

Mathematics

STEPHEN S. WILLOUGHBY

Did California Blow It?

The debate over whether state adoption improves or detracts from textbook quality has been going on for years. Those who argue for state adoption claim that states can draw on substantial resources (personnel, time, money, and ability to influence publishers) to provide an effective quality review. Those who are against state adoption point to the danger that political and economic influences will overwhelm the professional. Further, they argue that most states don't take advantage of the positive possibilities. For example, several years ago at least two state mathematics adoption committees in the southeast did not have a single member or advisor who belonged to any state or local organization for mathematics teachers or mathematicians.

California is often cited as the shining exception, where competent evaluators do a professional job and where outside influences are minimized through strict rules about contacts between evaluators and publishers. In my April 1986 column, I called the newly adopted *Mathematics Framework for California Public Schools* a "new hope for textbooks." The *Framework* is a stirring call for more emphasis on higher-order thinking skills, for integrating the various mathematics strands, for developing mathematical concepts from the learner's viewpoint—in short, for major improvements in the teaching of mathematics. A strange thing happened on the way to the *Framework*.

Forty-three California educators were chosen from more than 200 volunteers to be members of three Mathematics Instructional Materials Evaluation Panels. After spending two days being trained to evaluate programs in light of the *Framework*, they spent weeks studying the 14 K-8 mathematics series submitted. Their evaluations merit attention not only because of the time and judgment invested in them but because the approximately 300 pages of documentation can help readers decide whether they agree with the evaluators.

Thoughtful people will certainly differ with the judgments on some specifics. A few panelists appear not to approve of having textbooks at all, while others seem to not want to change from the status quo. In addition to questionable judgment calls, the reports contain simple errors of fact, as might be expected in any undertaking of this magnitude. Perhaps the greatest weakness is that the panels did not consider evidence from actual classroom use of the various programs. In spite of these drawbacks, I believe the evaluations were conducted with intelligence, care, surprisingly little prejudice, and considerable professionalism. The panel members are to be commended.

All three panels independently ranked the same mathematics series first. On 24 September 1986, the six-person Mathematics Subject Matter Committee recommended by a 5 to 1 vote that California adopt only the series ranked first by all three panels, and that seven other publishers be offered the opportunity to rewrite their programs to conform more closely with the California *Framework* and resubmit them within two years. Two days later the full Curriculum Development and Supplemental Materials Commission voted to reject the Mathematics Committee's recommendations. They recommended instead that *no* series be accepted, and that *all* 14 publishers be given *one year* to rewrite their programs and submit them for approval. Two weeks later the California Board of Education accepted this latter proposal.

California received considerable attention in the local and national press by rejecting all the mathematics programs submitted. The newspapers condemned publishers (including, apparently, the publisher of the series recommended for acceptance by the Mathematics Committee), extolled the good judgment of California, but never mentioned the contrary recommendations of the Mathematics Committee and the evaluations of the panelists who had put so much time, effort, and

professional judgment into their reports.

What explanation could possibly justify this remarkable turn of events? In spite of some weaknesses, the evaluation process seemed to be professional and proper. Goals and standards had been set. Subject-matter experts, teachers, and supervisors had spent substantial time and effort evaluating books. Great care had been taken to avoid contacts between publishers and panel members, except at formal hearings, so as to remove even the suspicion of impropriety.

Nobody can tell for sure what was going on in the minds of the various players in this drama, but various facts and conjectures are available.

First, the state legislature had mandated that there be at least five series on the list to allow for local choice. This is equivalent to a state legislature preventing any new cancer treatments from being used in local hospitals until at least five drug companies can produce acceptable treatments, in order to give the hospitals a choice. Those drug companies that spend less for research and development than for advertising might approve, but cancer patients might reasonably object. Most companies would not try to be first to produce such a remedy, knowing that they could get no return on their investment until four other companies had followed suit. Such a mandate would discourage future research and development.

