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ABSTRACT

The National Education Commission on Time and Learning (NECT&L) is an independent advisory body authorized by Congress through the Education Council Act of 1991. It has been asked to make a comprehensive review of the relationship between time and learning in elementary and secondary education, including international comparisons, the use of time in and out of school, the use of facilities, year-round professional opportunities for teachers, and estimated costs of adopting longer school days and years. This report summarizes proceedings of a public hearing where the Commission met with representatives of five groups involved in developing and publishing new curriculum standards in music education, the natural sciences, English, mathematics, and geography: the Music Educators National Conference; the National Academy of Sciences; the National Council of Teachers of English; the National Council of Teachers of Mathematics; and the National Geographic Society. The hearing focused on the implications of new curricula for time in the school calendar. Representative agreed on the need to develop a thematic approach that cuts across issues and sets standards for all students. Other areas of discussion, involving much debate, included the adequacy of time for teacher preparation, the adequacy of the traditional calendar year, disciplines versus a common core of learning, and policy formation and implementation. One figure is included. (LMI)

EA

ED 372 488

HIGHLIGHTS

of

STANDARD MEETING

NATIONAL EDUCATION COMMISSION
ON TIME AND LEARNING

Washington, D.C.
May 13, 1993

EA 025 968

PREFACE

How can schools help *all* children succeed? With more time available for learning, will educators do more of the same or organize learning differently? What are the implications of nationwide efforts by individual disciplines to develop new curriculum standards? If new standards are developed, how and when will they be implemented? Above all, will new standards require more time in school or different use of time? These questions and others challenged members of the National Education Commission on Time and Learning (NECT&L) and its guests at a hearing in Washington, D.C., on May 13, 1993.

NECT&L is an independent advisory body authorized by Congress by Public Law 102-62, the Education Council Act of 1991. Its members—appointed by the Secretary of the U.S. Department of Education, the President of the Senate, and the Speaker of the House of Representatives—are to present a report to Congress and the Secretary of Education by April 1994. The Commission has been asked to make a comprehensive review of the relationship between time and learning in elementary and secondary education, including international comparisons, the use of time in- and out-of-school, the use of facilities, year-round professional opportunities for teachers, and estimated costs of adopting longer school days and years.

The Washington hearing is one of a series of site-visits, meetings and hearings scheduled by the Commission as part of its fact-finding effort. This summary has been prepared to respond to numerous public requests for information on the progress of the Commission's work; copies of the complete testimony of individual witnesses are available from the Commission office.

Milton Goldberg
Executive Director

HIGHLIGHTS

"Think about it," urged Commission member Christopher T. Cross in the April 21 issue of *Education Week,* "as standards in each if the disciplines are published, reality will hit.... teachers now have a hard time getting through the material they are expected to cover.... One can imagine the theoretical school day growing to about 18 hours and the school year to about 500 days!"

Cross's concern, exaggerated for effect, received a complete airing at the Commission's meeting with representatives of five groups involved in developing and publishing new curriculum standards in music education, the natural sciences, English, mathematics and geography. Some of the representatives of these disciplines claimed their new standards would require no additional time during the school day or year, being a substitute for the curriculum already occupying the time slot. Two representatives (from music and geography) pressed new claims for time in the curriculum. The science representatives at first acknowledged a need for additional time, but later appeared more ambivalent on the issue.

In all, a compelling set of presentations said Commission member Michael Barrett at one point, even if the implications remained to be worked out. "If we obtain additional time," he suggested with a smile, "it is clear from the first presentation that music has pride of place. But then it turns out the time should go not to music but to science...that is, until we hear from mathematics!"

So the discussion was engaged. What are the implications of new curriculum for time in the school calendar? Can each of the new demands be accommodated or will the content disciplines turn on each other for time within a constrained day? Beyond these considerations, what will be

required to turn bold new curriculum visions into day-to-day realities of teaching and learning for fourth graders in P.S. 999?

Don't Forget the Pandas

Commissioner Cross's concern that teachers cannot, today, work their way through existing curriculum received powerful support at the hearing.

Former high school science teacher Harold Pratt, a consultant to the National Academy of Sciences' project on science standards and curriculum described to the Commission a "vast expansion of material in all subjects that borders on the unmanageable."

"Textbooks," said Pratt, "have expanded way beyond reason in terms of the information, concepts and content they try to impart. They are growing by inches, not millimetres. It is not unusual, at the middle-school level, to find students expected to deal with 800-page textbooks in the course of a year."

Pratt's colleague, David Florio, director of the project's National Systemic Initiatives program, described a standard-setting process developing standards for both science programs and educational delivery systems. In one sense, Florio's description of the process and intent of the group differed from that of the other witnesses in only one significant consideration: Florio concentrated on the natural sciences; the others quite naturally concentrated on their own curriculum areas. But the processes and the hopes of the sponsors were virtually interchangeable.

