



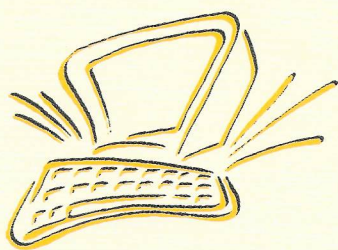
New Connections

INCREASING THE USE OF
ELECTRONIC LEARNING RESOURCES
IN CALIFORNIA'S SCHOOLS

A Report and Recommendations



CALIFORNIA COUNCIL
ON SCIENCE AND TECHNOLOGY



New Connections

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A Report and Recommendations

from the

California Council

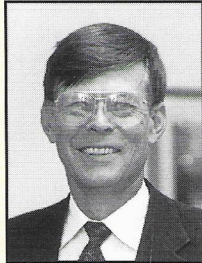
on Science and Technology



April 1998

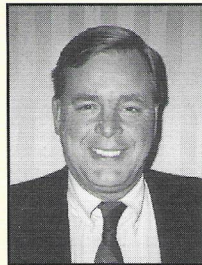
P R E F A C E

Robert L. Byer



Robert L. Byer
Council Chair

Peter Smith



Peter P. Smith
Chair, Education
Committee

Susan Hackwood



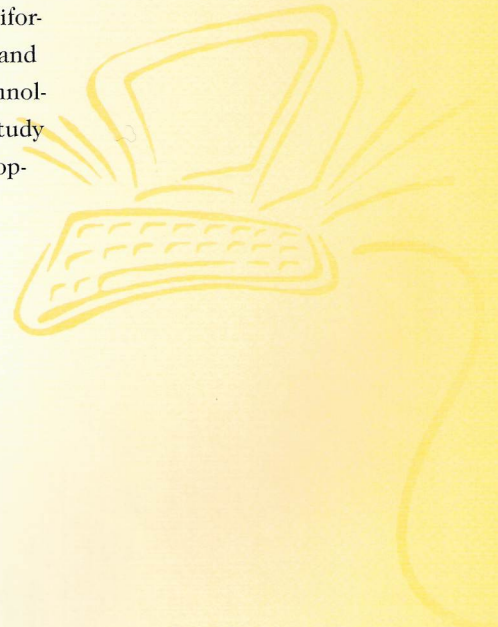
Susan Hackwood
Executive Director

On behalf of the California Council on Science and Technology (CCST), it is with great pleasure and a sense of hopefulness that we present *New Connections: Increasing the Use of Electronic Learning Resources in California's Schools*.

The CCST was created by state statute in 1988 as an independent not-for-profit organization to advise and act on matters related to technology and the betterment of the State's economy and quality of life. Since our youth are crucial to ensuring California's role as a national leader in technology, CCST has a keen interest in the quality of elementary and secondary education in the state. This, combined with specific requests from the Office of the Governor, the California Department of Education, and the Education Council for Technology in Learning, led CCST to study the current process for the adop-

tion and use of electronic learning resources in the public schools and to make recommendations for needed and appropriate changes.

We are thankful for the thoughtful work of many who are concerned about the lack of current, high-quality, and appropriate electronic learning resources in the schools and whose ideas are reflected in this report. We are particularly grateful to CCST's Electronic Teaching Media Task Force and the advisors and consultants who made the commitment to bring the report to fruition. And we owe a special debt of gratitude to Lee Kerschner, who gave so generously of his time and his ideas as the Task Force Chair.



EXECUTIVE SUMMARY

In late spring of 1997 the California Council on Science and Technology received requests from Governor Pete Wilson, the California Department of Education, and the Education Council for Technology in Learning to explore the process for adopting electronic learning resources for California's public schools and to recommend appropriate changes. The assumption, borne out by subsequent investigations of CCST's Electronic Teaching Media Task Force, an ad hoc group established in response to the request, was that the process has been too slow and cumbersome to accommodate today's fast-paced development and proliferation of electronic learning resources. In addition, the standard process for adopting instructional resources has not addressed the need for a frequently updated, consumer-oriented review of those that are electronic and technology-based.

This report presents CCST's response. The report begins with an overview of the standard process used for the adoption and purchase of instructional resources for California's schools. The process is rooted in a textbook-centered view of education that was not intended to encompass the new instructional technologies that are becoming

increasingly common in California's schools. At best, CCST has concluded, the process is unable to respond adequately to the outpouring of new electronic learning resources and new technologies that California's schools must increasingly take into account.

