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**ABSTRACT**

This memorandum discusses a number of recommendations proposed for changes in the Michigan Educational Assessment Program (MEAP). The Higher Level Assessment Study Group discussed ways to further MEAP testing goals: expand testing into additional subject areas, for every pupil, on a cyclical basis; set higher standards encouraging student performance beyond the minimum; and assist local districts in developing their own assessment program. Four recommendations were made: (1) revise mathematics and reading testing of every pupil in grades 4, 7, and 10, including assessment of thinking skills and understanding concepts; (2) evaluate every student's writing skills annually; (3) use matrix sampling to annually administer some items to every pupil in health, science, social studies, career development, and thinking skills; and (4) implement these goals in grades 5, 8, and 11. Additional ideas for helping students excel included: assessing high school students' preparedness for college; providing information on advanced placement programs and tests; improving the career development curriculum; and providing a state-developed assessment model for local school districts. (Attachments to this three-page memorandum include a list of group members, the 12-page report, a timetable for implementation, and workshop materials on California's critical thinking tests.)  
(GDC)

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Information on the Recommendations of the Superintendent's Study Group  
on MEAP Plans for the Future

Phillip E. Runkel  
Superintendent of Public Instruction  
Michigan State Department of Education

February 6, 1986

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## M E M O R A N D U M

TO: State Board of Education

FROM: Phillip E. Runkel

SUBJECT: Information on the Recommendations of the Superintendent's Study Group on MEAP Plans for the Future

In January, 1985, the Michigan Educational Assessment Program (MEAP) presented a proposal for change in the Assessment Program to the Michigan State Board of Education. This resulted from suggestions contained in the State Board of Education's Blueprint for Action, those proposed by several subject matter organizations and others, and initiatives taken by the Legislature.

The first change proposed was an expansion of the current testing program into other subject areas on an every-pupil, cyclical basis. The second dealt with setting a higher standard for student performance which would encourage districts and students to go beyond the minimum. The final change dealt with assisting local districts to develop their own assessment program.

Following receipt of these proposals, the State Board directed MEAP staff to convene a study group to discuss the issues and develop recommendations for presentation to the State Board of Education. A committee composed of Michigan educators from local and intermediate school districts, colleges, universities and the Department of Education (see Attachment A) met monthly during this past year to deliberate the many complicated issues.

The committee deliberated at some length on how to set higher standards for Michigan students. Some felt that harder test content or a broader range of test content would encourage all students to work harder. Others felt attention to developing critical thinking skills would set this higher standard. All agreed that other subject areas should be tested and should be done so frequently enough to allow local districts to review and improve their instructional programs. The group felt that testing an area, such as Science, once every four years would not give enough data to help either individual students nor guide instructional improvement. They recommended a matrix-sampling approach to provide data annually, but keep testing time to a minimum. In particular, the group felt that Writing should be tested, not only because of its importance in its own right, but also because it is a primary means of assessing critical thinking.

Taken as a whole, the study group recommends:

1. Basic Skills Assessment - continue the revision of the every-pupil Mathematics and Reading essential skills assessments at grades 4, 7 and 10. The revisions should include the assessment of a) thinking skills, and b) a broader range of concepts so that the focus is on understanding the concept being tested;
2. Administer an every-pupil Writing assessment annually;
3. Assess Health, Science, Social Studies, and Career Development on an every-pupil, matrix-sampling basis annually. Each student would participate by taking a sub-set of the total pool of test items. Thinking skills should be assessed in all content areas;
4. It is recommended (2&3) be implemented in grades 5, 8 and 11.