Second, local textbook adoption procedures generally have more inherent inertia than the procedure followed by the California Mathematics Subject Matter Committee and its panels. Goals are not set as high. Teachers spend less time reviewing the books and rely more on hearsay or a quick "thumb test." Decision makers vote for what is familiar and comfortable, not for programs that will produce and require change. Unfortunately, this is the common practice even though there are notable exceptions. Possibly some textbook companies were counting on this when they submitted programs that obviously fell

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short of meeting California's *Framework*. If publishers could get on the state list without really having changed much, they would sell far better in the local districts. Indeed, one of the points raised by the single member of the Mathematics Subject Matter Committee who voted against their recommendation was that several local districts had decided in advance not to adopt the program ranked best by the panels.

Third, Standard 1 in the National Council of Teachers of Mathematics list of standards for selection of instructional materials says:

The entire process of textbook selection should be led by teachers and supervisors with expertise and responsibility in mathematics education. Except in most unusual circumstances, the recommendations of the committee must be followed.

In other words, the final decision should be made by people who know what they are doing and have actually evaluated the textbooks. California residents might reasonably wonder why in this case this somewhat obvious recommendation was not followed.

Fourth, the program that ranked first on the panels' lists had been developed and field-tested for 13 years, and the program's senior author had said he would refuse to allow substantive changes in any part of the program without modifying related parts and testing those changes with real children and teachers. The board's action appeared to guarantee that this particular program could not be revised and resubmitted in one year, and therefore would be permanently unavailable to California children (or would be resubmitted without substantial changes).

Fifth, since 1963 California has indicated a desire to move in the direction of the *Framework*. Those indications have become stronger over the years, as California has modified its guidelines and adopted textbooks. Publishers participated in the deliberations in 1984 and 1985 that led to the *Framework's* adoption. If publishers were unwilling or unable to do better than they did in the rather long time they had before submitting textbooks to the state, how could they possibly substantially improve those books in only a year? And how could anybody

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expect that eliminating the one program found acceptable by the Mathematics Subject Matter Committee would enhance the available choices? Further, publishers will now be forced to pass along to California buyers the millions of dollars in costs for revising the textbooks. Couldn't California educators have discovered a more productive way to spend that money, such as for higher salaries or inservice preparation of teachers?

Sixth, the board's action would appear to discourage publishers from taking seriously any of its future mandates. Evidently, by dragging their feet and submitting programs with minimal changes, publishers may still get on the California list by revising programs *after* the board decides what it will really settle for—and with those relatively small changes, the books are likely to sell better in the local school districts.

A process is now under way in the state to evaluate changes publishers will make in their student books (no changes in teachers' guides are to be evaluated). Decisions are to be based on ten limited and specific criteria, which are much less comprehensive than those contained in the *Framework*. It seems unlikely that page-by-page revisions in the student books will remove the main weaknesses identified by the three Evaluation Panels and the Mathematics Committee in the programs they did not want to adopt; namely, lack of integration of the strands and absence of problem solving as a central focus. If decisions are made based on how much change California has precipitated, the worst programs will have the best opportunity to succeed. If decisions are based on an entire program's quality, apparently at least one would not be required to change at all. The relative influence these two factors have on the final decisions will be of great interest.

Of the Review Committee's eight members, three are California State Department of Education employees, and five are members of the Curriculum Development and Supplemental Materials Commission. Six members of the original Evaluation Panels will advise the Review Committee. The chair of the board of education has

said there will be no political override of the committee's decision. A "rolling adoption" is to be used; that is, books will be evaluated and adopted (or rejected) as they are submitted. Perhaps this process will salvage some semblance of order and professional judgment out of the situation.

No matter what happens in the follow-up process, possibly more harm was done to the children of California and to mathematics education in the United States than if the *Framework* had never been adopted and the Mathematics Instructional Materials Evaluation Panels and the Mathematics Subject Matter Committee had never conducted their reviews. When a state with presumably good intentions can do this much harm to education through a state adoption process, it is time to question seriously whether state adoption is an appropriate way to choose textbooks.

I am the senior author of the series ranked first by the Evaluation Panels and the Mathematics Committee. Readers should evaluate opinions expressed here in light of that. The facts, however, are a matter of public record. □

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