The report continues with a set of specific recommendations that define a new process for the adoption of electronic learning resources. The major recommendations call for the Governor's Office, the Department of Education, and other key stakeholders to:

- Develop a new process specifically for electronic learning resources so that current, high-quality, and appropriate technology-based instructional materials may be selected and purchased by local school districts on a continuing basis.

- Encourage publishers and instructional materials developers to submit electronic learning resources for review on a continuing basis.

- Designate an independent, broadly representative, expert body to guide and advise the process.

- Establish an Electronic Learning Resources Fund similar to, in addition to, and coordinated with the existing Instructional Materials Fund that will support the use of current, appropriate, and high-quality electronic learning resources in grades K-12.

In summary, CCST is calling for a new process for the adoption of electronic learning resources that will adhere to the following guidelines:

- 1 As before, the State Board of Education adopts academic standards and curriculum frameworks, which establish the instruc-



tional guidelines for major areas of the K-12 curriculum.

2 The selection and purchase of electronic learning resources is delegated to the local district level.

3 Developers of electronic learning resources submit materials for review, verifying that they meet the requirements of the academic standards and curriculum frameworks. Publishers may also choose to submit their materials to the existing Instructional Resources Adoption Process if they wish.

4 An organization(s) releases a “consumer report” on the materials evaluating the quality of the product and how well it meets all or part of the relevant academic standards and curriculum frameworks. This is a consumer-oriented review only. It is not designed to be a formal adoption process. This organization(s) also posts reviews

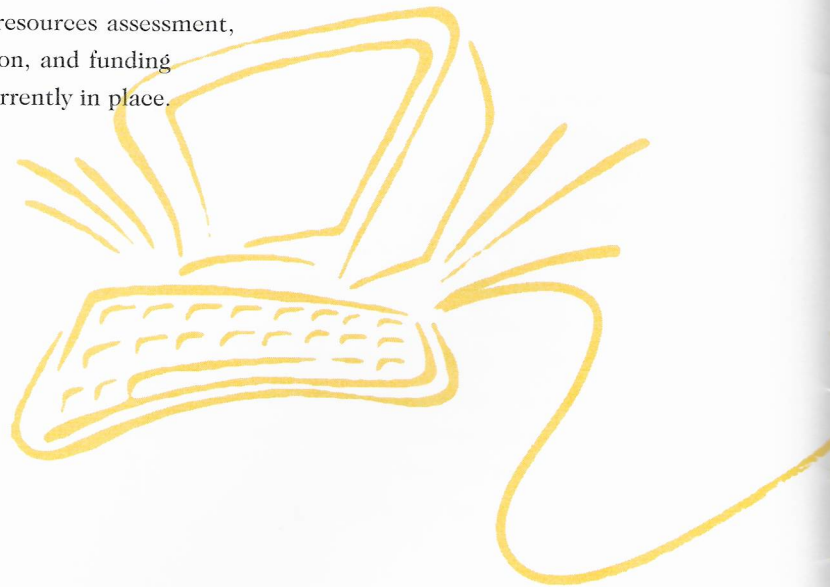
on a Web site and elicits comments and discussions through a users’ news group.

5 School districts decide, taking into account the views of teachers, parents, and students, which electronic learning resources they wish to purchase.

6 A new Electronic Learning Resources Fund, which supplements but does not supplant the existing Instructional Materials Fund, is created to support the purchase of electronic learning resources.

The following sections of this report present the rationale for the recommendations, the recommendations in detail, and a set of appendixes that document the instructional resources assessment, review, adoption, and funding procedures currently in place.

The standard process for adopting instructional resources has not addressed the need for a frequently updated, consumer-oriented review of those that are electronic and technology-based.



INTRODUCTION AND BACKGROUND

THE CALIFORNIA COUNCIL ON SCIENCE AND TECHNOLOGY

In 1988 the Governor and legislature created the California Council on Science and Technology (CCST) as a means to ensure the continuation and enhancement of California's technological leadership. The CCST is an independent, not-for-profit organization comprised of 30 corporate CEOs, academicians, scientists, and scholars of the highest distinction.

The primary function of the CCST is to improve science and technology policy in California by proposing programs, conducting analyses, and helping state government implement policies for a better economy and quality of life. In this capacity, the CCST utilizes a variety of strategies to accomplish its state-mandated role, including the formation of committees and task forces.

CCST'S ELECTRONIC TEACHING MEDIA (ETM) TASK FORCE

In late spring of 1997, the CCST Education Committee, prompted by a request from the Office of the Governor, the California Department of Education, and the Education Council for Technology in Learning, created the Electronic Teaching Media (ETM) Task Force.

