine, Shibles Hall, Orono, Maine 04469-0121
On the Status of History in Schools

Though history has lost its monopoly over the social studies curriculum, United States and world history have remained the two most frequently taken social studies courses (Downey, 1985). Concern over the status of history in the schools is nothing new. The middle 1970s witnessed an outpouring of public comment about history instruction and the problems that plagued it. Writer after writer predicted the demise of history as a separate subject (Mehaffy, 1982). The peak of concern was expressed in a report by Richard Kirkendall (1975) of the Organization of American Historians. Kirkendall declared that history was in a "state of crisis" because of declining history enrollments in the colleges and a trend away from history courses in the schools. In a 1977 survey on the status of the social studies, Gross reported that the number of high schools offering U.S. History dropped from 73 percent in 1961 to 53 percent in 1973 (Gross, 1977).

Though the 1970s reports of history's demise may have been exaggerated, many factors have combined to create an ongoing crisis. Student attitude problems have traditionally plagued the teaching of history. Students describe many history courses as boring, lifeless, and non-pragmatic. They complain about history's lack of relevance and protest its status as a required course (Morrissett, Hawke & Superka, 1980). Debate over the reasons for low student interest in history has been confined mostly to assertion rather than research or extended explanation. One noted historian accepted the view that history was irrelevant (Donald, 1977). Another attributed the lack of interest in history to neglect of the larger humanizing function of history in favor of increasingly narrow specialization (McNeill, 1976). Others attributed history's problems to poor teaching (Fite, 1975; Krug, 1978; Wesley, 1967). Probably the most frequent explanation has been that much of the history taught is a compilation of myths about the past, irrelevant to the needs of minorities and too political, not sufficiently cultural or social (Hertzberg, 1980).

Despite such episodic bursts of concern over the teaching of history in schools, we should not mistakenly assume that history is a subject in danger of being displaced, for it is not (Downey & Levstik, 1988). However, the fact remains that many students fail to gain much historical knowledge, fail to grasp the significance of our past, and fail to derive meaningful learning from their exposure to history in schools (Ravitch & Finn, 1987). If history is to play an important role in the education of citizens, its meaning deserves extensive attention, especially conceptions of its meaning held by teachers.

Research Related to Teacher Conceptions

Despite the large amount of research on the social studies and history, scholars have devoted little attention to objectives, goals, or purpose. Historically, social educators have addressed objectives indirectly through debates over content and method. This resulted in a body of literature that
was more assertion than research, leaving the social studies curriculum without clear objectives, purpose or definition (Barr, Barth, & Shermis, 1977). Recent studies indicate that a relatively stable sequence of social studies courses is offered throughout the United States. Within these courses, however, objectives may vary according to textbook or teacher preference (Shaver, Davis & Helburn, 1979; Superka, Hawke & Morrissett, 1980; Wiley, 1976). Among other factors, disagreement over the role and function of the social studies seems to preclude the clear definition of objectives. Social studies objectives are difficult to define and highly subject to proliferation (Gross, 1977). These findings underscore the complexity and confusion in the field and help to explain the minimal attention to objectives in the research literature. Yet, it is precisely this area, ill-defined and poorly researched, that is in need of direct attention.

Several strands of research point to teacher conceptions as a crucial variable guiding curriculum decisions. Brophy and Good (1974) argue that it is the teacher’s belief system or conceptual base that is of most importance in shaping curricular decisions. Another study has noted the place of the teacher at the heart of the teaching process (Shaver, et al., 1979). Thus, a teacher’s conception of the meaning of history may shape his or her curricular decisions.

The teacher’s conceptual base is also influenced by cultural knowledge. Cultural knowledge includes beliefs, values, expectations, mental models, and formulas used in generating and interpreting classroom events. A recent study by Anderson-Levitt (1987) showed that cultural knowledge shapes teacher decision-making. Spindler (1987) found that teacher cultural knowledge guides successful classrooms interaction. Thus, cultural factors may also shape teacher decision-making.

The growing body of research on teacher knowledge seems relevant as well. Research on teacher knowledge has focused on three kinds of teacher knowledge: subject matter knowledge, pedagogical knowledge, and curricular knowledge. As Shulman notes, research on teacher cognitions has fallen short in the “elucidation of teachers’ cognitive understanding of subject matter content and the relationships between such understanding and the instruction teachers provide for students.” (1986, p. 25) As Feiman-Nemser and Floden suggest, teacher knowledge is “actively related to the world of practice,” and “functions as an organic whole, orienting her to her situation and allowing her to act.” (1986, p. 513)

In one of the most important and relevant studies of teacher knowledge to date, Elbaz distinguishes three levels of practical knowledge: rules of practice, practical principles, and images. Images capture the teacher’s knowledge and purposes at the most general level, orienting his/her overall conduct rather than directing specific actions. “The teacher’s feelings, values, needs and beliefs combine as she forms images of how teaching should be, and marshalls experience, theoretical knowledge, and school
folklore to give substance to these images." (1983, p. 134) Images mediate between thought and action, they guide teachers intuitively, inspiring rather than determining their actions.

Research on teacher perspectives has explored similar terrain, examining the purpose and context of particular teaching acts. Goodman and Adler (1985), in a recent study of elementary teacher perspectives on social studies, found six major conceptualizations of social studies expressed through their informants' beliefs and classroom actions. These included social studies as non-subject, as human relations, as citizenship indoctrination, as school knowledge, as the integrative core of the elementary curriculum, and as education for social action.

Recent studies by Wilson and Wineburg (1987; 1988) focusing on history teachers' knowledge of subject matter and wisdom of practice have found that disciplinary perspective and depth of background have a profound impact on what history teachers teach, and how they execute their craft. Further, they suggest that knowledge of subject matter is central to teaching but not the sole determinant of good teaching.

Results of my own previous fieldwork on conceptions of history suggest that teacher conceptions of history vary; student conceptions are poorly formed; teacher conceptions shape the transmitted curriculum; and, student conceptions may be influenced by their teacher's conceptions (Evans, 1988a). These findings imply that teachers could devote more explicit attention to the lessons of history, and that more research is needed to clarify conceptions of the meaning of history and their impact on the educative process.

The aim of this study is to further clarify teacher conceptions of the meaning of history. For purposes of this study, the meaning of history was defined to include four kinds of informant conceptions. First, I examined informant conceptions of the purposes of historical study and valuations of its usefulness. Second, I explored conceptions of patterns in history, informant beliefs on progress and decline. Third, I examined the degree of generalization with which informants were comfortable. And, fourth, I investigated informant conceptions of the relevance of history, the relation of historical data to the present. Though the breadth and depth of the data collected for this illustration may prohibit generalizable conclusions, it should be sufficient to generate grounded theory on conceptions of history, their possible impact on teaching style, and their relation to teacher background. This sort of grounded theory could provide a set of theoretical constructs based in practice, portraits of teacher thinking which might prove very useful to beginning and experienced practitioners. It may help us in our effort to understand what we are about.

Method

The study combined survey and interview data. Based on a previous exploration of teacher and student conceptions of history (Evans, 1988a) and a
review of the philosophy of history (Evans, 1988b), a survey questionnaire was developed and mailed to all secondary school history teachers in six counties of central and eastern Maine (n = 160). The primary purpose of the questionnaire was to generate potential interview subjects. The breadth of the sample was intentionally limited to areas relatively close to the researcher’s base. The questionnaire asked about teachers’ concepts of history and personal background. Content validity was assessed by an independent judge and revised after two trials. Background items asked about years of teaching experience, undergraduate major, level of educational attainment, semester hours in history, political affiliation and point-of-view, gender, and religious affiliation. The questionnaire also asked for volunteers to participate in subsequent interviews. Data from the survey (71 questionnaires were returned) was analyzed for patterns of teacher response and preliminary teacher typologies were then developed. Teacher concepts of history were then cross tabulated with background information to determine patterns of teacher background which may relate to teacher conceptions of history.

Thirty interview subjects were then selected from the survey respondents who volunteered to participate in brief interviews. Though the sample was largely self-selected, subjects were selected from volunteers based on survey responses and geographic proximity. Interviews with each informant lasted approximately 50 minutes and probed teacher conceptions of the meaning of history (including the purposes of historical study, patterns in history, generalizability, and relevance), a description of the informant’s teaching style, and teacher perspectives on the origins of their conceptions. For example, interview questions included: Tell me a few of your thoughts on the purposes for studying history? Are there patterns in history? To what extent can we reliably make comparisons across time and space? Tell me a little about your teaching? What shaped your ideas about history? After each general question, similar questions phrased in a different manner were often asked, for example: What is history for? In addition, category probes were often used. On teaching method these included: textbook? lecture? discussion? other methods? Quotations from teacher interviews are verbatim in the text. Interview transcripts were summarized and paraphrased as necessary in charts, though, where possible, original wording was retained.

Data analysis began with a frequency analysis and a preliminary development of teacher typologies. Survey responses were then scored 0-6 for each respondent on each typology. Teacher typologies were then cross tabulated with teacher background data. Teacher typologies were subsequently revised and developed in greater detail, drawing on interview data as a source for description of teacher conceptions of history. Interview and survey data were then combined to develop a comprehensive portrait of each teacher’s conception of the meaning of history. Informants were selected for inclusion in interview summaries on the basis of survey scores.
Despite the researchers' best efforts, the study has several limitations which may limit generalizability. First and foremost, the intent of the study is to describe teachers' conceptions of history with the aim of developing typologies that reflect various approaches. The study is not designed to generate a random sample which will reflect the status of teacher conceptions in a generalizable way. Given the plethora of teaching deemed typical, and the voluminous research documenting its constancy, the author believes we can learn more from the diverse and the extraordinary. Second, the researcher relied on volunteers only, thus further restricting the generalizability of the sample. Reliance on volunteers was deemed necessary in order to find willing interview subjects who would openly discuss their thoughts on history and its meaning, but may make this a rather select group of research subjects. Perhaps the teachers who volunteered were those who felt comfortable answering questions about their teaching. Third, the findings reported here are based solely on interview and survey data. Though classroom observation would considerably enhance the findings, the central aim of this phase of the research project was to concentrate on teacher conceptions of history. Though the findings reported below may not be generalizable, the author believes that they are somewhat representative of what might be learned from a larger, more generalizable sample.

Results

Based on data from the teachers studied, conceptions of history, its purposes and meaning, seem to vary. This confirms the findings of my earlier study (Evans, 1988a). Though teacher conceptions of history are not completely distinct, most teachers studied tend to fall into one of five broad categories or typologies: storyteller, scientific historian, relativist/reformer, cosmic philosopher, or eclectic. These typologies, based on teacher conceptions of history, combine an approach to pedagogy and an epistemology. The dominant factor seems to be a conception of purpose. Each category emphasizes a distinctly different conception of the purposes for studying history. Though conceptions of purpose range from gaining knowledge to changing the future, these are not exclusive categories. Most teachers studied possess elements of more than one typology, though most also displayed a dominant tendency, similar to favoring one hand over the other. The following overview will highlight the characteristics of each typology.

Storyteller

Eight of the 71 teachers, or 11.3% of the sample, fit the storyteller model. Storytellers emphasize fascinating details about people and events and suggest that knowledge of other times, people, and places is the most important rationale for studying history. Each of these teachers runs a teacher-centered classroom in which teacher talk is dominant, and storytelling is a common mode. Generally, they suggest that we should emphasize the study
of people and events to help our students grasp knowledge of basic facts and a sense of time.

In looking for a comparable theoretical model, the storyteller typology resembles the analytic idealist philosophy of history. The idealist does not explicitly address questions of meaning, instead arguing that the events of the past are unique and that it is the historian's role to comprehend the unique particularity of past events, to explain through rich detail, in short, to tell a good story. Thus, the central purpose for studying history is to gain cultural knowledge, or to pay tribute to our predecessors. Because events are unique, no patterns exist. Generalizability is nil. We study history because it explains who we are, it gives us clues to our identity. Thus, the idealist history teacher can fulfill the ubiquitous purpose of explaining "what man is." (Collingwood, 1946) Currently in vogue among historians, this approach to history does little to illuminate the process of historical explanation, its relationship to ideology, or the significance of past trends or events. It is history writ small.

The storyteller typology is apparent in the following quotes (on purposes for studying history) from teachers interviewed:

Studying history is one way we establish our identities; can't establish one's identity without having contact with the past. (John)

It's not so much that I try to tell the student anything, it's that I try to make it interesting for them . . . I try to teach by storytelling. Like in ancient historic times I suppose the first teachers were the storytellers and when parents wanted to get rid of their kids for awhile, maybe there was some guy that liked to sit around telling stories and had little kids listen to him and it worked. And it works for me. I can turn almost anything into a story. (John)

With age and being exposed to more and more material, you can turn what has happened into story form. In other words, you make it interesting, you don't try to justify it, you make it interesting. (John)

Knowledge is the mark of being an educated person. (Paula)

History is an escape. It's fun. It's like a giant soap opera. I talk about events and the kids love it because it's a story, and that's what history is. (Susan)

I think that, you know, really down deep, digging right into the soul here, that if a person does not know their background, that they are not a whole person; they're missing something and so I think it's very important that a person know their background, where they have been and maybe even paying tribute to those who have preceeded us. Their lives were worth something . . . Maybe it's a thing of honoring past ancestors and their accomplishments. (Charles)
Figure 1 provides further detail on each of these teachers' conceptions of history. On purpose, all four suggest that knowledge of history is part of becoming educated, a key element necessary to understand ourselves. This conception of purpose is consistent with the theoretical model described above. On pattern, these teachers seem to be split. Two see historical events as unique while two see some overarching patterns to history. They also seem to differ on the generalizability of history. Thus, these teachers seem not to fit the theoretical model in their beliefs on pattern and generalizability, or, rather, to fit it only partially. However, in their teaching style, all four fit the storyteller mode. Each mentions telling stories, often, it seems, as a means of making history come alive for students, and all four seem to rely on heavily teacher-centered methods of imparting knowledge of history.