The committee also felt there were other ways in which the State Board of Education could help certain students excel in school. While not functions of MEAP, these deserve consideration and should be studied in greater depth. These include:

- a. Specific tests should be developed for high school students for the purpose of helping individuals assess their preparedness for college. Each test should have a subject matter focus, include thinking skills and an individual writing assessment. It is felt that this high school subject matter test battery should be available throughout the state and administered at designated test sites on a voluntary, student-paid basis. These tests would go beyond the current ACT, which are used to predict success in college, to help students determine the adequacy of their preparation in mathematics, science, language arts and so forth. While such tests could be developed cooperatively by colleges, universities and the Department, it is hoped that they could be administered in conjunction with other college entrance tests such as the ACT.
- b. Information on currently available placement and advanced subject matter tests should be given to Michigan K-12 districts and updated on a yearly basis. This should include information on such programs as IB (International Baccalaureate), AP (Advanced Placement), ACS/MSTA (Chemistry Assessment), and AAPT (Physics Assessment). Not only would this provide immediate feedback to students thinking about further education while the test battery above is being developed, it would assist in getting college-level credit or placing out of entry-level courses, allowing for more advanced study.

- c. The Department and school districts should, develop and implement curriculum integrated with the career development needs of students and the various content areas.
- d. The State should develop standards and offer a model for comprehensive local assessment programs to local districts. These standards should include: 1) that local districts explicitly state their curricula in at least the areas of mathematics, reading, writing, science, social studies, health, and career development; 2) that such explicitly-stated curricula be made available to parents and other members of the public; 3) districts select, or develop tests in the areas of mathematics, reading, writing, science and social studies based on the local curricula. The tests would be administered to students at several grade levels to determine individual student learning. Group results would be given to the public on an annual basis as part of a report on the progress of the local district.

In order to carry out these proposals, the revisions of the Mathematics and Reading tests should continue; under current planning, these tests would first be used with all fourth, seventh and tenth graders in the Fall, 1988 MEAP. During this time, staff will define critical thinking and begin the adaptation of the current or revised fourth, seventh and tenth grade Health, Science, Career Development and Social Studies tests for use with students in grades five, eight and eleven. Finally, new Writing tests would have to be constructed for use at these grades. All of the tests to be used at grades five, eight and eleven would be piloted in 1988 and used on an every-pupil basis in 1989. A more complete schedule for implementing these changes is shown in Attachment C.

The study group's deliberations and rationale are presented in greater detail in the attached paper. It is requested that the Board discuss the proposed recommendations in order to direct staff's future activities.

## HIGHER LEVEL ASSESSMENT STUDY GROUP

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## HIGHER LEVEL ASSESSMENT COMMITTEE REPORT

This paper was prepared for discussion of the issues surrounding the proposed recommendations to the State Board of Education for changes in the Michigan Educational Assessment Program (MEAP). A major force for change has been the large number of reports on the condition of education nationally and in Michigan. A number of these have proposed using testing not only as a vehicle to monitor student achievement but also as a stimulus for educational reform. In Educational Reform and Declining Test Scores, Rudman and Sederburg report:

"Over the past few years, state and federal educational policy has targeted the lower achieving student. This targeting of funds and effort has yielded results. However, it is apparent that, at the same time, we may have neglected the better achieving student. In contrast to the prevailing belief, the brightest students have not succeeded regardless of the educational system.

Consequently, we are calling for a shift in educational policy. We must create an educational system that challenges all young people and develops students to the best of their abilities. Emphasis on testing for basic skills for high school graduation and grade promotion reinforce the attitude that teachers and administrators should be most concerned with the lower achieving student. While it is worthwhile to insure that all students possess "essential" skills before graduation, we must not overlook the student who is not challenged by such minimal objectives.

The recent proposals made by the State Board of Education go a long way toward accomplishing the goals outlined here. However, the entire focus must be shifted away from minimal skills which tend to bring high achievers down while trying to bring everyone up to the highest level possible. The State Board and the legislature will need to clarify their philosophical direction as well as set specific goals for whatever educational reform they wish to achieve in the 1980's."<sup>1</sup>

<sup>1</sup>Rudman, Herbert C., and Sederburg, William A., "Educational Reform and Declining Test Scores," (a paper presented to the Michigan State Senate, Lansing, Michigan 1984), P. 6.