The purpose of the ETM Task Force was to address a growing concern about the uses of electronic learning resources, including software, in California's schools.

As noted in *Connect, Compute, and Compete*, a 1996 California Department of Education report on the need for increased use of technology in the public schools, a recent survey found that most other states are well ahead of California. According to the survey, California is:

- 36th in CD-ROMs
- 43rd in network access
- 45th in number of students per computer
- 50th in videocassette recorders

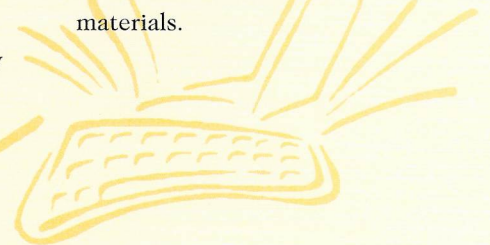
(Source: California Department of Education, *Connect, Compute, and Compete*, 1996)

Widespread use of the most up-to-date electronic learning resources is an imperative for today's schools. "By incorporating information technology into education," observed the California Governor's Council on Information Technology

in its 1995 report *Getting Results*, "educators will be able to create new opportunities for learning—and in doing so create new opportunities for students to excel...."

Yet California's schools are far behind in their use of electronic learning resources. Among the most important reasons for this, California, along with a few other states, most notably Texas and Florida, is an "adoption state." In California—and in other adoption states—only those instructional materials that have survived a lengthy review process are eligible to be purchased with state funds. The bulk of instructional materials found in most classrooms, at least through grade 8, are those that have made it to an officially approved and state-sanctioned list.

The main purpose of the adoption process is to ensure that instructional materials adhere to the guidelines of state-adopted instructional standards and frameworks. Advocates of the process believe that it ensures quality and objectivity in the selection of instructional materials.



Although, strictly speaking, schools are not prevented from purchasing textbooks and courseware whenever they want with whatever funds are available, in California most schools purchase new materials for the core curriculum on a cyclical basis. The cycle tends to be governed by the adoption process and a special state fund for the purchase of materials, the Instructional Materials Fund (IMF).

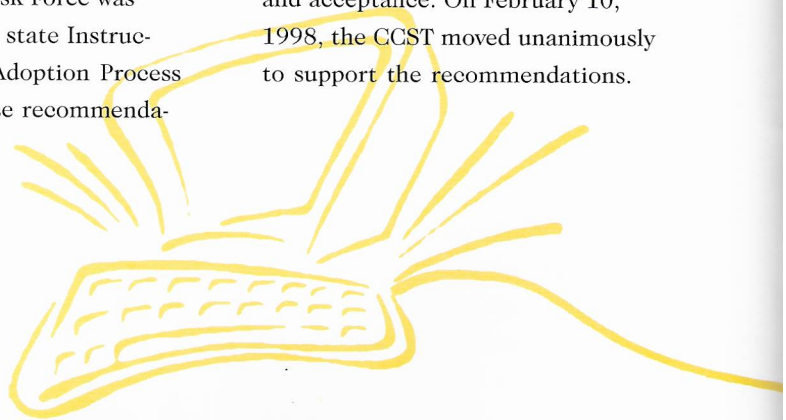
For the adoption of electronic resources and software in California, the process has one fatal flaw: It is extremely time-consuming. Purchases of new materials are as infrequent as every six years. Electronic instructional materials, including software and, more recently, Web-based learning options, can easily become obsolete—or at least need revision—every six months.

Although schools are not prevented from purchasing textbooks and courseware whenever they want with whatever funds are available, in California most schools purchase new materials for the core curriculum on a cyclical basis.

The ETM Task Force was charged with making recommendations to address this fundamental paradox. Specifically, the Task Force was asked to study the state Instructional Resources Adoption Process (IRAP) and propose recommenda-

tions that would enhance the availability of current, appropriate, high-quality electronic learning resources to California's K-12 public schools. Since the IRAP was designed primarily for full-course materials, most often in the form of textbooks, the Task Force determined that it was essential that a new, parallel process be created for the selection and purchase of electronic learning resources.

In a series of meetings and on-line discussions over several months, the ETM Task Force analyzed the multitude of issues, problems, questions, and possible solutions. On January 22, 1998 the Task Force delivered its recommendations to the Education Committee for review and acceptance. On February 10, 1998, the CCST moved unanimously to support the recommendations.