Background data on these teachers suggests that the origins of the storyteller typology may be traceable to early experiences with historical novels and movies, parental influence, a fascination with stories, or an interest in ancestors. When asked to describe their political leanings, all four of these teachers described themselves as moderate conservatives. A crosstabulation of survey data on the larger sample also suggests that storytellers tend to be political conservatives. Five of eight storytellers identified themselves as right of center, as either conservative or moderately conservative. All four also have a relatively high concentration of semester hours of study in history, ranging from 39 to 90 and averaging 70 semester hours of study in the discipline of history. Other interesting findings: three of the four identify a religious affiliation; and, survey data shows a slight tendency for beginning teachers to focus on a content orientation (66% of those teachers with five years of experience or less were either storytellers or scientific historians).

Though it may be impossible to make any definitive statements on the factors which may have shaped these teachers into storytellers, it seems that a tendency toward political conservatism and a strong background in the discipline of history are relevant factors. The teaching of history is shot through with ideological assumptions. Thus, a storyteller's approach to the teaching of history may develop from the interaction of an ideological base, a conception of history and its uses, and practical classroom experience. Each of these teachers has found that storytelling is an approach that works.

Scientific Historian

Thirteen of the 71 teachers surveyed or 18.3% of the sample fit the scientific historian model. These academic types suggest that historical explanation and interpretation makes history most interesting and argue that understanding historical processes and gaining background knowledge for understanding current issues are the key reasons for studying history. The
<table>
<thead>
<tr>
<th>Purpose</th>
<th>Susan</th>
<th>John</th>
<th>Charles</th>
<th>Paula</th>
</tr>
</thead>
<tbody>
<tr>
<td>History is an escape. It's fun. It's like a gigantic soap opera. I talk about events and the kids love it because it's a story, and that's what history is. What it's for is to better understand ourselves. History touches everything in our lives...past events color how we think today, they color how we act, how things will be in the future.</td>
<td>History is one way that I believe we establish our identities; can't establish one's identity without having a contact with the past. It's not that I try to tell the student anything, I try to make it interesting. I teach by storytelling. It makes it easier for them to remember material. You don't try to justify it, you make it interesting.</td>
<td>If a person does not know their background, they are not a whole person...it's very important that a person know where they have been and maybe even paying tribute to those who have preceeded us...honoring past ancestors and their accomplishments. It also helps you mature as a person.</td>
<td>I was always interested in the facts and in learning about people, especially ancient people. Knowledge is the mark of being educated. We study history to know more. The book might mention people and what they did, but I tell them stories about their personal lives and it makes it more interesting for them.</td>
<td></td>
</tr>
<tr>
<td>Pattern</td>
<td>I think that everything happens over and over in different time frames. It's rather like the little circles you made in penmanship class...It isn't always the same, but pretty much it's a cycle of build up, level off and decay.</td>
<td>I think that there would be some kind of pattern, of course. There always seem to be conflicts. I teach a world history course and stress Hegel's definition of history, that history is the unfolding of man's struggle for freedom.</td>
<td>If there was a pattern it would be very small, very minute because history has changed...everyone is different, society has different ideas. I would almost go to the point of saying there is no pattern. Each time period is unique.</td>
<td>I think that each era is unique, but it all evolves together, so I think that you can look at each one differently. It's all wrapped together, one period led to the next. But, you have to look at each event for what it is...unique.</td>
</tr>
<tr>
<td>Generalizability</td>
<td>You can't be real general...you've got that</td>
<td>You can generalize...for example, Americans have</td>
<td>Only in a very general sense. You always have</td>
<td>Generalizations can give you a feeling for an era.</td>
</tr>
<tr>
<td>Teaching Style</td>
<td>I basically talk to the kids. I lecture a lot and I tell a lot of stories because I think history is fun. Tell a story and turn it into a movie, turn it into technicolor... and it makes people more real, and makes the book more real, makes it come alive.</td>
<td>The way that I teach is maybe the oldest way of teaching. I teach by storytelling. If you visit my class you'd see a teacher centered classroom. I am the center and everything comes from me. That doesn't mean I'm the sole arbiter of ideas.</td>
<td>Sometimes you've got to spoon feed them while other times you don't have to. I like to lecture. You've got to be almost like an entertainer. Start talking about reform movements and the class is snoring away. Talk blood and guts and its great.</td>
<td>You can generalize about any subject, but it's more important to get a feeling for an era. I think it is possible to take certain events from the past and look to the future.</td>
</tr>
<tr>
<td>Teacher Background</td>
<td>I always liked to read historical novels, which is a good way to learn history... it was just my way of escaping. I was a voracious moviegoer. Another way of escaping. I was not around a lot of other kids.</td>
<td>I was always fascinated with history. Always. I mean preschool. My mother would read me King Arthur stories so I had a concept of knights in armor and it was long ago. I'm a genealogy bug and I've got loads of ancestors.</td>
<td>In school history was a favorite course of mine. I liked to see what my ancestors had done. My father liked history, he has history books, and served in the Navy in World War Two.</td>
<td>My father used to talk about history. He used to sit down and talk about people in history and he would pick up my books and he would see a different side of it than I would and we would sit down and discuss it.</td>
</tr>
</tbody>
</table>
scientific historian suggests that in teaching history we should emphasize a mix of uniqueness and similarities among people and events, and that it is most important for students to gain insight into historical generalization and process skills of historical inquiry.

These teachers’ practical philosophies resemble the analytic positivist philosophy of history. This group of historians see history as a form of scientific inquiry and tend to borrow methods from the natural sciences. Generally, they call for rigorous reliance on evidence and critical attention to primary sources so that historian and student may objectively attempt to discover truth. They see history as generalizable but disagree over the existence of universal laws. For the most part, they see no pattern in history, but do have faith in the existence of probabilities, generally sharing at least some agreement with the idea of progress. The scientific historians are united in their desire to make history more scientific, more objective. First popular among 19th century historians, the scientific mode probably had its greatest impact on history teaching through the New Social Studies movement of the 1960s and early 1970s with its focus on inquiry and use of primary sources.

The scientific typology is apparent in the following quotes from teacher interviews:

Kids have to know where we’ve been before so they can see why we do things the way we do, why things are the way they are today and to understand what changes could be made. I think that just as a matter of culture, of passing on culture... you have to have at least a nodding acquaintance with these general gross tendencies and trends and the names and the people from history. (Steve)

I don’t try to put words in their mouths at the end of it all. I don’t finish with a flourish and tied neatly for them; I’d rather leave them question-ing... more questions, more questions, fewer answers, fewer answers. It’s hard for teenagers to accept though, because they want answers and every once in a while, we’ll try to come to a conclusion, but I want them to test their hypothesis again and again and again and again. We write in that style; we hypothesize, we don’t know in microns. Some teachers wouldn’t find that comfortable, I’m sure. (Eric)

Right from the beginning in any level course I teach, I make it real clear that... that there are the facts, and that your interpretation of them is yours and... that theirs is as valid as mine at any level and I encourage them to, you know, challenge and confront the book and to confront me and to put things in their own order, and often at the beginning of the year I’ll ask some question which is interpretive and then read two totally different answers and try to get them to under-
stand that both answers are valid as long as they’re supported, as long as they’re based upon evidence. (Rusty)

In my years of teaching I’ve only had a couple of kids who were real aware of my political persuasion . . . I usually make it to the end of the year and they don’t know whether I’m a Democrat or a Republican . . . We work hard on understanding that everybody has a position and they are entitled to that, but, I think it’s part of my job to keep my opinions right at home. (Rusty)

We study history to understand the present, how we got here and the choices that have been made. We need different historical perspectives on questions like why our state tends to be economically depressed. (Sally)

Figure 2 provides more detail on these teachers’ conceptions of history. On purpose, all four discuss skills common to the historian’s trade. Three mention analytic or research skills, and all four mention perspectives or competing views or interpretations. A central element of these teachers approach to history is their attempt at scientific neutrality or objectivity. Though all four see some patterns in human history, several seem reluctant to discuss patterns as more than trends. Rusty exemplifies the general tone of providing different theories and letting the students decide. Though each of these teachers suggest that generalizations may be of some use, all four expressed caution about the limits of analogy and their reliability. This lack of comfort with generalizations is in keeping with the theoretical model developed above. In fact, the scientific philosophers of history developed as a critique of speculative systems which were regarded as indefensible. The teaching style of each of these teachers exemplifies use of competing interpretations, the teacher as guide rather than arbiter of truth, and emphasis on thinking about important questions from history. Each attempts a rather transparent objectivity by posing open-ended questions for students.

Interview data from each of these four teachers suggests the importance of professors of history in shaping the thinking of each teacher. Three of the four directly mention their professors’ emphasis on competing interpretations, on using evidence, on providing different perspectives. Generally, this emphasis belies a process orientation centered on the skills and issues discussed by historians. This group’s orientation seems to have been shaped more by formal study and less by family. Their political orientation stands in sharp contrast to that of the storytellers. Three described themselves as liberals and the fourth as a moderate liberal. Survey data on the larger sample of scientific historians suggests that this group tends to be left-of-center or centrist politically. Eight of the thirteen teachers in this category described themselves as either radical left (one), liberal, or moderately liberal, while only three were right-of-center. Perhaps an orientation
<table>
<thead>
<tr>
<th>Purpose</th>
<th>Rusty</th>
<th>Doug</th>
<th>Eric</th>
<th>Sally</th>
</tr>
</thead>
<tbody>
<tr>
<td>Right from the beginning I make it real clear that there are the facts, and that your interpretation of them is as valid as mine . . . and often I'll ask some question which is interpretive and then read two totally different answers . . . both answers are valid as long as they're supported by evidence. History puts things into larger context.</td>
<td>History helps you to understand events as they develop in the world, to know the historical background and to gain a long-term perspective. I think by delving deeply into a time period or an issue you develop some analytical skills and some research skills that will serve you in any thing you want to study.</td>
<td>I don't try to put words in their mouths at the end of it all . . . I'd rather leave them questioning . . . It's hard for teenagers to accept though because they want answers . . . I want them to test their hypothesis again and again. History broadens the mind. It gives us a common vocabulary so we can communicate.</td>
<td>We study history to understand the present, how we got here and the choices that have been made. We need different historical perspectives on questions like why our state tends to be economically depressed. Historical understanding is necessary for us to make good decisions today.</td>
<td></td>
</tr>
<tr>
<td>I don't teach “this fulfills a pattern.” I try to give them a questioning framework and let them decide. I tell the kids about different theories. I think the human condition is pretty consistent. All those potentialities are there for progress or . . .</td>
<td>I think of history more as trends than patterns. I can see issues developing out of events of the past and those patterns are ongoing. I think there are patterns to a degree. There may be something to the rise and fall of great empires . . .</td>
<td>I am a devotee of the Schlesinger thesis, the cycle thesis. We have cycles and patterns that are worth studying. They give a semblance of hope to those that would like to see a return to a more caring, more thoughtful style of government.</td>
<td>There have been patterns of growth, then decline. Empires rise and fall . . . Each era has a flavor . . . they aren't totally different and the people involved aren't totally unique.</td>
<td></td>
</tr>
<tr>
<td>Each time period has unique qualities. I try to</td>
<td>I think there are time periods that are similar,</td>
<td>Hard to do that. Hard to do that. A.J.P. Taylor</td>
<td>You really can't generalize. Comparisons can be made</td>
<td></td>
</tr>
</tbody>
</table>
I don't lecture. I try to get maximum involvement from the students. We do simulations and I have the kids have debates. We did a simulation the other day that I designed on the strike at the mill. My overall format is chronological. Its primarily a pretty wide open discussion kind of history class. I don't do a lot of lecturing. I ask questions...I use conflicting quotes as a lead in to get the kids thinking and then expand on that. We get into different interpretations. I use a variety of methods. Some kids like to discuss, some kids don't. I mean really discuss, not just say yes or no. I don't lecture. I'd rather pose questions from the material, have them answer and do my best to make everyone aware...

I make controversial statements about the past like, "Hitler didn't do anything wrong," to see how they react. I don't like textbooks... We use student research, mock trials, projects... I give them a framework and they choose.

<table>
<thead>
<tr>
<th>Teaching Style</th>
</tr>
</thead>
<tbody>
<tr>
<td>I don't lecture. I try to get maximum involvement from the students. We do simulations and I have the kids have debates. We did a simulation the other day that I designed on the strike at the mill. My overall format is chronological.</td>
</tr>
<tr>
<td>Its primarily a pretty wide open discussion kind of history class. I don't do a lot of lecturing. I ask questions...I use conflicting quotes as a lead in to get the kids thinking and then expand on that. We get into different interpretations.</td>
</tr>
<tr>
<td>I use a variety of methods. Some kids like to discuss, some kids don't. I mean really discuss, not just say yes or no. I don't lecture. I'd rather pose questions from the material, have them answer and do my best to make everyone aware...</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Teacher Background</th>
</tr>
</thead>
<tbody>
<tr>
<td>I worked with professors in graduate school who were very good. They made me confront the facts, be more disciplined and more organized and wouldn't let me get by with the easy answers... but they all allowed me to make my own judgement.</td>
</tr>
<tr>
<td>I've always enjoyed history, from the time I was a little kid. In high school it was dismal and boring but in college I had a course that got into all the different controversial aspects of history and different issues and things.</td>
</tr>
<tr>
<td>Professors, in lectures, made more of an impact than the material that they required us to read. The style I have today is probably based on that idea, that I'd rather talk history than labor over reading it unduly.</td>
</tr>
</tbody>
</table>

In college I began to question things. I had one professor who made history fascinating by providing different perspectives. My interest in history goes back to grade school. I remember reading biographies.
to teaching that emphasizes students reaching their own reasoned conclusions rather than an appreciation for ancestors is more in keeping with a liberal political ideology.

Another interesting fact about this group, three of the four stated no religious affiliation. Perhaps this reflects a lack of strong commitments, or, a scientist’s attempt to remain detached from moral questions. Whichever may be the case, this fact seems to somehow fit the general world view of the scientific typology. Finally, all four of the teachers cited above have a very strong background in the discipline of history. Though they range from 30 to over 100 semester hours, their average, 78 hours, is highest among any of the groups studied.

Though it may be impossible to make any generalizable statements about the background factors which have shaped each of these teachers conception of history as a form of scientific inquiry, it seems that they were strongly influenced by their disciplinary background and seek to emulate the historians they have known. It also seems reasonable to suggest that their religious and political orientation generally provide an ideological backdrop in which fostering certain beliefs in their students is seen as less important than providing evidence and letting students reach their own conclusions. In any event, these teachers have found that the spirit of inquiry, the spirit of questioning, when played out in their classrooms, serves to stimulate student interest, activity, and thought.