The standards, stressed Florio, should be for everyone, and they represent "goals that are narrative in form, not a curriculum checklist. They are intended to be an aid to state and local educators, not a prescription. They are being developed in close collaboration with classroom teachers, who will have to 'own' the final product." The emphasis on the voluntary nature of the curriculum standards and the broad-based, consensus-building process utilized to develop them was a common feature of each of the disciplines, an acknowledgement of the power of the standards-

development movement and the speed with which it had assumed center stage in the school reform movement, and concerns about national interference (see sidebar below).

The aim, according to Florio and Pratt, in a formulation repeated throughout the hearing by other witnesses representing other disciplines, is to "move away from basics" to a more integrated curriculum that develops students who are aware of:

- the nature of science;
- the process of scientific inquiry;
- the uses of science; and
- the relationship of science to the rest of knowledge.

Integration was the overarching theme of the presentation of Anthony de Souza of the National Geographic Society. In including geography specifically in the national education goals, said de Souza, politicians concluded that it might be the best "umbrella for social studies generally as well as for environmental and economic needs."

National Curriculum Standards: Sweeping Aside Old Concerns

It has been just three years since the announcement by the President and the National Governors Association of their unprecedented agreement on national education goals; a little more than two years since the acceptance of the national standards concept by these leaders and the National Education Goals Panel, giving rise to its offspring, the National Council on Education Standards and Testing; and about one year since a full battery of efforts to develop national standards for curricula in various disciplines was launched with the support of the U.S. Department of Education.

Given the fact that we talk so freely about such ideas today, it is difficult to appreciate the circumstances in late 1988, only a year before President Bush and the nation's governors, led by Governor Clinton, held their National Education Summit . . . . [T]here was great apprehension about whether the open talk of national goals and standards . . . might set off a sort of educational-political fire storm, raising the specter of national interference with the authority and prerogatives of the states and localities. To appreciate why this didn't happen, and to see why the idea of national standards is now held to be "right", it is important to understand something about what is meant and what is not meant by "standards" in this context—what the concept is, as applied to any of several major disciplinary areas.

National Science Education Standards: An Enhanced Sampler

National Research Council, Washington, D.C.: February 1993

De Souza called on educators to seize the opportunity presented by the standards movement to create a curriculum that appeals to students. "School should not necessarily be fun because it's hard work, but it should be interesting and compelling work."

"What we need to do in developing standards," he concluded," is to be clear and lucid about what people need to know and be able to do. We should emphasize the utilitarian nature of geography. But if we are to maintain students' interest, we can't forget the pandas, either."

Common Ground

Despite the diversity of their subject matters, the curriculum development and standards-setting processes described by each of the groups had a lot in common, including, in particular, a thematic approach emphasizing cross-cutting issues, and the development of standards for all students.

A Thematic Approach. The integrated approach to curriculum, advanced as a self-described "wish list" by de Souza and others was described by several as a "thematic" approach to instruction. Our problem, said Miles Myers, representing the National Council of Teachers of English, is how to move from an approach grounded in the basics to one grounded in major themes. His words could have been uttered by virtually any of the witnesses, each of whom offered (see figure 1) their own visions of goals for disciplinary-specific curriculum standards.

The absence of a set of goals for music education in figure 1 is not as striking as, at first blush, it appears. Leaders of music and the other arts have waged an apparently successful effort to have the arts added to the national education goals adopted in 1989. Their major policy emphasis of the last four years has been gaining official recognition that the arts are, in the words of Paul Lehman, representing the Music Educators National Conference at the hearing, "a basic education discipline, not a frill." Lehman is in charge of developing curriculum and standards for MENC, but the major thrust of his testimony was an argument for devoting more time to music, either in the current school day, or a longer school day and year.

All of the witnesses recognized the powerful implications of their ambitious goals for the education enterprise (see Making it Happen, below). Shorn of their specific language, each of these standards-setting exercises is designed to create active learners, comfortable with complexity, assisted by teachers who serve as guides instilling a knowledge of subject matter that is both rigorous as well as unique to each student. Neither the system, nor its personnel, were designed to create such students or advance such teachers.

Standards for All. Throughout the hearing, witnesses stressed again and again the need for curriculum standards applicable to *all* students. This emphasis was justified on the grounds of both individual equity and national economic self-interest. MENC's Lehman emphasized equity. "Music exalts the human spirit," he said. "The question is whether access to music should be limited to an elite few, who can study outside school, or . . . should be available to all of our citizens to appreciate and enjoy. The answer should be obvious."

Representatives of the mathematical and science disciplines, on the other hand, emphasized the nation's economic interests in encouraging high standards. James Gates of the National Council of Teachers of Mathematics distributed an NCTM document pointing out: "For the U.S. economy to remain vital and competitive and for all young people to enjoy successful careers, schools must devote new attention to mathematics education . . . to ensure that every student graduates from high school with the expertise . . . needed for the twenty-first century." The National Geographic Society's de Souza stressed that policymakers want U.S. students to "enter the labor force armed with the information they need to be responsible voters and competent workers."