RECOMMENDATIONS



ESSENTIAL ASSUMPTIONS

Early on, the ETM Task Force defined a set of assumptions that would govern its recommendations.

- Because electronic learning resources become obsolete so quickly, for these types of materials the selection and adoption process requires drastic revision.

- Whatever new process is developed for electronic learning resources, the state academic standards and curriculum frameworks that drive instructional materials adoptions should continue to play a critical role.

- Given the great diversity of California's school population, the unique needs of the state's more than 1,000 school districts, and the need to respond quickly to changes in technology, the selection of electronic learning resources should be delegated to the local school district level.

- Publishers and developers of electronic learning resources must be required to confirm that their products meet the requirements of the state standards and frameworks, subject to verification by outside reviewers.

- Reliable consumer-oriented reviews of the available

electronic learning resources must be made widely available.

Following are the Task Force's specific recommendations for addressing these assumptions. The goal is to develop a process for the selection and purchase of electronic learning resources that will make California's schools truly responsive to the rapidly growing power of electronic technology as an essential element of teaching and learning.

SPECIFIC RECOMMENDATIONS

In order to respond to the pressing need for change in the acquisition of electronic learning resources, the immediate, vigorous, and collaborative effort of the Office of the Governor, the Department of Education, the Education Council for Technology in Learning, the California Instructional Technology Clearinghouse, and other key stakeholders is essential. Specifically, the ETM Task Force recommends that the following steps be taken by the appropriate agencies:

SELECTION AND PURCHASE OF ELECTRONIC LEARNING RESOURCES

- Develop a new process specifically for electronic learning resources so that current, high-quality, and appropriate technology-based instructional materials may be selected and purchased by local

school districts on a continuing basis.

- Ensure that the process identifies electronic learning resources that are aligned with the state academic standards, the curriculum frameworks, and other specific criteria for eligibility.

- Encourage publishers and instructional materials developers to submit electronic learning resources for review on a continuing basis.

- Encourage developers to submit electronic learning resources that are compatible and appropriate for use in the schools, including those that address the schools' technological needs and capabilities.

- Ensure that school districts have the option to purchase only those components of an instructional materials package that they need, including stand-alone resources or resources that supplement full-course materials.

- Enhance and develop staff/teacher preparation and development programs to ensure that new and existing teachers have the requisite skills and abilities to integrate the use of technology into their instructional repertoire.

DEVELOPMENT OF CONTINUOUSLY UPDATED CONSUMER REPORTS

- Establish procedures to manage and evaluate the review process, including Web site posting of reviewed materials as appropriate and facilitating a users' news group.
- Make new and updated consumer-oriented reviews of approved electronic learning resources available to school districts on a continuing basis.
- Make approved electronic learning resources available on-line for interested schools to evaluate, review, pilot, and purchase.
- Utilize existing organizations, that have the capacity to contribute to consumer-oriented reviews of technology-based teaching materials.
- Encourage the consumers of electronic instructional materials, including school districts, teachers, parents, and students, to be involved in reviewing and selecting them. Ensure that efforts are made to increase the technological knowledge and skills of those who review electronic learning resources.

OVERSIGHT

- Designate an independent, broadly representative, expert

body to guide and advise the process.

- Assign as one of the responsibilities of this body, the evaluation of the new process and its effectiveness, including annual reports to the key stakeholders.

FUNDING

- Establish an Electronic Learning Resources Fund similar to, in addition to, and coordinated with the Instructional Materials Fund that will support the use of electronic learning resources, in grades K-12.

SUMMARY

The CCST believes that swift and deliberate action must be taken to develop a process to increase the use of electronic learning resources in California's schools. We envision a new and quite different process:

- 1 As before, the State Board of Education adopts academic standards and curriculum frameworks, which establish the instructional guidelines for major areas of the K-12 curriculum.
- 2 The selection and purchase of electronic learning resources is delegated to the local district level.
- 3 Developers of electronic learning resources submit materials

for review, verifying that they meet the requirements of the academic standards and curriculum frameworks. Publishers may also choose to submit their materials to the existing Instructional Resources Adoption Process if they wish.

- 4 An organization(s) releases a "consumer report" on the materials evaluating the quality of the product and how well it meets all or part of the relevant academic standards and curriculum frameworks. This is a consumer-oriented review only. It is not designed to be a formal adoption process. This organization(s) also posts reviews on a Web site and elicits comments and discussions through a users' group.

- 5 School districts decide, taking into account the views of teachers, parents, and students, which electronic learning resources they wish to purchase.