Relativist/Reformer

By far the largest category, 32 of the 71 teachers surveyed, fit the relativist/reformer typology (45.1% of the sample). This group emphasizes relation of the past to present problems and suggests that history is background for understanding current issues. Generally, these teachers endorse developing lessons from history to guide current decisions, and argue that tentative laws are possible and must be developed and examined in light of evidence. While stressing the similarity of people and events the relativists suggest that it’s most important for students of history to grasp the relevance of history to the present.

These classroom teachers are similar in stance to the analytical relativist philosophers of history who will serve as a theoretical model for this typology. Analytical relativists argue that every aspect of historiography is infected with pre-conceptions, thus, scientific objectivity is impossible. These historians argue, as Charles Beard once did, that history represents “contemporary thought about our past” and that no historian can describe the past as it actually was. Historians of this group, from the progressives to the new left, are predominantly social reformers holding an explicit vision of a better world which guides much of their work. Many of the relativists among the teachers studied hold a similar vision of social justice, of a reformed society.
The following quotes illustrate the relativist/reformers’ conception of the purposes for studying history:

My approach is to teach kids what history can teach us about our own situations. It is likely that they’ll have to make important decisions throughout their life, or they’ll react to certain feelings, resentments...so I really use historical process to teach basically why America is in the mess it’s in. I try to show them where this all comes from; how this all got started and why we are sort of still stuck with it. (Warren)

I think if you can draw attention to the fact that this country has made enormous mistakes, people have handled themselves poorly in almost every respect, partly because they’re human beings and partly because of ignorance and partly because they’re greedy...but if you can draw attention to that, then I think you get them on track and looking at it and thinking about it and questioning what’s happening now. (Warren)

I see history as very much a dialectical process. I mean I have to admit there’s a very, in my world view, a very Marxist sort of premise there and I do see processes through class and economic struggle but I think we can broaden that. I think there are a lot of struggles out there...I think history teaches us about...the great triplets, militarism, racism, and economic exploitation. (Warren)

I think, mainly, it’s relating the past to the present...I try to draw parallels, things that happened before, then try to apply them to what’s going on now...History is to be learned from...If it isn’t to learn from, then why do it?...I think the best historians try to do that, try to draw lessons from the past. That’s all I teach. That’s how I try to teach anyway. (Tom)

The reasons that I see for teaching social studies (are) to help young people understand the present and it seems to me the past is actually the key to understanding what is going on today and why it’s going on today and that we as people actually, people in a democracy have the ability to determine our own personal future as well as to help determine the future of the country and its effects upon the world as a whole. It seems to me that as a social studies teacher, we have a clear obligation to generate involvement in our democratic systems... (Jeff)

Figure 3 provides a more detailed overview of four relativist/reformers ideas about history. Each of these teachers emphasize the relation of history to the present. Perhaps the key element in each is the emphasis on making this a “better world,” on trying to learn from our mistakes, and on student involvement in the community. Each teacher seems to be imposing a view
### Figure 3. Reformers

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Warren</th>
<th>Tom</th>
<th>Jeff</th>
<th>Dan</th>
</tr>
</thead>
<tbody>
<tr>
<td>My approach is to teach kids what history can teach us about our own situations... so I really use historical process to teach basically why America is in the mess it's in. History is for learning about process, it's for learning about how people get to a certain point culturally... and what you can do about it once you're there.</td>
<td>I think mainly it's relating the past to the present and to try to learn from the mistakes that have been made. I try to draw parallels; things that happened before then try to apply them to what's happening now. Most of what we teach has happened before... If it isn't to learn from, then why do it?</td>
<td>The reasons that I see for teaching social studies is to help young people understand the present and it seems to me the past is actually the key to understanding what is going on today... We have a clear obligation to generate involvement on the part of our students. We have the opportunity to determine our own future.</td>
<td>The key thing I try to emphasize to the kids is the fact that we're human beings making decisions and affecting lives. The old adage that history repeats itself really does apply if you take a good look at it. If we can learn from the mistakes of past people and build upon them then we're going to make a better world.</td>
<td></td>
</tr>
<tr>
<td>I see history as very much a dialectical process... I have to admit there's... a very Marxist premise there... the whole struggle concept: economic, class, male-female, East-West, you name it. I think all of those can be seen to run across the board.</td>
<td>I think there are patterns. I believe in countervailing power, like when one group develops power, then some other group opposes it, and they clash for awhile, and then the new group makes a new power. I think its a cycle but I don't think its predictable.</td>
<td>I think there are patterns in history... the only time any of those patterns have any relevance at all is if we actually make use of those patterns. I think we have the opportunity to determine things, and there are factors that might influence the patterns.</td>
<td>Everything seems to be very cyclical in nature. I don't care what civilization you look at, it seems like we go up and we go down, but that something happens and the civilization declines. I don't know if we can do something about it.</td>
<td></td>
</tr>
<tr>
<td>To understand something from history and then</td>
<td>I think we can make some comparisons. Human</td>
<td>It's very possible to make generalizations. I like my</td>
<td>Time periods are unique but they have a common</td>
<td></td>
</tr>
<tr>
<td>Generalizability</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Teaching Style

<table>
<thead>
<tr>
<th>I try to keep it varied. I talk and I ask people for responses and try to get them to think about issues. I do a lot of lecture. I try to use a lot of outside readings. We study things that have a bearing on the basic issues that I am concerned with.</th>
</tr>
</thead>
<tbody>
<tr>
<td>I use lecture/discussion. I try to provoke thought and provoke questions, and I question students, and sometimes I say kind of outrageous things to make them think. I might advocate an attack on the Soviet Union just to see what students would say.</td>
</tr>
<tr>
<td>I tend to use a very practical approach. We don't just talk about it and read about it. We have visitors and field trips and can begin to explore issues directly. I have them read a variety of sources, then I ask questions to relate to issues of the present.</td>
</tr>
<tr>
<td>A lot of discussion and question and answer. It's very open. I do lecture but not too much. We do a lot of reading and research papers. I use the jurisprudential model a lot. It's a good way to examine both sides and get kids involved.</td>
</tr>
</tbody>
</table>

### Teacher Background

<table>
<thead>
<tr>
<th>The single most important thing that ever happened to me as far as studying history is as a first year graduate student I had a professor who was a material anthropologist. The university called him a Marxist. He changed my thinking.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discussions. I grew up in a family that read, and I can remember historical type discussions, and all these books were around. My father was very conservative and I kind of rebelled against that. I had traditional teachers but they were provocative.</td>
</tr>
<tr>
<td>I had a fascination for historical artifacts. I read the landmark books as a child. My parents were survivors of the holocaust and I was influenced by my father's pacifism and liberalism. My H.S. teacher wanted us to think about issues in historical context.</td>
</tr>
<tr>
<td>My parents had friends that came over and they always argued about politics. It was friendly arguments, but it's funny, I can always remember that. I had a history professor in college who was very provocative and I'd like to emulate.</td>
</tr>
</tbody>
</table>
that our world has many problems and that we share an obligation to seek improvement. This view is similar to an underlying assumption of the social studies movement, that the central aim of civic educations' social amelioration (Evans, 1987).

Each of these relativist/reformers sees patterns in history. Furthermore, the patterns they see are generally more definitive than the patterns acceptable to any of the other typologies considered thus far. Two of the teachers see history as a dialectical process, and all four seem to suggest that we can influence the patterns of history through human action. Each teacher also views generalizability as a key component to the study of history and sees comparisons and analogies as the stuff of historical understanding, as a source of lessons valid as long as they are supported with evidence.

In teaching style, these teachers are similar to the scientific historians in that they pose problems for students while using a variety of methods. However, the key distinction is the source of such problems. For the scientific historian, problems come from competing interpretations of history, from the structure of the academic discipline. For the relativist/reformer, problems are drawn from present day issues and history made relevant to present concerns. Both are inquiry oriented.

What accounts for these teachers' relativist/reformer orientation? Three mention family influence, citing discussions or arguments on history and politics as they were growing up at home. All four also mention provocative teachers in high school or college. Interestingly, all four of these teachers describe themselves as liberal democrats. Analysis of survey data from the larger sample suggests that the majority (20 of 31 or 65%) of relativist/reformers are left-of-center, describing themselves as either liberal or moderately liberal. Also, all four of the teachers examined above have Judeo-Christian religious affiliations. Relativist/reformers in the larger sample also tended to be Christian (81%). Finally, all four have a strong content background in history ranging from 30 to 60 semester hours, though the average of 49 hours is significantly lower than that for the other typologies described thus far.

One other interesting finding: more experienced teachers tend to be relativist/reformers at a rate slightly higher than those with less experience. Of those teachers with over five years experience, 49% were relativist/reformers whereas 66% of teachers with five years experience or less fit either the storyteller or scientific historian typology. This suggests that the relativist/reformer mode may also be related to years of experience.

Though this evidence is far from conclusive, each teacher's ideology, which combines liberalism and religious belief, seems to have had a major impact on their view of history, on their desire to set the world straight. Also, disciplinary background does not seem to be as strong a factor for this group. Regardless of the influences which may have shaped these teachers' conceptions of history, each has found success as a teacher through the
relativist/reformer approach. Each has found that this approach can stimulate students to study history and to relate the past to issues of the present in an effort to learn what we can do about changing the future.

**Cosmic Philosopher**

Though not a large group (two of the 71 teachers surveyed or 2.8% of the sample) the cosmic typology has several distinguishing characteristics. First, the cosmic teacher sees generalizations or “laws” connecting events as the most interesting aspect of history. Second, the cosmic philosopher sees definite patterns in history; though each may see a different pattern most suggest a cyclical view of history. Like the metahistorian, these teachers see grand theory as an essential part of history and believe that history has a profound meaning with implications for the future.

Speculative philosophers of history, metahistorians, tend to fall into one of three broad groups, the meta-physical, the empirical, or the cosmic. Meta-physical philosophers of history seek explanation that transcends observable experience, formulating universal laws to explain the powerful forces shaping the course of events. Empirical metahistorians attempt a similar synthesis of human experience, but make a stronger attempt to base speculation on historical evidence. Cosmic philosophers tend to attribute explanation to other worldly forces, usually described as providence or God. These strains of metahistory are united by their attempt to synthesize all of human experience, to locate human experience in a grand pattern. The same may be said for the “cosmic” teachers I interviewed.

The following quotes from teacher interviews provide some examples of cosmic thinking:

> History is the study of the human condition. The human form hasn’t changed much, it’s more or less the same. We still have rich and poor, we still have mysticism, war hasn’t changed, societies still go through various stages quite similar to those that went before. It’s all connected, humans have thought about the same things for centuries. (David)

> There are patterns in history. The example I use is that civilization emanates from a single human being, forms a group, which then goes through various stages, the tribe, the community, the city-state, the nation, and eventually the empire. Empires reach a certain point when they become cumbersome, then they disintegrate . . . and the cycle starts over again. It is a cyclical pattern, entwined with nature like the life and death cycle of a human, or a tree, or the seasons. (David)

> We don’t learn from our mistakes, that is the lesson . . . History is moving toward Armageddon because we don’t learn from the past. I wouldn’t want to be a teenager today. I would like . . . I try to teach optimistically, that we can learn, that we should learn, that there’s
**Figure 4. Cosmic Philosophers**

<table>
<thead>
<tr>
<th>Purpose</th>
<th>David</th>
<th>Leo</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>I am primarily concerned with my student’s ability to think, to solve problems. I wonder how they are going to cope with the 21st century, how they are going to adjust to living, make decisions.</td>
<td>Using the past, hopefully you can communicate to kids where our species, you know, homo sapiens, has gone wrong and continues to go wrong and you know we do not learn from our historical experiences. You look at the cycles of history, you try to communicate the idea that there’s a certain predictability . . .</td>
</tr>
<tr>
<td></td>
<td>History is the entire study of the human endeavor . . . an understanding of that foundation allows them to study and master the other subjects. The historical process is continual and it’s all linked together. There is essentially an animal form. It has gone through various stages and experiences but they are all quite similar. Humans have thought about these similar things and they have addressed the same questions. The historical process will continue . . . It’s all connected.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Civilization emanates from a single human being . . . then for whatever reason they form a group and that group goes through various stages . . . that extend from a domestic tribal existence into a community, a city state, and states into nations. Then if that nation comes together and everything is in its place, it extends its boundaries into an empire. Empires reach a certain point where they no longer function, then they disintegrate. The pattern is reoccurring . . . not any different than the life or death cycle of a tree.</td>
<td>The pattern is the weakness of man, his inability to resist temptation. I try to teach optimistically, but if you want to be realistic, with these nuclear bombs we don’t have much margin of error. We don’t learn . . . we’re moving toward Armageddon.</td>
</tr>
</tbody>
</table>

| Generalizability | Comparisons are constantly made, and they have to be made, but they have to be astute in the concepts of time. 1988 and 1488. What were the empires doing in 1488 that is so | I believe in generalization. We repeat the mistakes of |
different than what the American empire is doing in 1988. We have to understand that in 1488 those colonial empires were very similar to the American empire. History changes because people think, but the overall human condition isn't changing. Humans can think and change the course of history... It's open ended.

| Teaching Style | My courses have a standard text. I supplement that with anything and everything that I can get my hands on, depending on what I think the students need. I lecture, engage in discussion with the students, engage in debate. Very often I play the devil's advocate. I challenge their values, their morality, whatever they think is right or wrong. I use a critical thinking process. I demand that they write essays, that they read x number of books, write critical book reviews and that they present these to the class. |
| Teacher Background | I was going for my MBA and started taking some other courses, quite a bit of philosophy and some psych courses... then history. Two professors really turned me on to it, then I said bingo and just changed. I think I was just searching and whatever it was I found it and fell in love with it.

My father used to always say he loved history in school, and it became a positive thing for me.

Toynbee, I guess, has been a major influence on me. He made it interesting. And the Durant series. |

the past, and you can show analogies that are valid. With our lack of attention to government we get what we deserve in politicians. As ye sow, so shall ye reap... We don't learn from our mistakes.

|  | I am an autocratic dictator. We get into some role-playing, I use the Nuremburg trials. We use study guides. I spend a lot of time on people and places and causation... the reasons why. I also spend a lot of effort on geography. |
|  | Overall life experience, in Asia and Africa and the Middle East. I mean those are the formative years and they were years when I was in my late twenties and early thirties.