This paper, written in response to A Nation At Risk and the Michigan State Board of Education's Better Education for Michigan Citizens: A Blueprint for Action, contained some of the initial proposals for developing a higher-level state assessment.

Recommendations contained within Better Education for Michigan Citizens: A Blueprint for Action include changes for the MEAP. Most specifically, "Explore increasing the scope of the statewide assessment testing beyond reading and mathematics to a periodic, every-pupil assessment in other subjects such as science and writing, to be determined by the State Board of Education."<sup>2</sup> Although not directly assigned to MEAP, other recommendations within the Blueprint support changes within the current assessment program:

- a. Recommendation 1, Page 3, "High expectations are a key component of student success."
- b. Recommendation 1, Page 3, "Ensure basic educational academic and career competence. . . ."
- c. Performance Standards, Page 5, "Evaluation should be reliable indicators of a student's readiness for further study."
- d. Assessment of Performance, Page 7 "School districts will need technical help in developing the recommended performance standards for students."

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<sup>2</sup>"Better Education for Michigan Citizens: A Blueprint for Action." (Lansing Michigan: Michigan State Board of Education, January 1984), P. 8.

Various subject matter organizations have expressed desire for every-pupil assessment within their content area. It is felt that the same constructive activities that have taken place in Reading and Mathematics should be available across the total curriculum. Such activities include:

1. encouraging schools to provide assistance to students so that they may attain skills that have not yet been learned.
2. provide summary information for schools to use to review and revise curricula.
3. provide information for reporting to parents and the community.
4. provide information to individual students which they can use in establishing further educational and career goals.

Further impetus for change was provided by the Legislature.

Act Number 240 of the Public Acts of 1984 included language calling for direct change to ". . . develop advanced tests for use in grades 4, 7 and 10 in the areas of language arts and mathematics."<sup>3</sup>

As a result of the many suggestions for change, MEAP staff presented a proposal to the State Board of Education last January (1985).<sup>4</sup>

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<sup>3</sup>Sec. 23(1) PA 240, 1984.

<sup>4</sup>"Michigan Educational Assessment Program: Proposed Plans For The Future," (a paper presented to the Michigan State Board of Education, Lansing, Michigan, January 1985).

These changes included:

1. An expansion of the current testing program into other subject areas on an every-pupil cyclical basis;
2. Setting a higher standard for student performance which would encourage districts and students to go beyond the minimum;
3. Assist local districts to develop their own assessment program.

Following receipt of these proposals, the State Board of Education directed MEAP staff to convene a study group to discuss the many issues and develop recommendations for presentation to the State Board of Education<sup>5</sup>. MEAP staff convened a Superintendent's study group composed of Michigan educators from local education agencies, intermediate school districts, colleges, universities and Department of Education personnel. The committee has met on a monthly basis and has spent considerable time studying the issues, establishing and revising recommendations.

Initially, considerable time was taken by the study committee to discuss the issue of which comes first, curriculum or assessment. Many felt that curriculum should lead as educational changes are proposed and testing should follow for the purpose of program evaluation as part of a natural sequence.

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<sup>5</sup> Minutes of the State Board of Education, 1984-85, (Lansing Michigan, Michigan State Board of Education), January 1985.

After considerable debate and constant revisiting of the issue, the committee, although reluctant, agreed that what is tested often becomes what is taught. As stated by Rudman:

"If any of us are still under the delusion that state-mandated assessment activities have little influence on educational programs . . . This is not to say that the power of state-mandated assessments is an absolute power to do good or mischief, but it most certainly does affect teaching and learning for the long term. How we harness that power will, ultimately, determine the future of education not only in this state, but in those other states where testing has been used to affect the nature of the learning experiences of students and the instructional goals of their teachers."<sup>6</sup>

The original charge of the study committee was to develop recommendations for a higher level assessment. This was interpreted to mean a separate test would be available for students who have already successfully completed the current basic skills assessment in mathematics and reading. Two separate proposals presenting this format were presented to the committee. After considerable debate the committee rejected the idea of an assessment opportunity for those who had passed the current test and at the same time denying opportunity for all students to be exposed to the higher level assessment.