- 6 A new Electronic Learning Resources Fund, which supplements but does not supplant the existing Instructional Materials Fund, is created to support the purchase of electronic learning resources.

The CCST is committed to assisting in this process and appreciates the opportunity and responsibility for putting forth these recommendations.

APPENDIX A

MEMBERS OF THE CCST ELECTRONIC TEACHING MEDIA TASK FORCE

Lee R. Kerschner, Ph.D., is Vice Chancellor, Emeritus, of the California State University and a CCST Fellow. Between 1985 and 1987 he was Executive Director of the California Commission on the Master Plan for Higher Education.

David E. Brown, Ph.D., Superintendent of the Napa Valley Unified School District, has had extensive administrative experience at the high school level and is President-Elect of the Association of California School Administrators (ACSA), for which he served as President from 1988 to 1992.

Susan Hackwood, Ph.D., is Executive Director of the California Council on Science and Technology and Professor of Electrical Engineering at the University of California, Riverside. From 1980 to 1984, Dr. Hackwood was at AT&T Bell Laboratories. In 1984 she joined the University of California, Santa Barbara as Professor of Electrical and Computer Engineering. In 1990 she became founding Dean of the Bourns College of Engineering at the University of California, Riverside.

John C. Ittelson, Ph.D., is Professor in the Telecommunications,

Multimedia, and Applied Computing Center for Science, Technology and Information Resources, California State University, Monterey Bay. He is also vice president of DesignWare, Inc., a firm that creates computer-based courseware, including interactive videodiscs.

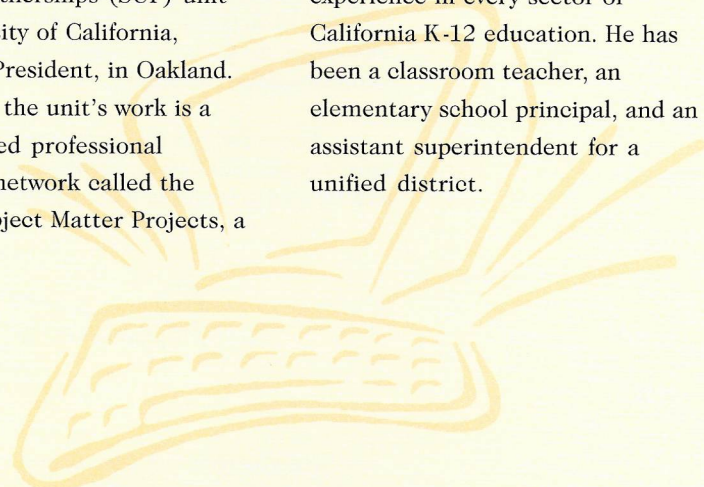
Marcia Linn, Ph. D., Professor of Cognition and Development, Graduate School of Education, University of California, Berkeley, researches the teaching and learning of science and technology. From 1995 to 1996 she was a fellow at the Center for Advanced Study in the Behavioral Sciences. She was recently selected to head the board of the McDonnell Foundation on Cognitive Studies in Education Practice.

Robert Polkinghorn, Jr., Ph.D., is Executive Director of the School/University Partnerships (SUP) unit of the University of California, Office of the President, in Oakland. One aspect of the unit's work is a discipline-based professional development network called the California Subject Matter Projects, a

statewide network of subject-specific professional development programs for teachers implemented through a partnership of the University of California, the California State University, the California Community Colleges, selected private colleges, the California Department of Education, and the public schools of California.

Barry R. Pulliam, Ed.D., is the County Superintendent of Schools for San Bernardino County. In 1997 he received the Education Service Award from the Inland Empire Hispanic Chamber of Commerce for "Outstanding Work in Promoting Economic Development via Technology and Education."

John A. Vaille, Executive Director of the California Instructional Technology Clearinghouse, is a recognized education technology leader with experience in every sector of California K-12 education. He has been a classroom teacher, an elementary school principal, and an assistant superintendent for a unified district.



APPENDIX B

LETTERS REQUESTING THE STUDY



GOVERNOR PETE WILSON

Dr. Susan Hackwood
Executive Director
California Council on Science and Technology
University of California, Riverside
Riverside, California 92521-0162

Dear Dr. Hackwood:

Earlier this year I signed AB 64, establishing the "Digital High School" program to provide each of California's public high schools, with a total population of 1.6 million students, access to the Internet and to computer technology. My proposal passed the Legislature unanimously, and 216 California high schools have been designated to receive a total of \$100 million in new State funding under this initiative in its first year.