Toynbee, H.G. Wells and his outline of the world both had an influence. |
hope, but if you want to be realistic we had a margin of error in the past, before we had gotten to these nuclear bombs. But we don’t have much margin for error now. (Leo)

Though each of these teachers’ conception of history contains elements of other typologies, each strongly emphasizes a grand pattern. As figure 4 illustrates, both of these teachers discussed humans as an animal form, taking what might be described as a biological view of human history as a living organism. Both see a clear pattern in history, one of cycles, the other of decline. Both also view history as generalizable, and believe that generalizations can be quite reliable. Both teachers use process-centered approaches among a variety of teaching techniques. Both describe themselves as moderate liberals, and both have a strong religious connection: Leo is Protestant; David earned his masters degree from a Jesuit institution.

The small size of this group in the sample and lack of any strong pattern make the origins of these teachers’ ideas more difficult to trace. Survey data reveals little interesting insight into the cosmic philosopher, perhaps because there were only two cases. However, both did have high levels of educational attainment: one had a master’s degree, the other a master’s plus 45 semester hours. They averaged 49 semester hours of history. Also, both mentioned studying philosophy of history, and listed Toynbee as an influence.

Perhaps a later study can find more examples of this typology. At this point, my guess is that in each case a reading of cosmic historians and religious background have had a profound impact on each teacher’s thinking about history. Religious belief played a central role in the case of Jacob Neumann, a cosmic philosopher described in my earlier study (Evans, 1988a).

Eclectic

A fairly large group, 16 of the 71 teachers surveyed or 22.5% of the sample, had no central tendency, no score of four or higher in any category on the questionnaire analysis. Though some members of this group are probably closer to a typology than the questionnaire results will allow, most combine elements of two or more of the the conceptions of history described above. The interview notes summarized in figure 5 illustrate this eclecticism.

When asked about the purposes for studying history, each of these teachers gave multiple answers. All four mentioned knowledge or appreciation of the past. Each teacher also mentioned at least one other purpose, such as interest, telling stories, relating the past to the present, helping the community, or mental exercise. The key similarity is that each of these teachers seemingly had no dominant tendency. Though they differed on their thoughts about patterns and generalizability, a second important area

232
of similarity was in teaching style. Each of these teachers emphasized variety and student interest. In fact, the common element seems to be a very practical orientation toward getting students interested.

If these teachers' conceptions about history and their teaching style are eclectic, it seems fitting that teacher background be somewhat eclectic as well. It may be little more than a curiosity, but all four mentioned stories told by family members, and three of the four mentioned history teachers they had in school. All had a religious affiliation, fewer semester hours in history courses, and described themselves as either political moderates or middle-of-the-road. Perhaps this moderation reflects an absence of strong ideological commitment consistent with eclecticism. More than any other typology, this group's conceptions of history may have been tempered by the necessities of classroom teaching, by the need to somehow interest students in history.

**Discussion**

Though the data collected for this exploratory study are insufficient for developing firm conclusions, several findings are interesting and deserve further comment. To sum up:

1. Teacher conceptions of history, its purposes and meaning, seem to vary. Teachers studied tend to fall into one of five typologies: storyteller, scientific historian, relativist/reformer, cosmic philosopher, or eclectic. Each typology may be identified with longstanding traditions in philosophy of history, in social studies education, and often with larger philosophies of education. The storyteller typology is similar to the analytic idealist philosopher of history currently finding voice in the writings of Ravitch (1987) among others. Their emphasis on transmitting knowledge, on using teacher-centered methods clearly places the storytellers in the citizenship transmission tradition in social studies (Barr, et al, 1977). Educationally, their emphasis on content knowledge is closest to the view held by the essentialist, a stance Brameld described as conservative “because he would solve the problems of our time by developing behavior skilled mainly in conserving rather than in changing the essential content and structure of the pre-existent world.” (1955, p. 77)

The scientific historian typology is similar to the analytic positivist philosopher. Their emphasis on open-ended inquiry into historical questions, and their attempted scientific objectivity places this typology in the tradition of social science inquiry (Barr, et. al, 1977). This is a group that Fitzgerald dubbed "mandarins" presumably because of their overuse of complex concepts from scholarly disciplines, concepts which seemed exotic to many teachers, students, and parents (Fitzgerald, 1979). Educationally, this group might be seen as moderately progressive, but, because of their emphasis on scholarly knowledge, containing strong elements of essentialism as well.
<table>
<thead>
<tr>
<th>Purpose</th>
<th>Betty</th>
<th>Sumner</th>
<th>Paul</th>
<th>Donald</th>
</tr>
</thead>
<tbody>
<tr>
<td>To create a greater appreciation of some of the forefathers. Also, to make them understand that history does repeat itself . . . and that we can find parallels. I think that there are some fun things in history, you can get away from the conventional and find something that can interest a kid, just for pleasure.</td>
<td>I think it is important that students have a knowledge of how this country came to be. So many things hinge on the government, people need a good background in American history. Maybe we can learn by our mistakes. I use history as a good way to tell stories and emphasize how things can relate to us today.</td>
<td>An appreciation of the past. In any culture or society you have to feel as if there is a base. Going back a little can make you aware, you can become more involved, more educated. Knowing the past can give you a greater understanding of what is going on now. Maybe that can help the community. It extends into real life.</td>
<td>I'm a traditionalist. I think the roots of the present are in the past. I look upon history as a survival course. If we do not learn . . . nothing else will survive. Knowledge is power. Sometimes it's for the sake of knowing. We need a certain body of knowledge to function. The mind, like the body, needs exercise.</td>
<td></td>
</tr>
<tr>
<td>Pattern</td>
<td>I think that there are patterns, but they are probably clouded or overshadowed by other things. I think that history has unique characteristics, but the overall premise is we can find some common denominators in many things that happened.</td>
<td>There probably is an overall pattern. We talk about an age of peace and then there is an economic depression, then a war and this has more or less gone down through America and Europe. It's just something that keeps repeating itself. I don't think we progress.</td>
<td>There definitely is a pattern . . . a period of birth, then more advanced morals and ideals, then a nation gets more decadent. Everything seems to go in cycles. The cycles are completing faster and faster. Nothing lasts forever.</td>
<td>Does history repeat itself?? The answer is obviously no. That would be taking a very complex situation and put a very simple answer to it. There is only a very broad, very general kind of pattern. Civilizations do rise and fall.</td>
</tr>
<tr>
<td>Generaliz-</td>
<td>I think it is possible to</td>
<td>You really shouldn't draw</td>
<td>I don't believe we can</td>
<td>I'm constantly comparing</td>
</tr>
</tbody>
</table>
### Teaching Style

<table>
<thead>
<tr>
<th>Ability</th>
<th>Teaching Style</th>
</tr>
</thead>
<tbody>
<tr>
<td>make generalizations about anything. The validity depends on who is saying it and where it is coming from. We can look at mistakes...kind of like sitting at an athletic event and second-guessing. We have to live with decisions.</td>
<td>A bit non-conventional in some ways. I do a lot of group work, a lot of simulations projects and reports that are generated right here. I try to use a lot of primary documents...a lot of supplementary things. Whatever we do it has to relate to them.</td>
</tr>
<tr>
<td>any generalizations but you can't help but do it. It's pretty hard to look at past revolutions and not compare them to things happening today. In some cases we are bound to draw some parallels between time periods.</td>
<td>When I teach it's a combination of lectures, student participation, and audiovisual...we do mock trials, and we talk about current events and how they relate. I tell stories about personalities and pretend to be them...I do anything to get the kids interested.</td>
</tr>
<tr>
<td>learn from history. If you know the past and can appreciate the present...fine, that's good, but I don't think that anyone ever really learns from the past. There are too many factors involved, too many variables...all unique.</td>
<td>I try to involve the students as much as possible. I don't like to just lecture. I also involve my students in getting the material, and I like to hear their point-of-view. Sometimes I have them work in small groups. I bring in controversy.</td>
</tr>
<tr>
<td>and contrasting the past with the present. I believe that the student should understand the uniqueness of an event within the context of a country's history. I have a tendency to be careful with generalizations.</td>
<td>Variety is the spice of life. Sometimes I lecture, sometimes I use group discussion, sometimes I use simulation games. My students do written research reports, they do oral reports. Variety is the spice of life. I cannot be bored in class.</td>
</tr>
</tbody>
</table>

### Teacher Background

<table>
<thead>
<tr>
<th>Ability</th>
<th>Teaching Style</th>
</tr>
</thead>
<tbody>
<tr>
<td>my grandfather was the local town historian. I listened to his stories about the lumber camps. I read biographies. I had one teacher in high school who made it come alive. At home history was always respected as an important part of life.</td>
<td>My grandfather was the local town historian. I listened to his stories about the lumber camps. I read biographies. I had one teacher in high school who made it come alive. At home history was always respected as an important part of life.</td>
</tr>
<tr>
<td>My father told me stories of the Korean war. I had a 7th grade teacher who would try any ways to get the child to learn. It was just fascinating to listen to this person. He made history come alive. I think I pattern my teaching after him.</td>
<td>My father told me stories of the Korean war. I had a 7th grade teacher who would try any ways to get the child to learn. It was just fascinating to listen to this person. He made history come alive. I think I pattern my teaching after him.</td>
</tr>
<tr>
<td>One history teacher in college was very good. I took all his courses...I remember stories told by my grandparents. My parents used to take me everywhere. It made me want to learn more...My father was engaged in politics. I tagged along.</td>
<td>One history teacher in college was very good. I took all his courses...I remember stories told by my grandparents. My parents used to take me everywhere. It made me want to learn more...My father was engaged in politics. I tagged along.</td>
</tr>
<tr>
<td>My parents and a couple of teachers were a big influence on me. My mother and father came from the old country and used to tell stories of what Italy was like. My 9th grade world history teacher was great. So was one professor.</td>
<td>My parents and a couple of teachers were a big influence on me. My mother and father came from the old country and used to tell stories of what Italy was like. My 9th grade world history teacher was great. So was one professor.</td>
</tr>
</tbody>
</table>
The relativist/reformer is similar in outlook to the analytic relativist philosopher, viewing history as contemporary thought about our past and seeking to help students draw lessons for the future. Their orientation to the present, their emphasis on relating the past to current issues, and their vision of studying the past to build a better future clearly places this group in the reflective inquiry tradition (Barr, et. al, 1977). Educationally, these teachers are progressives and reconstructionists, philosophies which Brameld described as the educational counterparts of liberalism and radicalism. They are forward looking and future-centered respectively. In Brameld's words, "The progressivist is the genuine liberal because he would meet our crisis by developing minds and habits skilled as instruments in behalf of progressive, gradual, evolutionary change . . . The reconstructionist is the radical because he would solve our problems not by conserving, or modifying, or retreating, but by future looking."

The cosmic philosopher has most in common with the speculative philosopher of history. This typology sees all experience as connected, part of a larger pattern, a pattern which has profound meaning. For these teachers, the human form remains unchanged, the key elements of existence are perennial. Thus, this typology may link most closely with perennialism, a philosophy that Brameld describes as backward looking, desiring a return to an earlier time. Again, Brameld states, "The perennialist is the regressivist because he would deal with contemporary issues by reacting against them in favor of solutions extraordinarily similar to those of a culture long past—or even escaping into an intellectual realm of timeless perfection."

The eclectic represents lack of a coherent philosophy. The eclectic takes a very pragmatic approach to teaching that is reflected in his or her conceptions about history, borrowing ideas and rationales from various traditions. Though not as consistent nor as easily defensible as each of the other typologies, the eclectic represents an admirable accommodation to the press of teaching. Their essence is contradiction, their style, a combination of approaches that work.

Though the above analysis discusses five major categories, these are not completely distinct nor are they all inclusive. Most teachers exhibit some elements of more than one typology, but display a dominant tendency. One wonders how aware teachers are of their teaching style and its fit with educational philosophy and ideology.

2. Teacher conceptions of history seem profoundly related to teacher background, teacher belief, and teacher knowledge. Among the factors mentioned by informants: previous teachers, college professors, family, books, and life experiences, though home and school factors seemed most important. In particular, political and religious background seem to play an especially important role, though the importance of each of these factors may vary considerably. For storytellers, it seems that a tendency toward
political conservatism and a strong background in the discipline of history are relevant factors. For scientific historians, disciplinary background and particular professors of history seem most relevant, though political liberalism and lack of religious affiliation may also be important. For relativist/reformers, family background, liberal political belief, and religious affiliation seem important while disciplinary background apparently played a less crucial role. For cosmic philosophers, religious belief may have played the most crucial role, and for eclectics, previous school teachers and the press of the classroom seem most important while absence of strong political convictions may have prevented development of a more definitive approach.

Thus, political belief seems related to teacher conceptions of history, though the relationship is not absolute or direct. Storytellers tend to be conservatives, relativist/reformers and scientific historians tend to be liberals, and eclectics show centrist tendencies. My earlier conclusion that the teaching of history can be a potent forum for imparting values (Evans, 1988a) seems to be supported, at least in the majority of cases, by the data from this study. However, the political nature of historical thinking usually lurks beneath the surface, beneath the level of daily consciousness. As in historical interpretation, political beliefs tend to creep in through the back door.

3. Interview data suggest that pedagogy may relate strongly to conceptions of history. The idealist tells stories, the scientific historian promotes open-ended thinking about history, the reformer mixes methods to promote student questioning and to relate past to present, the cosmic philosopher challenges students with cosmic interpretations, and the eclectic opts for variety to build student interest. However, survey data suggest that this relationship, between a teacher's conception of history and teaching style, may not hold in all cases. The general lack of relationship suggested by survey results could indicate that organizational constraints and the weight of traditional models of teaching have as much or more impact.

Conclusion

The findings of this study suggest the need for further research. Because of the limited and exploratory nature of this study, the findings reported here deserve corroboration, but also raise several other questions. Some questions which may prove interesting include:

1. What impact do teacher conceptions of the meaning of history have on the transmitted curriculum? On the received curriculum?
2. What conceptions of the meaning of history do students hold?
3. What impact, if any, do teacher conceptions have on student conceptions?
4. What relationship exists, if any, between the typologies reported above and student achievement? Student attitudes?
Phase two of this research project will focus on a few teachers in greater depth, each representing a specific typology. Data collection will include observation of classes and interviews with teachers and students in an effort to further explore some of these questions.