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<sup>6</sup>Rudman, Herbert C., "Testing Beyond Minimum's" (a paper presented at the 25th Michigan Testing Conference, Ann Arbor, Michigan, February 1985), P. 1.

Many felt that the current basic skills assessment may be a problem itself. If education is to move toward a higher degree of excellence, it should do so for all students. All students should have the opportunity to grasp essential skills and to develop abilities that will prepare them for the rapidly changing world of work. All must have the opportunity to develop the ability to process information versus the emphasis on consumption of information. Therefore, the committee directed its attention to strengthening the current MEAP so that it may more adequately respond to current and future curricular trends and societal needs.

Following are issues on which the committee reached consensus and recommended to the MEAP staff to prepare proposed changes to be presented to the State Board of Education:

1. Subject areas such as Health, Social Studies, Science and Career Education should be assessed more frequently than the current four year cycle. This would allow for uninterrupted program review as information would be available on a continual basis. Students, parents and the community would get yearly feedback on the total curriculum as opposed to the current information based on only reading and mathematics.
2. The MEAP should stress a conceptual understanding of subject content (i.e. different computing modes and application of addition). Content should be more difficult (i.e. Algebra in the tenth grade mathematics test).

3. Thinking skills should be assessed within each content area. As reported in PS News, Paul Rousseau states in his article "Teaching Thinking", "We need to teach thinking skills because students need to learn how to learn and because being able to think critically is a necessary condition for being educated. We should focus on the content and the process used in applying the content."<sup>7</sup>
4. Writing should be assessed on a yearly every-pupil basis. This is an essential life long communication skill and directly reflects a student's ability to think.

The National Science Board Commission on Pre-College Education in Mathematics, Science and Technology declared in its report *Educating Americans for the 21st Century*:<sup>8</sup>

"We must return to basics, but the basics of the 21st century are not only reading, writing, and arithmetic. They include communication and higher problem solving skills and scientific and technological literacy - the thinking tools that allow us to understand the technological world around us . . . Development of students' capabilities for problem solving and critical thinking in all areas of learning is presented as a fundamental goal."

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<sup>7</sup> PS News, 41 Nov.-Dec. 1985, P. 41-42.

<sup>8</sup> Educating Americans for the 21st Century (Washington, D. C.: The National Science Board Commission on Pre-College Education in Mathematics, Science & Technology, 1983.)

## Proposed Changes in MEAP

Taking into consideration the suggested revisions and changes suggested by the Assessment Study Committee MEAP staff recommends the following for consideration by the State Board of Education:

1. Basic skills assessment - continue the revision of the every-pupil Mathematics and Reading essential skills assessments at grades 4, 7, and 10. The revisions should include the assessment of a) thinking skills, and b) a broader range of concepts so as to focus on understanding the concept;
2. Administer an every-pupil Writing assessment annually;
3. Assess Health, Science, Social Studies, and Career Development on an every-pupil matrix-sampling basis. Each student would participate by taking a sub-set of the total pool of test items. Thinking skills should be assessed in all content areas.
4. It is recommended (2 & 3) be implemented in grades 5, 8 and 11.

A number of related issues must be studied and decisions made in order to carry out the suggested recommendations.

In order to assess critical thinking within the subject content areas, there is a need to define the necessary skills that would be measured. A number of other states have been involved in the process and have been successful in measuring the critical thinking abilities of their students (See Appendix A for an example of one state's effort in this area.)

A period of time is needed for Michigan educators to study subject area test objectives and develop a process for infusing thinking skills into the curriculum.