The next step for California is to reexamine the process by which K-8 schools acquire and utilize information technology in the classroom and to make appropriate reforms. I recently vetoed legislation to reauthorize the State's existing educational technology program and will propose changes to that program next year.

In this context, I request the California Council on Science and Technology examine the State's existing textbook adoption and educational software approval process. As an independent organization representing leaders in science and technology, the Council is well-positioned to assess current practice and make recommendations for reform.

Please feel free to call upon members of my Administration as necessary to assist you and the Council, and any task force it creates, as you pursue this topic. I look forward to receiving your conclusions and recommendations.

Sincerely,

A handwritten signature in black ink that reads "Pete Wilson".

PETE WILSON

STATE CAPITOL • SACRAMENTO, CALIFORNIA 95814 • (916) 445-2841

CALIFORNIA
DEPARTMENT
OF
EDUCATION

721 Capitol Mall

Sacramento

CA 95811

Phone: (916) 657-4766

Fax: (916) 657-4975

DELAINE EASTIN

State Superintendent of Public Instruction

Dr. Susan Hackwood, Executive Director
California Council on Science and Technology
University of California, Riverside
4148 Hinderaker Hall
Riverside, California 92521-0162

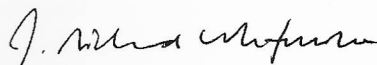
Dear Dr. Hackwood:

State Superintendent of Public Instruction Delaine Eastin recently convened a task force of business and education leaders to examine the current state of technology in California's schools and to recommend how to successfully integrate technology into California classrooms. The subsequent report, *Connect, Compute, and Compete*, contained many recommendations, one of which I would like to request the California Council on Science and Technology (CCST) to address. Specifically, I would like CCST to address the current materials adoption process that is deemed "... unable to accommodate either the short-term publication cycle, or the highly focused nature of courseware, CD-ROM, or video resources."

My staff and I stand ready to assist you in this endeavor.

If you have any questions, please do not hesitate to contact me at (916) 657-2644.

Sincerely,



J. Richard Whitmore, Chief Deputy Superintendent
Educational Policy, Finance, and Accountability

RW:jg
Enclosure



EDUCATION COUNCIL FOR
TECHNOLOGY IN LEARNING

California Council on Science and Technology
University of California, Riverside
Riverside, California 92521-0162

Attention: Ms. Susan Hackwood, Executive Director

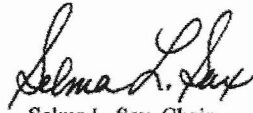
Dear Ms. Hackwood:

The Education Council for Technology in Learning (ECTL) is most interested in joining the Governor's Office and the Department of Education in requesting that the CCST convene a Task Force to review and suggest a plan to address the issue of the textbook and instructional materials adoption cycle as it relates to technology applications in K-12 education.

The Education Council has been working on this issue for the past few months and we would be delighted to share the current draft of our sub-committee's work. Your interest in pursuing a review of the materials and textbook adoption cycle would give added emphasis to the need to fully address this important area in the K-12 education process.

The ECTL will look forward to working with you and the members of the Task Force. We would be delighted to serve as a resource to the Task Force or in any other way you might suggest.

For the Council,


Selma L. Sax, Chair

California Department of Education, Educational Technology Office, 721 Capitol Mall, Sacramento, CA 95814 • (916) 657-5414

APPENDIX C

THE INSTRUCTIONAL RESOURCES ADOPTION PROCESS

The California State Board of Education adopts curriculum frameworks for kindergarten through twelfth grade in accordance with Education Code section 51002, which calls for the development of "...broad minimum standards and guidelines for educational programs." The State Board has adopted curriculum frameworks in all of the core subject areas including science, mathematics, history-social science, English-language arts, and health.

The curriculum frameworks describe what educators and professionals in the field expect K-12 students to learn based upon national research in education and the specific content area. The frameworks provide direction for curriculum delivery so that all students may develop high levels of skills, knowledge, and understanding. The frameworks also provide direction for professional development programs and inservice and preservice licensing standards.

Assessment instruments used to evaluate each student's progress and to hold schools and teachers accountable should reflect the content of the frameworks.

Each framework includes criteria for the evaluation of instructional resources. These criteria are used to select, through the state adoption process mandated in Education Code sections 60200-60204, instructional resources for kindergarten through grade eight. Frameworks also serve as guidelines for district selection of instructional resources for grades nine through twelve.