The typologies developed in this paper pose some very practical questions which cut to the core of theoretical approaches to the teaching of history. Which should we emulate? Which should we discount? How should we assess them? Of course, each teacher of history must come up with his or her own answers. At the very least, we see that the conception of history as story propagated by neo-conservative critics of the social studies is but one of many possibilities.

Teacher conceptions of history appear ingrained in teacher belief, knowledge of subject, knowledge of pedagogy, and political and religious ideology. As a conceptual category, Elbaz's "images" come close to capturing the essence of teacher conceptions of history and their probable role (1983). These teachers possess images of history which inspire many of their actions. Thus, the teaching of history might be seen as a vehicle for teachers to express their ways of seeing the past, beliefs about the present, and visions of the future. Perhaps this exploration can help some teachers clarify their images of what history teaching should be, and help us all in developing ever more coherent approaches to the teaching of history. Given the current status of practice reported earlier, and the generally negative findings on student attitudes toward studying history, much clarification is needed.¹

Endnotes

1. The names used in this paper are pseudonyms.
2. The author wishes to gratefully acknowledge financial support received through a Faculty Research Grant from the University of Maine; the assistance of Walter McIntire and Theodore Coladarci with whom I consulted on quantitative aspects of the study; and, Suzanne Wilson who reviewed an early draft of the paper.

References


Effective Use of Interactive Videodisc Instruction in Understanding and Implementing Cooperative Group Learning with Elementary Pupils in Social Studies and Social Education

Helen L. Carlson, Ph.D.
Associate Professor
Head, Department of Child and Family Development
Center for the Advancement of Learning Technologies
Montague 140
University of Minnesota Duluth
Duluth, Minnesota 55812
218-726-7148

Dennis R. Falk, Ph.D.
Associate Professor
Director of Graduate Studies
Department of Social Work
University of Minnesota Duluth

Abstract

How may videodisc technology be used effectively to assist elementary teacher education candidates in the development of their abilities to facilitate cooperative learning with elementary pupils in social studies and social education? Groups of elementary teacher education students were randomly assigned to three instructional groups to learn about cooperative learning: videodisc inductive, videodisc deductive, and reading/lecture/discussion. There were significant differences in content scores, observation skill scores, cooperative group facilitation skills, time used to complete instruction, and satisfaction with the technical presentation of the information. Students using the videodisc (whether inductive or deductive) obtained significantly higher content scores than did those participating in the reading/lecture/discussion group. Students in the videodisc inductive group received significantly higher observation scores than students in either of the other groups, and these same students had higher cooperative group facilitation skills when actually working with elementary children than did those in the videodisc/deductive group. Use of thinking skills

Correspondence: Helen L. Carlson, University of Minnesota, Montague 120, College of Education and Human Service Professions, Duluth, MN 55812
such as creating personal labels for behaviors viewed and applying new concepts to ongoing instruction, found more frequently in the videodisc inductive group, may have contributed to these results. Videodisc instructional programs need to be designed for specific purposes—videodisc deductive may be effective for the rapid acquisition of basic concepts and videodisc inductive may be needed for the development of group facilitation skills.

Interactive videodisc has been proclaimed the technology which will, at last, revolutionize education. The potential for individualized learning and user control, the possibility of responsive feedback, and the integration of various media resources have all been cited as characteristics of this "new wave" in education using interactive videodiscs. But, in reality, how effective is interactive videodisc instruction? More specifically, how effective is interactive videodisc in helping elementary teacher education students develop skills to implement cooperative learning experiences with elementary pupils in social studies and social education?

Background

Following the typical pattern used to evaluate the effectiveness of programmed instruction, instructional television, and computer-assisted instruction, interactive videodisc effectiveness has been described in terms of improved achievement scores (expressed as global means), improved cost effectiveness, and/or increased learner satisfaction with instruction. Often the focus of evaluation has been on the acquisition of specific skills through training rather than on the broader issues relating to the development of 1) theoretical frameworks as a basis for actions, 2) subtle observational capabilities and teaching skills, and 3) higher order thinking skills (Abrams, 1986; Basion, 1985; Bloom, 1977; Browning, 1986; Estrem, 1985; Fishman, 1983; Gray, 1985; Holmgren, Dyer, Hilligoss, & Heller, 1978; Laurillard, 1984; Lyness, 1985; Pieper, 1985; Sustik, 1981; Thorkildsen, Allard, & Reid, 1983).

Although researchers have made efforts to go beyond main effects results, criticisms have arisen related to types of evaluation which have viewed the learner as a passive recipient of instruction who lacks reciprocal action with the mode of instruction. Failures to specifically identify learner characteristics, media characteristics, conceptual frameworks, thinking skill applications to technology, and/or qualities of the dependent variables have regularly been cited as deficits in previous evaluation efforts (Allen & Allen, 1983; Andrews, 1985; Blake, 1977; Dalton, 1986; Eastwood, 1979; Fauley, 1983; Fowler, 1980; Ginelde & Ginelde, 1984; Glaser, 1976; Glen & Kehrberg, 1981; Huntley, 1985; Koury, 1983; Kulik, Kulik, & Cohen, 1980; Lipson, 1981; Molnar, 1980; Pintrich, Stemmer, Berger, Goodman, & Saunders, 1984; Salomon & Clark, 1977; Sheingold, Kane & Endreweit, 1987; Young & Schlieve, 1984).

The study reported here will attempt to provide a comprehensive evaluation of videodisc effectiveness with elementary teacher education students as they develop skills to implement cooperative learning in elementary social
studies. By going beyond a simple report of main effects results, this study will probe the use of videodisc to build observation skills and cooperative group facilitation skills.

The Research Study

Before describing the population and sample, methodology, and results, the conceptual framework of the instruction and the skills to be learned through the instruction will be reviewed. This framework also provides the base for items in each of the evaluation instruments.

Conceptual Framework of the Instruction and Evaluation

The cooperative group structure is used as one organizational pattern for teaching elementary social studies and science, both in the methods classes at the university and in school field experiences with children. Cooperative learning theory emphasizes shared leadership with all members of a group contributing toward the fulfillment of task and maintenance functions. Task functions include such behaviors as managing, summarizing, clarifying, information and opinion giving, and consensus testing. Maintenance functions involve compromising, empathizing, encouraging, gate keeping, harmonizing, and sharing group feelings and processes. Cooperative goal structures, in contrast to competitive structures, include positive interdependence among group members where personal goals are meshed with group goals (Johnson & Johnson, 1982; Slavin, 1983; Schmuck & Schmuck, 1971). See Chart 1.

Skills to be Learned through Instruction

Beyond the knowledge of the conceptual framework, students need skills to apply cooperative learning in the classroom. Skills in structuring cooperative learning are observing group interactions and intervening appropriately. For example, if task and maintenance functions are not balanced in a group, the teacher may need to facilitate discussion of the issue. Learners may need help in understanding social and academic objectives or they may need support in "processing" or discussing the group's activities at the end of a learning experience.

Population and Sample

Sixty-six of 250 elementary education majors enrolled in the third field-experience course participated in the study. These elementary majors had previously completed two field-experience courses which included general lesson planning and teaching, with a special focus on the teaching of reading and mathematics. Ten percent were male and 90 percent were female.

Methodology

Since the focus in the third field-experience course is on cooperative learning in elementary social studies and social education, the students
**Chart I.**

**Basic Concepts Used in Instruction and Evaluation**

**Shared Leadership** is an approach to leadership which suggests that the group will be effectively led if certain key functions are performed by the members. Any group member can fulfill these key functions.

**Task Functions** is what group members say or do to help a group accomplish its goals.
- Clarifying or elaborating refers to interpreting or building on another person’s information.
- Consensus testing refers to checking if the group is nearing a decision.
- Information or opinion giving involves sharing information relevant to the group.
- Information or opinion seeking involves requesting information relevant to the group.
- Managing involves establishing a process which helps the group achieve its goal.
- Summarizing involves pulling together information already shared.

**Maintenance functions** are what group members do or say that maintain better feelings and relationships within the group.
- Compromising involves “giving-in” when necessary to the group.
- Empathizing and encouraging helps others to feel a part of the group.
- Gatekeeping includes giving everyone a chance to speak in the group.
- Harmonizing involves releasing tension in the group.
- Setting and testing standards helps the group examine its level of functioning.
- Sharing group feelings and processes involves helping the group to examine how it is feeling and operating.

**Self-orienting behaviors** are member actions which prevent the group from achieving its goals or maintaining interpersonal relationships.

**Group goal** is a desired outcome shared by most group members; it may be explicit (stated) or implicit (unstated).
- Competitive goals structure exists when group members perceive that they can obtain their goals if and only if other members of the group fail to obtain their goals.
- Cooperative goal structure exists when group members perceive that they can achieve their goal only if other group members obtain their goal.
- Hidden agenda refers to an individual goal that is unknown to other group members and is inconsistent with the dominant group goals.

received four hours of instruction distributed over two weeks in basic concepts of cooperative group interaction: 1) task and maintenance functions which are part of shared leadership in groups and 2) group goals and goal structures. To learn this content, the students were randomly assigned to three instructional delivery formats: 1) interactive videodisc using an induc-
tive model, 2) interactive videodisc using a deductive model, and 3) a reading/lecture/discussion model.

**Characteristics of the Instructional Delivery Models**

Although the inductive and deductive videodisc models share common characteristics, they also differ significantly. First, the commonalities of instruction in the *Understanding Groups* disc (Videodisc Research Group, 1986) will be described.

One common attribute is the use of real group behavior for analyses and example. Rather than simply describing verbally the concepts related to groups, videodisc instruction can supplement semantic/propositional notation with substantial amounts of pictorial/imagal material. Thirty percent of the frames of the videodisc are semantic/propositional (computer text or vidifont) as compared with seventy percent which are pictorial/imagal (Clark & Salomon, 1986).

Another similarity in the two videodisc models is self-choice and self-pacing of the learning program. There is opportunity for feedback, and consequences change based on choices made. For example, the outcome of a search committee's efforts changes based on the choices made by the learner. In addition, the learner may choose pre-test self evaluations and review options at various points in the program.

The essential difference between the inductive and deductive videodisc models is the way concepts are presented. In the inductive model, the learner first observes and analyzes examples of group behavior and makes a personal summary. This step is followed by mentor feedback and an opportunity for the learner to compare personal analyses with mentor views. In the deductive model, the learner is first presented with a definition followed by an explanation and video examples.

The reading/lecture/discussion format included two 100 minute sessions, each consisting of 20 minutes of reading, 40 minutes of deductively presented lecture, and 40 minutes of inductively facilitated discussion applying concepts. Reading/lecture/discussion provides little opportunity for self-choice or self-pacing in learning content. There is a preponderance of semantic-propositional material and little provision for feedback or the opportunity to experience consequences of specific choices with this format. In reading/lecture/discussion, however, materials and methods may be continuously adapted and personalized by the instructor based on subtle learner cues, and the learner may be internally active.

**Evaluation Tools for Content Knowledge and Observation Skills**

The content knowledge and observation skills evaluation tools were based on the cooperative learning framework as described earlier. (See Chart 1.) The content test included 25 objective items related to the concepts of shared leadership and goal structures in groups. The observation skills assessment included viewing a segment of elementary cooperative group in-
teraction, recording the task and maintenance functions used by the pupils, and evaluating the goal structure they used.

Construct validity, the degree to which a test reflects the content area which is to be measured, was determined in the following way for both content knowledge and observation skills tools. The basic concepts were selected from the theories of experts Johnson and Johnson (1982), Slavin (1983), and Schmuck and Schmuck (1971). Questions were systematically written to represent each aspect of the theories as they related to task and maintenance functions in shared leadership in groups and group goals and goal structures. A professor skilled in group dynamics and cooperative learning reviewed and revised the questions.

Content validity, the degree to which a test samples the content area which is to be measured, was implemented as follows. Test items proportionately represented each of the concepts taught in the instruction—fifty percent of the items related to shared leadership (task and maintenance functions) and fifty percent related to group goals and goals structures.

Predictive validity, the extent to which the test can predict the future performance of individuals, has not been determined due to the recency of videodisc instructional program development for teacher education. Follow-up studies of subjects at one, three, and five year intervals is underway.

Reliability of the evaluation tools was determined using the Kuder-Richardson formula. For the knowledge test, a reliability coefficient of .87 was obtained. For the observation skills test, a reliability coefficient of .73 was achieved.

**Evaluation Procedure for Teaching Skills**

Teacher candidates' skills in facilitating cooperative learning with elementary pupils were assessed in their practicum classrooms by trained, unbiased observers, blind to instructional group assignment of the subjects. One observer, a student assistant, and a second observer, a faculty member, were trained in the observation of teacher-candidate facilitation of cooperative learning. They then practiced the procedures in two elementary classrooms, and reached agreement on the "teaching skill score" (facilitation of cooperative learning). The score was based on subjects' abilities to help elementary pupils 1) maintain shared leadership through a balance of task and maintenance functions, 2) engage in cooperative, interdependent activities, 3) use problem-solving in group tasks, and 4) reflect on their academic and social-skill learning.

Construct, content, and predictive validity for the teaching skills critique form were similar to that of the content knowledge and observation skills. The criteria on the critique form were based on theories of the same experts in group interaction. The tool incorporated a balance of criteria related to shared leadership, balance of task and maintenance functions, and group
goals and cooperative goal structures. It also included criteria related to problem-solving and processing of learning, both social skill and academic learning (Johnson and Johnson, 1982).

Reliability between student and faculty observers was achieved through the following process: The student assistant observed for one-half hour in each of the subjects' classrooms, videotaped the interactions, and completed a critique form which included a teaching skill score. Independently, the faculty member reviewed each videotape, completed a critique form, and verified the student assistant teaching skill score for each subject.

**Evaluation Procedure for Thinking Skills**

The thinking skills tool included open-ended questions which asked students to reflect on how they used various thinking skills as they completed the instruction. These questions related to a hierarchy of skills from knowledge to evaluation.