The every-pupil Reading assessment is currently in the test development phase and as scheduled the statewide test item pilot is to take place fall 1986. It will eventually be necessary to include the future thinking skills definition in the Reading assessment. A review and possible revision of some Reading objectives may be necessary to insure that these thinking skills are included in a comprehensive manner.

The every-pupil Mathematics assessment is in the initial revision stage. It is hoped that the suggested recommendation can be incorporated into the test as it moves through the revision process.

The recommended writing assessment would be administered in the form of essays common to all students. It is hoped that scoring would be done on an individual basis by trained Michigan educators. This would necessitate a comprehensive plan to review current objectives, develop test prompts and train test scorers throughout the state. "A carefully planned assessment which takes consideration of recent research in writing might not be utilized if money is not available for administering and scoring the test or if there is not adequate time for the assessment sessions or for scoring the assessment." <sup>9</sup>

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<sup>9</sup>Afflerbach, Peter, ERIC/TME Report 87, "The Statewide Assessment of Writing," P. 9-10.

Health, Science, Career Development and Social Studies would be tested together. A limited number of objectives would be selected from each subject and prepared in the form of one test booklet. Each student would be tested in grades 5, 8, 11 and the scores would be reported at the school and district levels only. By testing such areas annually, schools would be provided data that could be used to review school curricula and make improvements where needed. If accepted, a prime issue is to adapt the current subject objectives and tests to the suggested format.

A continuity in MEAP is important. The following schedule is suggested as staff prepares to carry out the recommended changes. It should be noted that these recommendations have resource allocation implications. Current staff and funds will need to be increased to implement the proposed programs.

### Related Assessment Issues

The study group examined a variety of ways of encouraging excellence in students. Some of these are methods which the group felt should be developed, though not specifically the task of MEAP. Although the study committee was unable to reach consensus on the following issues it was felt these areas were of specific importance to the education of Michigan students, deserve consideration and should be studied at greater length. They include:

- a. A battery of tests might be developed to assess individual student readiness for college. Tests should be developed in a project jointly run by the colleges and universities and the Department. Each test would have a subject matter focus, including thinking skills and an individual writing assessment. The tests would be voluntary and given only at the request of individual students for their use in evaluating their readiness for advanced education. In order to address the concern of additional testing time, it is felt that the high school subject matter test battery would be available throughout the state and administered at designated test sites.
- b. Information on currently available placement and advanced subject matter tests should be given to Michigan K-12 districts and updated on a yearly basis. This would include information on such programs as IB (International Baccalaureate), AP (Advanced Placement), ACS/MSTA (Chemistry Assessment), and AAPT (Physics Assessment).

Not only would this provide immediate feedback to students thinking about further education while the test battery above is being developed, it would assist in getting college-level credit or placing out of entry-level courses, allowing for more advanced study.

- c. The State should offer standards and a model for comprehensive local assessment programs. These standards should include: 1) a requirement that local districts be able to explicitly state their curricula in at least the areas of mathematics, reading, writing, science, social studies, health, and career development; 2) that such explicitly-stated curricula be made available to parents and other members of the public; 3) districts would then be able to select, or develop tests in the areas of mathematics, reading, writing, science and social studies based on the local curricula. The tests would be used to determine individual student learning and would be administered to students at several grade levels. Group results would be given to the public on an annual basis as part of a report on the progress of the local district. The necessary policy advisory and technical committees would be used at the state level to establish appropriate standards and approve tests.

Timeline For Implementing Recommended Changes

- 1986
1. Every pupil tested in Science/Mathematics and Reading (current form). Grades 4, 7, 10.
  2. Test development and revision - Reading/Mathematics.
  3. Define thinking skills.
  4. Begin adaption of Health Career Development, Science, Social Studies objectives for an every-pupil matrix sample.
  5. Begin development of every-pupil writing assessment.
- 

- 1987
1. Every pupil testing - Mathematics/Reading (current form). Grades 4, 7, 10.
  2. Pilot new reading test.
  3. Continue revision - mathematics test.
  4. Infuse thinking skills into subject content objectives.
  5. Pilot Health, Career Development, Science Social Studies combined test. Grades 5, 8, 11.
  6. Train Michigan educators to score every pupil writing assessment.