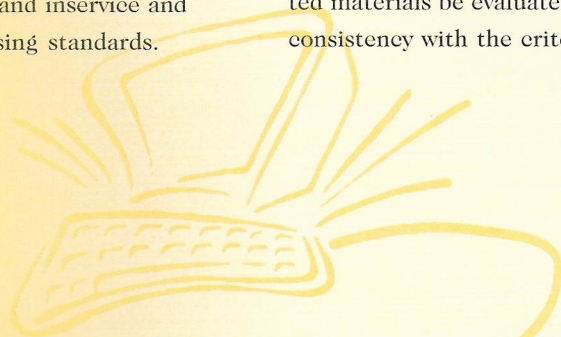
The State Board of Education has constitutional authority to adopt instructional resources, including technology-based resources, for grades one through eight (Article IX, section 7.5 of the California Constitution). Education Code sections 60200-60204 describe the instructional resources adoption process and mandate that submitted materials be evaluated for consistency with the criteria and

standards in the State Board's curriculum frameworks. In general, individual frameworks and the instructional materials are adopted on a six-year cycle.

The Instructional Materials Fund (IMF) was established through Education Code 60240 as "a means of annually funding the acquisition of instructional materials." For kindergarten through grade eight, the IMF is allocated to districts based upon the average daily attendance. Expenditures of the IMF for grades nine through twelve are based upon total enrollment. The bulk of the IMF moneys must be spent on state-adopted instructional resources.

Therefore, the framework development and instructional resources adoption process, combined with the IMF, becomes the driving force behind what is taught, how it is taught, and what materials are used in K-12 instruction in California's public schools.

—Adapted from *"Instructional Resources in California: An Overview of the State Review and Selection Process,"* California Department of Education, Curriculum Frameworks and Instructional Resources Office, January 1995



APPENDIX D

LEGAL REQUIREMENTS AND GUIDELINES FOR SCHOOL DISTRICTS REGARDING THE ADOPTION OF INSTRUCTIONAL RESOURCES

Instructional resources used in California public schools must comply with Education Code sections 60040-60044 as well as the State Board of Education guidelines in the document *Standards for Evaluation of Instructional Materials with Respect to Social Content*. The Legislature and the State Board of Education adopted these Education Code sections and policies so that instructional resources used in California would portray in a realistic manner democratic values, cultural pluralism, and the diversity of our population by emphasizing people in diverse, positive, and

contributing roles in order to positively influence students' school experiences. The review process to determine compliance with the Education Code and State Board of Education guidelines is referred to as the "social content review" or the "legal compliance review."

For kindergarten through grade eight, the California Department of Education conducts social content/legal compliance reviews. Districts may also conduct their own reviews. However, the amount of the Instructional Materials Fund that may be spent on instructional resources that have passed only a local level legal compliance review is limited. For grades nine through twelve, local governing boards have the

responsibility for ensuring that the standards have been met.

Reviews for legal compliance are performed on resources submitted for adoption as a part of the adoption process. However, a publisher or producer may at any time submit new or revised instructional resources for a social content review as long as the resources are in a subject area for which instructional resources are adopted by the State Board.

—Adapted from *Instructional Resources in California: An Overview of the State Review and Selection Process*, California Department of Education, Curriculum Frameworks and Instructional Resources Office, January 1995



APPENDIX E

STATE FUNDING FOR INSTRUCTIONAL MATERIALS

The Instructional Materials Fund (IMF) was established as "...a means of annually funding the acquisition of instructional materials..." (Education Code section 60240). For kindergarten through grade eight, the IMF is allocated to districts based upon the average daily attendance. The IMF for grades nine through twelve is based upon total enrollment.

Expenditures of the IMF for kindergarten through grade eight are governed by Education Code sections 60240-60251. Expenditures of the IMF for grades nine through twelve are governed by Education Code sections 60247-40249. Section 60242 authorizes the State Board of Education to establish a policy governing IMF expenditures for kindergarten through grade eight. This policy states that:

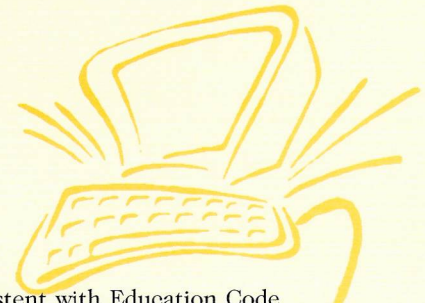
- At least 70 percent of the IMF must be spent on state-adopted instructional resources.
- 25 percent may be spent on:
 - Non-adopted instructional resources that have passed legal compliance review at the state level.
 - Instructional resources that are exempt from a legal compliance review, such as classic works of literature, trade books,

maps and globes, reference materials (including dictionaries), math manipulatives, and hand-held calculators.