Construct validity stemmed from the work of Bloom (1977). This expert developed a taxonomy of thinking skills that includes knowledge, comprehension, application, analysis, synthesis, and evaluation. Questions were included for each of the levels of the taxonomy, thus establishing content validity. Predictive validity is the process of being established.

**Evaluation Tool for Satisfaction Survey**

The satisfaction survey included statements related to the quality of both the instructional design and technical aspects of the instruction. Subjects rated each of 28 statements on a Likert scale from five (high) to one (1).

Items in this tool were adapted from college developed satisfaction surveys for computer-assisted instruction. Each item was reviewed by a professor skilled in both interactive videodisc technology and attitude survey development. This process established construct validity. Items in the instructional design section of the survey tapped the variety of components inherent in design, from statements about clarity of instructions to the active involvement of the learner in the process. Items in the technical aspects section were distributed in areas such as color, graphics, and the readability of text. Thus, there was content validity.

Using the Kuder Richardson formula, coefficients of reliability were calculated for each section. The coefficients were .74, and .94, respectively.

**Efficiency of Instruction**

Time spent on the instructional task also is important. Laboratory monitors carefully recorded beginning and ending times for each of the subjects.

**Timeline for Evaluation**

Following the instruction, the content knowledge test, the observation
skills test, the thinking skills questions, and the satisfaction survey were administered. Within eight weeks after completion of the instruction, the subjects were observed facilitating the cooperative group lesson with elementary pupils.

### Table 1

<table>
<thead>
<tr>
<th>Variable</th>
<th>Basis for scores/reports</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge of conceptual framework</td>
<td>Objective 25 item test over basic concepts related to shared leadership and group goals</td>
</tr>
<tr>
<td>Observation skills score</td>
<td>Subject recording of group behaviors as she/he views videotape of elementary cooperative group</td>
</tr>
<tr>
<td>Satisfaction score</td>
<td>Survey with statements related to instructional design and technical presentation to be rated on Likert scale; rating of overall satisfaction with instruction</td>
</tr>
<tr>
<td>Teaching skills score</td>
<td>Observation by trained, unbiased observers related to subjects' structuring of cooperative learning in elementary social studies at practica sites</td>
</tr>
<tr>
<td>Thinking skills description</td>
<td>Answers to open-ended questions related to thinking skills based on Bloom's taxonomy</td>
</tr>
<tr>
<td>Efficiency of instruction</td>
<td>Record of time used to complete instruction</td>
</tr>
</tbody>
</table>

### Analysis Procedures

The significance of any differences in the objective results (content, observation skills, satisfaction survey, and teaching skills critique) was tested using analysis of variance procedures coupled with the Scheffe comparisons. The thinking skills used by the subjects in the three instructional groups were summarized by a student assistant who descriptively para-
phrased or quoted each response which appeared more than three times in the data.

**Results**

There were statistically significant differences in all objective measures across the three instructional groups except in the sub-satisfaction score related to the effectiveness of the instructional design and overall satisfaction.

**Content Knowledge**

There were statistically significant differences between the three groups on the knowledge of the conceptual frame-work ($F = 18.53; \text{df} = 2; p < .01$). A Scheffe' comparison indicated that knowledge of conceptual framework (content) was significantly greater for the videodisc inductive group than for both the videodisc deductive and reading/lecture/discussion groups. The knowledge was also significantly greater for the videodisc deductive group when compared with the reading/lecture/discussion group. See Tables 2 and 3.

**Satisfaction Scores**

There were no significant differences across instructional groups in the area of satisfaction with instructional design or in responses to the question—How would you rate your overall satisfaction with the instruction? However, in satisfaction with the technical presentation of instruction, there were significant differences ($F = 13.04; \text{df} = 2; p < .01$). A Scheffe' comparison revealed that both the videodisc inductive and videodisc deductive groups viewed the technical presentation more positively than did those in the reading/lecture/discussion group. See Tables 2 and 3.

**Observation Skills**

In observation skills, there were significant differences in scores across the three instructional groups ($F = 11.65; \text{df} = 2; p < .01$). The Scheffe' comparison showed that those in the videodisc inductive group scored higher than either those in the videodisc deductive or those in the reading/lecture/discussion group. See Tables 2 and 3.

**Teaching Skills**

There were significant differences in evaluations of teaching skills across the three instructional groups ($F = 3.59; \text{df} = 2; p < .05$). The Scheffe' comparison indicated that students in the videodisc inductive group scored significantly higher than did those in the videodisc deductive group. The differences between both the videodisc inductive and deductive when compared with the reading/lecture/discussion groups were not significantly different. See Tables 2 and 3.
Table 2
Effectiveness of Three Instructional Models—Videodisc Inductive (VI), Videodisc Deductive (VD), and Lecture/Discussion (LD)

<table>
<thead>
<tr>
<th>Component</th>
<th>VI</th>
<th>VD</th>
<th>LD</th>
<th>Sum of Square</th>
<th>DF</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Content</td>
<td>20.65</td>
<td>18.48</td>
<td>16.58</td>
<td>174.26</td>
<td>2</td>
<td>18.53*</td>
</tr>
<tr>
<td>Satisfaction Design/Inst.</td>
<td>33.22</td>
<td>34.09</td>
<td>37.05</td>
<td>164.18</td>
<td>2</td>
<td>1.12</td>
</tr>
<tr>
<td>Technical</td>
<td>23.00</td>
<td>24.09</td>
<td>14.05</td>
<td>1223.76</td>
<td>2</td>
<td>13.04*</td>
</tr>
<tr>
<td>General (1 = High)</td>
<td>2.04</td>
<td>2.03</td>
<td>1.83</td>
<td>0.59</td>
<td>2</td>
<td>1.25</td>
</tr>
<tr>
<td>Observation Skills</td>
<td>9.30</td>
<td>5.61</td>
<td>5.68</td>
<td>99.65</td>
<td>2</td>
<td>11.65*</td>
</tr>
<tr>
<td>Teaching Skills</td>
<td>33.40</td>
<td>25.63</td>
<td>27.73</td>
<td>626.38</td>
<td>2</td>
<td>3.59**</td>
</tr>
<tr>
<td>Efficiency of Instruction</td>
<td>3.23</td>
<td>1.52</td>
<td>3.33</td>
<td>27.69</td>
<td>2</td>
<td>66.59*</td>
</tr>
</tbody>
</table>

a \( n = 65 \)
b \( n = 54 \)
*\( p < .01 \)
**\( p < .05 \)

Efficiency of Instruction (Time Used)

Significant differences were found among groups on the time needed to complete the instruction \((F = 18.53; df = 2; p < .01)\). A Scheffe’ comparison indicated that the time required by the videodisc deductive group was significantly less than that by either the reading/lecture/discussion or videodisc inductive group. There were no significant differences between the reading/lecture/discussion and inductive videodisc groups on the time required to complete the instruction.

Thinking Skills

The major similarities in thinking skills in the three instructional groups were found in gaining knowledge and making application. In both the deductive and lecture groups, students learned definitions and terms and basic concepts through presentations. In both the inductive and deductive groups, knowledge was applied when the student became a member of the search committee and used disc information in evaluating real life experiences.

A qualitative analysis indicated several major differences in the thinking skills used in each of the groups. Students in the inductive group developed definitions and categories of behaviors rather than memorizing definitions.
presented to them. They continually applied new concepts to on-going instruction, while the reading/lecture/discussion group students more often extended applications to field experiences and elementary classrooms. Inductive instruction forced the learners to make more comparisons—comparisons between the first and second viewing of a small segment of behavior and/or between personal ideas and those of an "expert." Learners in the deductive instruction listened to already synthesized summaries of information given, while the inductive group members used discovery learning and built on previous knowledge to compile their own summaries. Members of the reading/lecture/discussion group developed broader inferences related to group goal structures and engaged in more evaluative discussion. See Table 4.

### Discussion

Is videodisc instruction effective in elementary teacher education, particularly in teaching group facilitation skills useful in social studies and social education? Several conclusions may be offered in response to this
question. Students who used videodiscs, whether inductive or deductive, scored significantly higher in acquisition of concepts related to the framework of cooperative learning than did students in the reading/lecture/discussion group. This result provides a clear, easily understood answer to the above question—yes, interactive videodisc is more effective than reading/lecture/discussion instruction in teaching concepts to elementary teacher education students.

Further conclusions present some subtle qualifications to the answer. There were significant differences in observation and teaching skill acquisition. Students in the videodisc inductive model scored significantly higher in observation skills than did students in either the videodisc deductive or the reading/lecture/discussion model. These students also had significantly higher teaching skill ratings than did those in the videodisc deductive model, although there were no significant differences between their ratings and those of students in the reading/lecture/discussion group.

For an explanation of these phenomena, it is helpful to look at the data related to thinking skills. Students receiving inductive instruction stated that

Table 4
Summary of Responses to Thinking Skills Questions

<table>
<thead>
<tr>
<th>Thinking Skill/Process</th>
<th>Videodisc Inductive</th>
<th>Videodisc Deductive</th>
<th>Lecture Discussion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gaining knowledge of basic concepts</td>
<td>Observing, analyzing categorizing group behavior</td>
<td>Learning definitions of terms</td>
<td>Learning about task and maintenance functions</td>
</tr>
<tr>
<td></td>
<td>Developing categories of task and maintenance functions</td>
<td>Recalling definitions of words</td>
<td>Using discussion and reading to identify concepts</td>
</tr>
<tr>
<td></td>
<td>Developing definitions of different goal structures</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Making Applications</td>
<td>Transferring prior knowledge of group development to new information</td>
<td>Applying previous knowledge in answering &quot;pretest&quot; questions</td>
<td>Applying concepts to personal experiences, field experiences and other classroom interactions</td>
</tr>
<tr>
<td></td>
<td>Applying new learning to rest of instruction “as I went along”</td>
<td>Applying terminology to real group interaction</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Transferring</td>
<td>Applying knowledge to making choices</td>
<td></td>
</tr>
</tbody>
</table>

252
Table 4. (Continued)

<table>
<thead>
<tr>
<th>Comparing and Contrasting</th>
<th>Observing different styles of operation when different groups were presented</th>
<th>Considering the &quot;pros&quot; and &quot;cons&quot; of different goal structures—competitive and cooperative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comparing and contrast first and second viewing of segments in order to observe more carefully</td>
<td>Comparing personal ideas with those of expert</td>
<td>Learning through discovery and building on previous knowledge, since information was not given at beginning</td>
</tr>
<tr>
<td>Comparing various group actions when different choices were made</td>
<td>Synthesizing</td>
<td>Evaluating material by listening to an expert, and drawing conclusions</td>
</tr>
<tr>
<td>Evaluating</td>
<td>Relating information to real life experience</td>
<td>Considering value of both cooperative and competitive goal structures</td>
</tr>
<tr>
<td>Completing pre-test questions</td>
<td>Listening to recaps of information presented on disc</td>
<td></td>
</tr>
<tr>
<td>Checking my responses with those of &quot;expert&quot;</td>
<td>Determining effectiveness of group interaction</td>
<td></td>
</tr>
<tr>
<td>Re-evaluating personal beliefs in light of new information</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Examples of group interaction to real world
Applying information to making choices "when I was put in the situation."

Comparing and Contrasting

Observing different styles of operation when different groups were presented
Considering the "pros" and "cons" of different goal structures—competitive and cooperative

Synthesizing

Evaluating material by listening to an expert, and drawing conclusions
Learning through discovery and building on previous knowledge, since information was not given at beginning

Evaluating

Completing pre-test questions
Checking my responses with those of "expert"
Re-evaluating personal beliefs in light of new information

Deciding which choices (in application section) were best
Relating information to goals accomplished in real group situations
Determining effectiveness of group interaction

Discussing problems involved in cooperative learning
they 1) repeatedly developed definitions and related these to categories of behavior, 2) continually applied new concepts to on-going instruction, and 3) constantly made comparisons between their views and the views of mentor/experts. Students who participated in the reading/lecture/discussion group also engaged in thinking through various applications of the concepts they were learning. These processes are in stark contrast to the reports of students in the videodisc deductive model; they listened to definitions and heard explanations.

Perhaps videodisc inductive instruction assists students in focusing attention on behavioral cues and then categorizing them, much as expert teachers do in the field. An added benefit is the ability to then compare personal views with those of a mentor viewing exactly the same behaviors. The back-and-forth applications of new concepts to on-going instruction appears to occur to a great degree in videodisc inductive instruction, somewhat in reading/lecture/discussion and infrequently in videodisc deductive models. This is one explanation of the differing results in the observation and teaching skill acquisition among subjects in this study.

Another subtlety lies in the results of the satisfaction survey. The students in videodisc instruction viewed the technical presentation (logical and orderly presentation, examples which were realistic and motivating, and the graphic text enhancements) more favorably that those in the reading/lecture/discussion group.

Although not significantly different, the means of student satisfaction ratings were highest in the reading/lecture/discussion group in an overall sense as well as with the instructional design of this approach. The satisfaction means were lowest for instruction in the videodisc inductive model. There is a possibility that achievement and learner satisfaction are not always positively correlated.

An added consideration is the time required to acquire basic concepts. While there was no difference between videodisc inductive and reading/lecture/discussion models on the time required to complete the instruction, students in the videodisc deductive model finished in less than half the time required by students in the other two conditions. Could the results attained by subjects in the three instructional groups depend only on time spent? This does not seem likely since subjects in the group that spent the least time in instruction scored significantly higher on the content knowledge test than those who spent the most time. Further, in the two groups who spent the most time, there were significant differences in observation skill scores, with one group scoring high and the other group scoring very low. Finally, in the teaching skill area, there were no significant differences in scores between the group that spent the least amount of time and the group that spent the greatest amount of time in instruction.

Is videodisc instruction effective? This study indicates that videodisc instruction offers significant advantages over a more traditional approach in
acquiring and applying concepts and skills related to cooperative learning in
social studies and social education. This study also suggests that the ques-
tion regarding videodisc instruction needs to be expanded to ask—What
type of videodisc instruction is effective for whom and for what purpose?
This study begins to address the issue in finding that videodisc deductive in-
struction may be highly effective and efficient for rapid acquisition of basic
concepts within a framework. However, videodisc inductive instruction
may be necessary for the development of highly sophisticated observation
and teaching skills. Future research must continue to address these complex
questions.