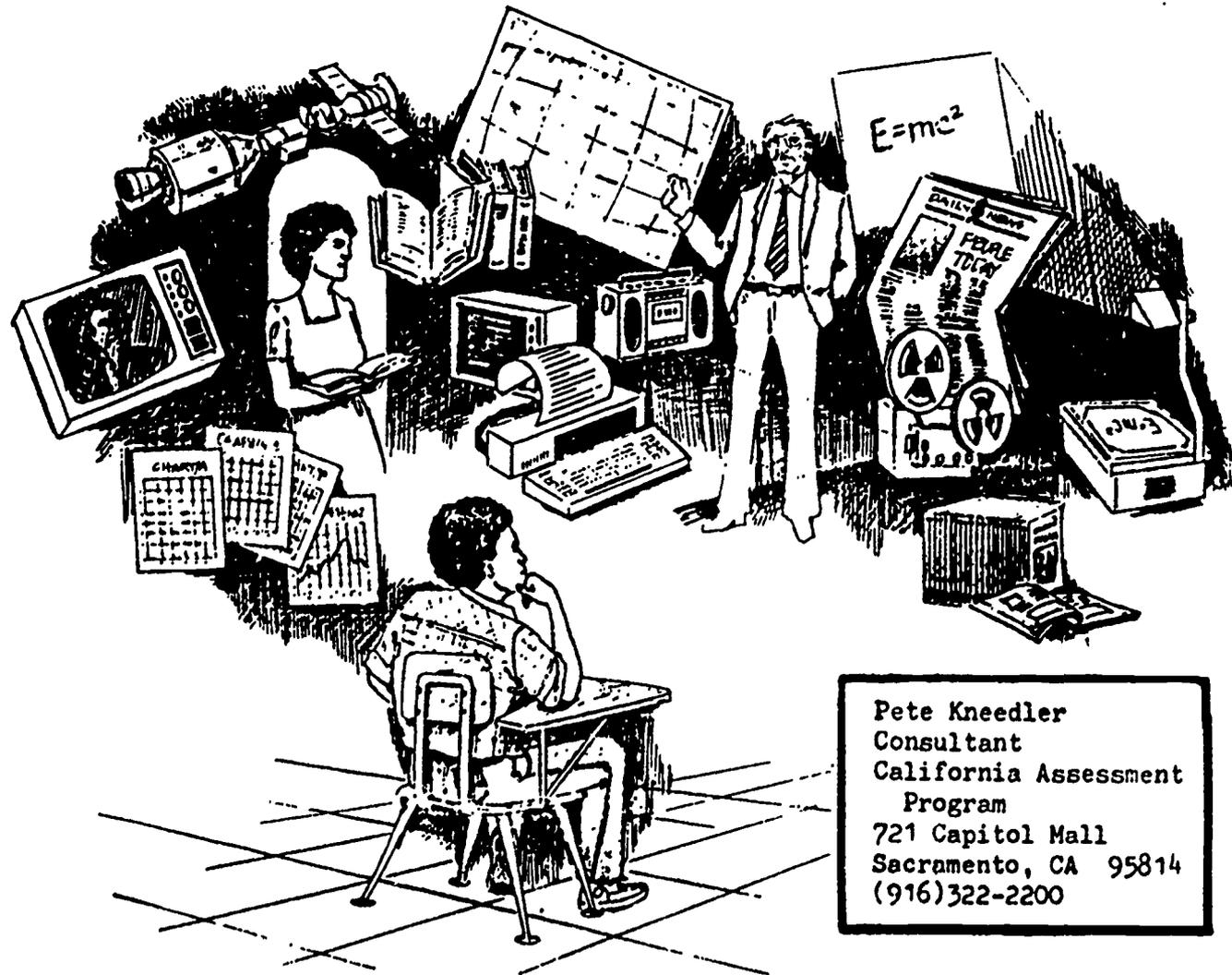
- 1988
1. Every-pupil reading assessment (new form). Grades 4, 7, 10.
  2. Pilot and complete revisions mathematics test (thinking skills included). Grades 4, 7, 10.
  3. Pilot writing test. Grades 5, 8, 11.
  4. Pilot combined Health, Career Development, Science, Social Studies - thinking skills included. Grades 5, 8, 11.
- 