- Instructional resources that are designed for use by pupils and their teachers as learning resources, are integral to a program, as defined in Education Code section 60011, but do **not** contain print or pictures, and, therefore, do not need a legal compliance review.

- Five percent of the IMF may be spent on any instructional resource that has passed a state or local level legal compliance review, instructional television and distance learning, tests (Education Code section 60224), and inservice training (Education Code section 60225).

School districts do have flexibility in the use of the IMF. They are encouraged to use this flexibility to purchase resources that best support the curriculum and assist in meeting the needs of students. It would be appropriate for a district to use up to 30 percent of its IMF to purchase high-quality primary language materials for LEP students if such materials are not available as a result of the state adoption. Up to 30 percent of the district's IMF may be spent on non-adopted materials; this may include up to 100 percent of an individual school's allocation.



Consistent with Education Code section 60200(h), local education agencies may petition the State Board of Education for approval to spend up to 100 percent of their K-8 IMF allocation on non-adopted instructional resources that have passed state level legal compliance review. The IMF can be used to purchase specified non-adopted instructional resources after the district "establishes to the satisfaction of the state board that the state-adopted instructional materials do not promote the maximum efficiency of pupil learning in the district." The petition process, coordinated by the Department of Education, may not be used for instructional resources in a subject area that is under current consideration for a "primary" adoption. This refers to the first adoption based on new or revised evaluation criteria tied to a new, revised, or reaffirmed curriculum framework. In addition, the petition process may not be used to obtain approval to spend more than 30 percent of the IMF on a subject not currently adopted by the State Board of Education.

—Adapted from *"Instructional Resources in California: An Overview of the State Review and Selection Process," California Department of Education, Curriculum Frameworks and Instructional Resources Office, January 1995*

ACKNOWLEDGMENTS

CALIFORNIA COUNCIL ON SCIENCE AND TECHNOLOGY

Robert L. Byer, Chair
Professor of Applied Physics
Stanford University

Robert P. (Chris) Caren
President, Litex, Inc.

Jerry D. Caulder
Chairman Emeritus
Mycogen Corporation

Octavia Diener
President, Densmore Engines
President, Tavie Farms, Inc.

Susan Hackwood
Executive Director, CCST

Charles E. Harper
President and Co-Founder
Sierra Monolithics

Theodore L. Hullar
Professor and Chancellor (1987-1994)
University of California, Davis
Director, Center for the Environment
Cornell University

Irwin M. Jacobs
Chairman and Chief Executive Officer
QUALCOMM, Inc.

Paul C. Jennings
Professor of Civil Engineering and
Applied Mechanics, California Institute
of Technology

C. Judson King
Provost and Senior Vice President,
Academic Affairs
University of California

William C.Y. Lee
Vice President and Chief Scientist
AirTouch Communications

Johnetta MacCalla
Chief Executive Officer
A.S.C.I.

William F. Miller
President Emeritus, SRI International
Professor of Public and Private
Management
Graduate School of Business
Stanford University

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Chairman and Chief Executive Officer
Infotec Development, Inc.

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Associate Dean of Research
School of Engineering
Director, Integrated Media Systems
Center
University of Southern California

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Morris M. Doyle Centennial Professor in
Public Policy
Stanford University

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University of California, Los Angeles

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SemiConductor Industries Association

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Vice President, Technology Strategy
Xerox Corporation

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California Institute of Technology

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University of California

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Loring A. Wylie, Jr.
Structural Engineer, Senior Principal
Degenkolb Engineers

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Co-Director, Berkeley Roundtable on
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Glen Thomas
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California Department of Education

Robert Trigg
Member, State Board of Education

CONSULTANTS/Writers/DESIGN

Pamela Luna
Hank Resnik

Andrea DuFlon



RIVERSIDE OFFICE

University of California, Riverside
Riverside, CA 92521
(909) 787-2913 (phone)
(909) 787-2914 (fax)

SACRAMENTO OFFICE

1130 K Street, Suite 280
Sacramento, CA 95814
(916) 492-0996 (phone)
(916) 492-0999 (fax)

E-MAIL

ceest@ceest.ucr.edu

INTERNET

<http://www.ceest.ucr.edu/>