References

Abrams, A. (1986). Effectiveness of interactive video in teaching basic
photography skills. Las Vegas, Nevada: Association for Educational
Communications and Technology. (ERIC Document Reproduction Ser-
vice No. ED 267 754.)


back provided by interactive videodisc instruction (Doctoral disserta-
tion, University of Texas at Austin, 1985). Dissertation Abstracts Inter-
national, 46, 3004-A.

Basion, P. M. (1985). Instructor-controlled training in a videodisc-based
paramedical program. Journal of Educational Technology Systems,
13(2) 123–130.

interactions. Perceptual and Motor Skills, 44(2), 975–985.


Clark, R. E. & Salomon, G. (1986). Media in teaching. In M. C. Wittrock
(Ed.), Handbook of Research on Teaching (3rd ed.) (pp. 464–478). New
York: Macmillan.

Dalton, D. W. (1986). How effective is interactive video in improving per-

Eastwood, L. F. (1979). Motivations and deterrents to educational use of
"intelligent videodisc" systems. Journal of Educational Technology
Systems, 7(4), 303–335.


Book Reviews


Reviewed by Stephen J. Thornton, Department of Educational Development, College of Education, University of Delaware, Newark, DE 19716.

As James P. Shaver (1989) recently observed, relatively little is known about what goes on in elementary social studies classrooms. Although it is commonplace to bemoan the lack of a comprehensive research base in social studies, it appears that most of the limited research base that does exist concerns secondary-level social studies. For this reason alone *The Subject Matters* by Susan S. Stodolsky is useful for social studies researchers since it provides one of the relatively few available descriptions of elementary-level social studies curriculum and instruction. However, Stodolsky not only adds to the available store of empirical evidence about elementary social studies but also breaks some new ground concerning why curriculum and instruction, and to some extent student learning, looks the way it does.

In this review, I shall not attempt to deal with all of the issues raised in *The Subject Matters*. Rather, I shall focus on several key themes from the book that hold particular importance for social studies. More specifically, after a brief description of the research design, three major issues will be addressed. First, Stodolsky concludes that there is much greater variety in instructional arrangements and student outcomes across teachers than has usually been reported. Second, she argues that differences in instructional arrangements are related to the disciplinary origins of social studies subject matter. Third, Stodolsky provides evidence that suggests that student engagement with more cognitively complex subject matter leads to higher levels of involvement. Of course, as the subtitle of the book indicates, Stodolsky is concerned with classroom activity in both social studies and math. Except when relevant to social studies concerns, however, I shall not deal with her discussion of math.

*The Subject Matters* is based on observations of fifth grade classrooms, and subsequent coding of those observations, in 20 math and 19 social studies classrooms. In all, there were 21 teachers in 13 schools located in diverse socio-economic communities in the Chicago metropolitan area. The observers spent three weeks in each classroom and also gathered background information and interviewed each teacher. Observations were designed to collect information that was then coded according to the properties of activity segments (Gump, 1967) including instructional format, ex-
pected student behavior pattern, pacing, options, expected student interaction, cognitive level, feedback, student location, and teacher leadership role (Stodolsky, 1988, p. 27). Data analysis revealed that a particular teacher would often use markedly different instructional arrangements in a “basic” subject like math and an “enrichment” subject like social studies. Moreover, student involvement also varied according to subject: “We simply found no correlation in average student involvement in math classes and social studies classes taught by the same teachers to the same students” (Stodolsky, 1988, p. 131). It is also notable that there was much less uniformity in instructional arrangements in social studies than in math.

The first issue for discussion concerns the variety of instructional arrangements that Stodolsky and her colleagues found in social studies classrooms. Although several scholars have noted that there is more variety in social studies instruction than might first meet the eye (Downey & Levstik, 1988; Shaver, 1989, p. 8), it appears that many have assumed that there is greater instructional uniformity than in fact exists. John Goodlad (1984), for example, concluded:

by noting the preponderance of classroom activity involving listening, reading textbooks, completing workbooks and worksheets, and taking quizzes—in contrast to a paucity of activities requiring problem solving, the achievement of group goals, students’ planning and executing a project, and the like. (p. 213)

Stodolsky suggests that the stereotype of instructional arrangements—heavy doses of teacher talk and low-level intellectual activity—that Goodlad and others have described is an oversimplification (p. 97). She argues that “insufficient attention has been given, even in the most recent studies, to the extent that subject matter, curriculum, and grade level affect classroom practices.” According to Stodolsky, other studies may have been focused too much on what teachers are doing and too little on what students are doing. However, if one focuses on activity structure—what students are doing—many social studies classrooms turn out to be much less dominated by teacher talk and low-level recitation than has often been contended. Stodolsky’s findings suggest considerable variety in subject matter, learning activities, and student outcomes if classrooms are examined on a case-by-case basis.

A second issue that Stodolsky raises also has important implications for social studies curriculum and instruction: “There seems to be a connection between disciplinary origins of topics, cognitive goals, and classroom activities” (p. 115). Stodolsky found that fifth grade curricula included topics from history, geography, anthropology, economics, psychology, and civics (p. 34). History, and to some extent geography, were “more structured or ordered” than content from the social sciences and instruction was most often teacher-dominated. Topics from anthropology, sociology, and
psychology, however, were more often associated with small-group problem solving and higher mental processes (pp. 115-117). Teachers tended to characterize history and geography "as collections of facts to be learned" (p. 116) and this characterization appears to favor teacher-centered instructional arrangements and low-level knowledge goals. Since history and geography are the major sources of content in grades four-six (Lengel & Superka, 1982, p. 33), Stodolsky's findings may go a long way toward explaining both the prevalence of recitation of factual information in many classrooms and why students in these grades like social studies less than any other subject (Goodlad, 1984, p. 212).

A third issue follows closely from the second: Stodolsky found "a highly regular linear pattern between increasing cognitive complexity and increases in the level of student involvement" (p. 134). Although I am hardly the only social studies educator to have suspected that this pattern existed—its roots extend at least back to Dewey—Stodolsky is one of the few scholars to provide empirical evidence for it. Given that a direct instruction model has been advocated by some social studies educators (e.g., McKenzie, 1986) and has become the basis for teacher evaluation in many states, Stodolsky's advocacy of a less teacher-centered scheme of things which promises more student involvement is timely.

Finally, although I have touched on only a few of the issues raised in The Subject Matters, I believe it provides important insights on social studies education. Moreover, Stodolsky has continued to research some of the issues raised in her book. In a recent article (Stodolsky, 1989), for example, she raises further questions concerning the extent to which textbook-based teaching results in uniform instructional arrangements. In questioning and clarifying some crucial issues about social studies classrooms, Stodolsky has made a significant contribution to social studies research. The Subject Matters deserves to be widely read and discussed among social studies educators.

References


Reviewed by Hugh Wease, History Department, Each Carolina University, Greenville, NC 27834

Educational philosophers and theorists, curriculum specialists and teachers, and school critics and reformers through the years have eloquently expressed the need for schools to be about the business of teaching for effective thinking. The rhetoric has, however, exceeded the performance of schools in this crucial area. Professor Beyer’s how-to book on *Practical Strategies for the Teaching of Thinking* will no doubt help teachers and students to close the gap between the goal of thinking and the achievement of thinking. Based on the premise that teaching for effective thinking requires direct instruction of specific thinking skills, Beyer’s classroom strategies explicitly spell out the functions and practices that teachers must do when they teach critical thinking skills.

The range of topics covered in the book includes a well-conceived rationale for teaching thinking, a framework of strategies for teaching critical thinking skills, the role of metacognition, ways to evaluate thinking skills, and the implications of teaching for thinking. Implicit in these topics are the essential questions faced by all teachers: What to teach? How to present the material? and How to evaluate what has been taught?

What to teach in the way of thinking is derived from a two-level model of thinking consisting of cognitive and metacognitive functions. Cognitive functions, according to Beyer, are “meaning-making operations” that are structured in such familiar thinking strategies as problem-solving, decision-making, and conceptualizing. To carry out these major thinking strategies, teachers and students use specific skills of reasoning (inductive, deductive, and analogical), information-processing (Bloom’s taxonomy), and critical thinking, defined as “determining the authenticity, worth, and accuracy of something” (p. 33). An example of a critical thinking skill is the ability to distinguish between a factual claim and a value claim. At the metacognitive level, strategies for thinking focus on thinking itself. In short, metacognition means thinking about thinking and should, according to Beyer, be taught only after students are proficient in the skills and strategies of cognition.

To help teachers and students with the how-to question of cognition, Beyer offers specific blueprints of instruction for directive, developmental, and inductive lesson plans for introducing, reinforcing, and transferring thinking skills. When teaching a thinking skill for the first time, teachers who, for example, use a directive strategy would include in their plans a formal introduction, explanation, demonstration, review, application and reflection of the operation. In a general sense, the developmental and inductive strategies have similar steps. Shorter guided practice lessons, designed
for about thirty minutes each and spaced over several weeks, should follow
the skill-introduction lesson. After adequate reinforcement of the skill,
teachers using one of the three strategies (directive, developmental, or in-
ductive) will need to teach explicitly and specifically for transfer of the skill
to a different context or setting. Except for an added review step immedi-
ately after the introduction of the skill, the lesson plan for transfer is the
same as the skill-introduction strategy.

As the strategies for cognition suggest, effective teaching of thinking
skills, like teaching other learning skills, requires explanation, demonstra-
tion, application, and practice. However, the act of reasoning itself is done
in the thinker’s head and cannot be directly observed. Metacognition offers
a solution to this problem. Teachers and students need to “think aloud” as
they learn a new thinking skill. Thinking aloud means to talk about how one
works through an idea or solves a problem. This method of vocalized think-
ing, which is the capstone of Beyer’s two level model of functional thinking,
requires teachers and students to plan, check, and evaluate their thinking
while they are thinking.

Teachers must also test for thinking. To assist them with this important
function of teaching, Beyer describes paper-and-pencil tests and observa-
tion instruments as appropriate ways to measure students’ thinking.
Although paper-and-pencil tests are typically used to test subject matter
learning, they rarely include items that assess specifically and directly think-
ing skills taught by teachers. One practical way suggested by Beyer to
engage students in metacognition when they are taking an essay test is to ask
them first to write the subject matter answer to the essay question and se-
cond to explain in several paragraphs the thinking they used to develop the
answer. Teachers might, however, find the use of the observation in-
struments to be very time consuming.

The strength of this book lies in the practical strategies outlined by the
author. He has digested the research on teaching thinking and has presented
curriculum specialists and teachers with workable, sound suggestions on
how to plan and teach for thinking while teaching for subject matter learn-
ing. Despite his strong brief for direct teaching of critical thinking skills, he
also emphasizes teaching content. He correctly maintains that knowledge of
the subject matter in which a thinking skill is applied facilities mastery of
that skill and the content area that Beyer uses most frequently for illustra-
tions is social studies.

For example, he illustrates classification by having the teacher ask,
“What was life like in the 13 English North American colonies around
1750?” and having students sort and categorize a list of words commonly
spoken at this time e.g. “apprentice, freeman, congregation, pewter. . . .”
(pp. 90-91). As a result, Beyer’s strategies for teaching thinking skills are
immediately accessible for social studies educators to try out within their
own classrooms.


Reviewed by Maya Muir, New York Center for the Urban Environment, c/o Department of Cultural Foundations, 737 East Building, New York University, Washington Square, New York, N.Y. 10003

Two short pamphlets, *And Two if by Sea* and *We All Live Downstream*, describe how America’s fresh water and sea coast are imperiled by the means and intensity of our use. The issues involved should become an important part of our social studies curricula. Education has an important role to play in building the consensus needed to tackle the crisis. The solutions to the crisis include changes in technology, in personal practice, and in the degree and kind of social control we exercise as a society. Each of the pamphlets stresses a different type of solution, neither of which is sufficient. The virtue of both, however, is that they are short, readable, and relatively inexpensive, and provide very necessary introductions to two subjects crucial to planetary survival.

Beth Milleman tells us in *And Two if by Sea* how coastlines are stressed by heavy settlement, and about the federal law which addresses this problem. By 1990, 75% of the U.S. population will live within fifty miles of a coastline. People are drawn to the coastlines at least in part because of their natural beauty and recreational opportunities, but the presence of large populations takes a heavy toll on the coastal ecosystems, including the features that attracted people there.

Coastal wetlands have been very hard hit. Wetlands are crucial to the marine and terrestrial ecosystems they border. Wetlands provide a nursery for many species of fish and shellfish, and their capacity to contain large influxes of water helps control flooding. The presence of wetlands prevents coastal erosion, and aids in the filtration and purification of pollutants. Yet, these ecosystems are chronically undervalued and, according to Milleman, 20,000 acres of wetlands in the United States alone have been lost per year for the past 25 years (p. 22).

Because coastlines move, they are poorly suited for development: sea cliffs erode landward, and barrier islands and beaches shift with long shore
drift. Yet humans insist on building on these features, and then are outraged when beaches disappear or houses are washed away.

Pollution also stresses the coastal environment. Wastes dumped inland into the waterways that have not settled or been filtered out en route are carried to the coast. Population centers in the coastal zone discharge pollutants (including municipal sewage, industrial wastes, and stormwater overflow) directly into coastal waters. Routine practices in drilling, processing and shipping in energy and minerals development on the outer continental shelf cause sedimentation and pollution harmful to marine life. Accidents multiply this damage on an extravagant scale. Sewage sludge, industrial wastes, dredged materials, and radioactive wastes are still legally dumped into the sea, while trash is burned in boats on its surface.

In addition, freighters, fishing vessels, and Navy and Coast Guard ships all dump tons of trash, again legally, straight into the ocean every year. This trash—particularly the plastic that has become so widespread—harms marine life, and much of it washes up on the coast. Further, illegal dumping of substances such as medical waste occurs, as became evident in the summer of 1988, although its extent is unknown.

The cumulative stress caused by pollution and development on coastal ecosystems is severe, and the empirical evidence is ever harder to ignore: dead shellfish beds, beaches black with petroleum and littered with plastic, fish riddled with tumors from toxic materials, and vanishing beaches and dunes. While we have a history of legislation addressing these problems, our solutions have been far from adequate. A Congressional Report issued on January 24, 1989 recognized the severity of the situation, and concluded conservatively that:

if we fail to act and if current trends continue unabated, what is now a serious, widespread collection of problems may coalesce into a national crisis by early in the next century (Shabecoff p. C 4).