- 1989
1. Every-pupil reading/mathematics assessment. Grades 4, 7, 10.
  2. Every-pupil writing assessment. Grades 5, 8, 11.
  3. Every-pupil matrix sampling Health, Career Development, Science, Social Studies. Grades 5, 8, 11.

1985-86

# California's Assessment of the Critical Thinking Skills in History-Social Science

WORKSHOP  
TRANSPARENCIES



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# Critical Thinking Skills

1.

GRADE 8

## I. DEFINING AND CLARIFYING THE PROBLEM

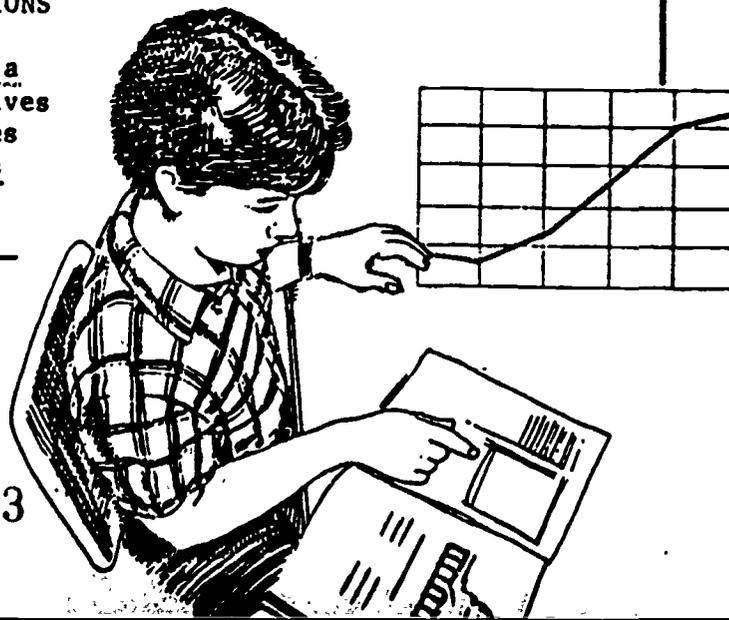
- A. Identify central issues or problems
- B. Compare similarities and differences
- C. Determine which information is relevant
- D. Formulate appropriate questions
- E. Express problems clearly and concisely

## II. JUDGING INFORMATION RELATED TO THE PROBLEM

- A. Distinguish among fact, opinion, and reasoned judgment
- B. Check consistency
- C. Identify unstated assumptions
- D. Recognize stereotypes and cliches
- E. Recognize bias, emotional factors, propaganda, and semantic slanting
- F. Recognize value orientations and ideologies

## III. SOLVING PROBLEMS/DRAWING CONCLUSIONS

- A. Recognize the adequacy of data
- B. Identify reasonable alternatives
- C. Test conclusions or hypotheses
- D. Predict probable consequences



## WHAT ARE THE CRITICAL THINKING SKILLS?

2.

### WHAT THEY ARE NOT

- They are not those skills that just bright students display on advanced placement tests
- They are not part of a temporary movement or fad
- They are not concerned with abstract or content-free thought

### WHAT THEY ARE

- Skills that all students and adults should be practicing every day
- Skills that help students assess information
- Skills that provide students with tools for processing information
- Skills that help students reasonably decide what to believe and do (i.e., solve problems, make decisions)
- Skills that help students participate effectively in a representative democracy