The report recommended that the Environmental Protection Agency, the National Oceanic and Atmospheric Administration and the states give higher priority to coastal issues, and be given increased funds to do so.

Milleman provides excellent background information to this problem in her explanation of coastal geology and of the effect different forms of pollution have on the coast. The solution she looks to is revealed by her pamphlet's subtitle, "A Citizen's Guide to the Coastal Zone Management Act and Other Coastal Laws." The Coastal Zone Management Act (CZMA) was passed in 1972. In it:

states develop comprehensive coastal management programs meeting federal standards in exchange for federal funding and a say over federal actions affecting their coastal zones (X).

Milleman's pamphlet spends many pages explaining this law, which,
however, has not worked and is at best inadequate. Twenty-nine of 35 coastal states have joined the program, yet CMZA has been little used, and has not had a significant effect on the problems at hand. *And Two If By Sea* focuses on CZMA’s provisions along with examples of model initiatives at the state level, and, in each area, a list of basic questions a community might ask in investigating local conditions. Where relevant, related laws which could be used to ameliorate coastal problems are also described. However, the underlying inadequacy of CMZA as a tool is not exposed. Oliver Houk, in an impassioned article in *The Amicus Journal*, put his finger on the problem:

> For fifteen years, we have expected the wetlands protection and coastal management programs to stem the tide. Even in the best of circumstances, however, with the most enlightened of personnel, these programs are not designed to protect coastal resources. They are designed to produce trade-offs . . . At bottom, the very nature of coastal regulation predicts its failure. Permit decisions cannot be cumulative; they are intrinsically small and, on the merits, hit-or-miss. What they hit may be reapplied for the following year or month; what they miss is lost, for the most part, irreversibly (Houk, p. 22).

Houk calls for a stronger approach which includes the outright exclusion of certain classes of development from the coastal zone at the Federal level. Milleman’s exclusive reliance on CZMA weakens the utility of *And Two If By Sea*.

*We All Live Downstream* tackles problems upstream in the hydrologic cycle. It focuses on the role of human excreta, transformed from a resource to a waste by urbanization and the invention of the water toilet, in degrading the water supply. The water toilet was invented as recently as the late eighteenth century; prior to that in most of the world, excreta was understood to be part of the food chain and a valuable fertilizer. In the urban milieu its utilization became difficult, and the water toilet obliterated even the idea that it could be used.

This invention changed humans’ perception and use of water and also our relation to ourselves and the rest of the biophysical world. As Winner says, technologies are not merely aids to human activity, but also powerful forces acting to reshape that activity and its meaning (Winner p. 6).

The necessity of defecation reminds humans of our membership in the animal, and thus biophysical, world. Our toilet technology seems designed to deny that fact, as matter and odor disappear in a magic swirl of water. Like numerous other technologies that pervade our society, it removes us from the end products of our actions and the harm they cause the environment, easing the path toward increased reliance on technology and further pollution and destruction of our world.
Our perception of water has been changed by this technology, as well. In traditional societies, water is considered sacred; using it as a sump would be unthinkable. Underlying this transformation is the presupposition that water is infinite and cheap, but water is no longer infinite when a population as dense as ours uses it for waste disposal, and it is no longer cheap when it must be cleaned up again for other uses. This is what Houk called "the illogic of putting human waste into our water, then building ever-more-expensive plants to take it out." He goes on to say

Alternative systems for collecting and treating human wastes have been on the market for decades. They have been defeated, as a commercial enterprise, by the relative convenience of a water-borne system that has been supported by billions in federal subsidies and that has ignored the external costs of its partially and imperfectly treated wastes (Houk, p. 29).

Pat Costner addresses these issues in *We All Live Downstream*. She re-concretizes human excreta by describing its physical constituents and where it goes beyond the toilet bowl. She describes in detail alternatives to the water toilet, as well as other water-conservation technologies, such as the low-flow shower head. However, she emphasizes that the real shortage of water is not of quantity but of quality, or cleanliness.

These alternative technologies are certainly necessary to the resolution of the water crisis, but their presence is not sufficient to bring it about. Costner is weak on this point. Water pollution and its solutions have social, cultural and political ramifications as well. *We All Live Downstream* describes a campaign by the citizens of Eureka Springs, Arkansas to identify causes of water pollution in their community and seek solutions, but the effort was funded by federal money, and when the money dried up, so did the effort. No lessons are drawn from this experience.

The question remains: how can we actually stop water pollution, even of this one kind? *We All Live Downstream* emphasizes individual responsibility ("Clean Water Begins at Home"), which is an important and much neglected point. But surely even the replacement of one kind of toilet technology with another can't be left up to individuals. Many citizens couldn't afford to buy the alternative, and the marketplace on its own is unlikely to provide the solution. The harder task that we are left with is to develop a social consensus on the need for clean water and for taking the necessary steps to bring it about. Developing and passing legislation are certainly part of this process, but they are not sufficient. In New York, for example, the state has laws requiring that low-flow showerheads be installed in newly constructed buildings, but in New York City—which is facing a shortage now—this regulation has not been enforced (Cheuvront p. 17).

The consensus that we need, that will be strong enough to create legislation and demand its enforcement, requires a shift to living within the means
of the resources available to us, and eschewing the boom and bust extravagance to which we have become accustomed. Charles Bowden described the shifts that were affected by changing technologies in water use in the arid Southwest from the digging stick of the Papago to the modern aquifer-draining wells, in his 1977 classic, *Killing the Hidden Waters*. That technological transformation brought about profound cultural and social shifts, and the changes required of our society may be equally profound.

The New York State Board of Regents decided in Goal Seven of its Action Plan that students should acquire knowledge of the ecological consequences of choices in the use of the environment and of natural resources. Other states have made similar statements. *And Two if by Sea* and *We All Live Downstream* can be useful tools for social studies and other teachers in starting that process, as these pamphlets cover many aspects of the choices involved in our use of water, one of the most essential resources.

References

Bowden, C. *Killing the hidden waters: The slow destruction of water resources in the American Southwest*. Austin: University of Texas Press, 1977


Houk, O. “America’s mad dash to the sea,” *The Amicus Journal* 10:3 (Summer, 1988) 21-36


Information for Authors

Manuscripts
Manuscripts (five copies) should be addressed to Millard Clements, TRSE, New York University, 200 East Building, New York, New York, 10003. In addition, if you use WordPerfect, please send your article on a floppy disk; the disk will be used in the final editing of your manuscript for publication.

Manuscripts should be typed double-spaced. Authors should take care to follow the Publication Manual of the American Psychological Association: Third Edition. Pay careful attention to:
1. The citation of published writings.
2. The use of quotations of various lengths.
3. The use of headings.
4. Matters of punctuation, style, endnotes, bibliography, and abbreviations.

Although these are merely conventions, they do provide a convenient way to edit written material for publication. This manual provides advice on most aspects of the preparation of a manuscript for publication in TRSE.

Each manuscript should include on a separate page, an abstract of 50–100 words. Ordinarily manuscripts will not be returned. Authors are not expected to send the original copy.

TRSE is a refereed journal. Manuscripts are sent to outside reviewers. This is often a time-consuming process. Reviewers of individual articles usually remain anonymous, although outside reviewers are identified in each issue of the journal.

Book Reviews
Book Reviews (two copies) should be sent to Jane J. White at the address in the front of the journal or to 1820 Tucker Lane, Ashton, MD 20861. The length may vary from 500 to 3500 words. The format for the top of the first page of the review is as follows:

Author (last name first). Title (underlined). City of publication: Publisher, date of publication, total number of pages, list price.

Reviewer's name, followed by your institutional address complete with Zip Code.

The book review, as all manuscripts, should follow the guidelines described above. If you use WordPerfect, please send a floppy disk with your review on it.
An Invitation

I would like to invite all readers of this journal to contribute to TRSE and to encourage friends or colleagues who are engaged in important research to do so as well.

It is my hope that during my editorship TRSE will publish many different kinds of scholarship concerned with social studies education. Publishing recent doctoral research is quite appropriate for the journal. Scholarship dealing with women's issues, racial issues, environmental issues, economic issues, peace issues, political issues, historical issues and or philosophical issues of social studies education are all appropriate for this journal. Scholarship concerned with curricular materials and instructional activities have an important place in this journal. My intention is to include rather than exclude different perspectives on research and scholarship.

We all share a common faith that something we think of as research is at least one way we should seek to improve social education. We, as social studies teachers, want our students to come to some understanding of society and history, to be effective citizens, to avoid the abberations of racial, religious and sexual prejudice. Through social studies education we hope to contribute to the development of a saner, more just, less polluted, less violent world.

Whatever this hope and aspiration, the actual world we live in presents a darker aspect: savage conflicts in Central America, Africa, the Middle East, Sri Lanka, The Philippines, and East Timur. Torture, assassination, arms races, world wide environmental degradation and homelessness, poverty and despair in many United States cities are everyday realities. Often torture and assassination are claimed to be progress, or the defense of democracy or a struggle for social justice. The truths of our planet are infinite and many of them are painful. On our troubled planet what is wisdom in social studies education?

What research is vital to our professional concerns? What should we seek to know that we do not know? About social studies education? About human society? About being human? About the conduct of social inquiry? What research is relevant to our highest aspirations and yet grounded in an awareness of our human condition? What issues should be explored in TRSE?

I would like to invite all readers of this journal to join in the exploration and clarification of ways we may seek to make social studies more honest in its treatment of issues, more significant in its intellectual challenge, more important in the lives of students.

Millard Clements

Editor, TRSE
Theory and Research in Social Education

Editorial Board

David Berman
University of Pittsburgh
School of Education
4C12 Forbes Quadrangle
Pittsburgh, PA 15260

Jane Bernard-Powers
San Francisco State University
Elementary Education
1600 Holloway Avenue
San Francisco, CA 94132

Charles Chamberlin
University of Alberta
Department of Elementary Education
Edmonton, Alberta
Canada, T6G 2GS

Gloria Contreras
North Texas University
College of Education
P.O. Box 13857
Denton, TX 76203

Catherine Cornbleth
State University of New York at Buffalo
593 Baldy Hall
Buffalo, NY 14260

Lee H. Ehman
Indiana University
School of Education
Third and Jordan
Bloomington, IN 47405

Terrie Epstein
University of Denver
School of Education
Denver, CO 80208

Jean D. Grambs
The University of Maryland
College of Education
Institute for Child Study
College Park, MD 20742

Mahammad Hasan
IKIP Jakarta
Rawamangun
Jakarta Timur
Indonesia, 13220

Nancy R. King
Towson State University
Lida Lee Tall Learning Resources Center
Towson MD 21204

A. Guy Larkins
University of Georgia
College of Education
Dudly Hall
Athens, GA 30602

Tetsu Nakamura
Hyogo University of Teacher Education
942-1 Shimokume
Yashiro-Cho
Hyogo 673-14
Japan

Murry R. Nelson
Pennsylvania State University
College of Education
Chambers Building
University Park, PA 16802

Lynette K. Oshima
The University of New Mexico
Curriculum and Instruction
Multicultural Teacher Education
Albuquerque, NM 87131
Thomas S. Popkewitz  
University of Wisconsin  
Curriculum and Instruction  
225 North Mills Street  
Madison, WI 53706

B. Robert Tabachnick  
University of Wisconsin  
Curriculum and Instruction  
225 North Mills Street  
Madison, WI 53706

Akihide Tanikawa  
University of Tsukuba  
Institute of Education  
1-1 1 Tennodai Sakura-Mura  
Niihari-Gun Ibaraki Prefecture  
305 Japan

Mary Kay Tetreault  
California State University  
at Fullerton  
School of Human Development  
Fullerton, CA 92634

Stephen J. Thornton  
University of Delaware  
Department of Educational  
Development  
College of Education  
Newark, DE 19716
The College and University Faculty Assembly Executive Committee 1988–1989

Stephen J. Thornton, Chair, 1989
University of Delaware
Department of Educational Development
Newark, Delaware 19716
Office: 302/451-1656
Home: 302/368-9702

Terrie Epstein, Secretary, 1991
University of Denver
School of Education
Denver, CO 80208
(O): 303/871-2486
(H): 303/722-8883

Patricia Avery, 1991
125 Peik Hall
159 Pillsbury Dr., SE
University of Minnesota
Minneapolis, Minnesota 55455
(O): 612/625-5802
(W): 612/823-2175

Jane Bernard-Powers, 1990
San Francisco State University
1600 Holloway
San Francisco, CA 94132
(O): 415/338-1562
(H): 415/864-8732

Stan Easton, 1989
Montana State University
Department of Curriculum and Instruct
Bozeman, MT 59717
(O): 406/994-4752
(H): 406/586-0410

Patrick Ferguson, 1990
University of Alabama
P.O. Box R
College of Education
Tuscaloosa, AL 35487
(O): 205/348-6091
(H): 205/339-2530

James Lemming, 1990
Curriculum and Instruction
Southern Illinois University
Carbondale, IL 62901
(O): 618/536-2441
(H): 618/549-1005

Lynda Stone, 1989
Swarthmore College
Education Department
Swarthmore, PA 19081
(O): 215/328-8343
(H): 215/543-8968

William Wilen, 1991
Kent State University
404 White Hall
Kent, OH 44242
(O): 216/677-2472
(H): 216/678-1053


President: Donald O. Schneider
College of Education
220A Tucker Hall
University of Georgia 30602
Tel: 404/542-7082

President Elect: Mary McFarland
Instructional Services Center
Parkway School District
12657 Fee Fee Road
St. Louis, MO 63146
Tel: 314/469-8525

Vice President: C. Frederick Risinger
Social Studies Development Center
Indiana University
2805 East 10th Street
Bloomington, IN
Tel: 812/885-3584
1990 CUFA Program Chair

Jane Bernard-Powers  
San Francisco State University  
1600 Holloway  
San Francisco, CA 94132  
(O) 415/338-1562  
(H) 415/864-8732

As of June 1989, no program Co-Chair has been selected. The deadline for submitting proposals is the first week in February. Write if you have suggestions or questions about the program. The 1990 Program Theme is “Opening Pathways to Citizenship: The Role of Social Studies in a Changing Nation.”

The 70th Annual NCSS meeting is November 15-18, 1990 in Anaheim, California.