A publication from the National Science Foundation distributed by David Florio offered an intriguing insight into the schools historic interest in standards in science for a few, as compared to contemporary emphasis on standards for all. A century ago, in 1894, the National Education Association's "Committee on Ten" promulgated recommended standards for college admission. Not surprising, it recommended standards that would "best prepare young people to grow up to be just like" the college-educated standards setters, according to NSF. "What is difficult to accept," the document notes, "is that the content recommendations, crafted by a small number of scientists and

Figure 1

Goals of Curriculum Standards Efforts

Music	Science	English	Mathematics	Geography
Paul Lehman MENC	David Florio Harold Pratt NAS	Miles Myers NCTE	James Gates NCTM	Anthony de Souza NGS
	Nature of science	Meaning: how is it constructed in relation to texts?	Classrooms as mathematical communities	Seeing world in spatial terms
Goals not specified at meeting (see text)	Process of inquiry	Distributed Intelligence what tools do people have available?	Logic and math as evidence, not teachers as sole authority	Understanding physical and human characteristics of places
	Uses of science	Literacy as self-fashioning and self-conscious	Toward mathematical reasoning, away from memorizing procedures	Comprehending fundamental physical systems
	Relationship of science to rest of knowledge	Communications skills ranging from personal to impersonal	Toward conjecture, invention and problem solving, away from mechanistic answer-finding	Understanding human systems, including demography and culture
		Stance toward texts—e.g. want ads versus canon	Toward connecting math and its applications with rest of world, away from math as isolated body of concepts and procedures	Understanding the environmental and social connections between human and physical systems
				Applying geography to interpret the past, understand the present and plan for future

science teachers for students who were going to college, set the high school curriculum that . . . remains in place today for nearly all students. This has led to the current situation—*some* science for *some* students."*

Time: An Equal Opportunity Resource

Surprisingly, most of the witnesses acknowledged that their disciplinary groups had given little thought to the time implications of the standards they were developing, but all volunteered that the new standards absolutely required additional time for teacher preparation.

Time, suggested MENC's Lehman, is an equal opportunity resource for every discipline. "It's a resource that is literally irreplaceable. It's the only resource that is allocated with absolute equality to every human being—and to every school." But, he complained, the rest of the curriculum had become the thief of music's time. According to MENC's analyses, the amount of time devoted to music in the curriculum decreased across the board between 1962 and 1989: Grade 1-3 saw a decline from 75 minutes a week to 53; grades 4-6, from 80 minutes to 63; enrollments in many middle and secondary school courses decreased sharply, "apparently in response to increased requirements for graduation," he said.

Lenman insisted that music is entitled to additional time since insufficient space is available for the subject in the current curriculum and school day. But he thought the time was readily available, within the current day, if analyst John Goodlad's analyses of wasted time during the day were to be properly addressed.

On behalf of MENC, Lehman urged, however, that time be used differently for music instruction since both teaching and productive practice are so intense and time-consuming. Every music teacher supports at least 100 minutes for music a week, he testified, but also understands that "a young violinist can make considerable progress by practicing just 20 minutes a day for a month, but cannot make the same progress by practicing for 10 hours in one day, even thought the total time

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* At the turn of the century, less than 10 percent of traditional college-age students (18-24 years old) enrolled in higher education.

spent would be exactly the same." Across the curriculum, noted Lehman, research indicates better results with slower, periodic, paced study in place of concentrated, intensive force- feeding of students.

In response to a question from Chairman Jones, Lehman concluded: "I am here to pound the table for 15 percent of school time devoted to music instruction."

De Souza came to the point immediately when asked about the time implications of the new standards in geography. "We haven't thought a great deal about time," he said, "although we are exploring some interdisciplinary possibilities. But implementing our standards will require more time. Geography is hardly taught at all in American schools today."

In a thoughtful analysis presented as part of his basic testimony, Miles Myers, representing the National Council of Teachers of English, said that the time implications of NCTE's interest in "constructing meaning" and "distributed intelligence" (see figure 1) were unclear. However, he added that developing students competent across the board in communications will definitely require additional time. "Implicit in all of this," he said, "is that all students will be required to write more and in more different ways. This will require a huge amount of time, both for the student and for the teacher."

The scientists and mathematicians present were more ambivalent than their colleagues in the arts, social sciences and English on the subject of time. At one point, David Florio responded to Chairman Jones by reporting "a consensus view that new standards will require more time. The standards we are thinking about are not, for the most part, a regular part of today's K-12 curriculum." But at a later point, the consensus became shakier, as Florio wondered aloud about the possibilities of managing time better through "re-invented schools" that used interactive technologies and considered teachers as "designers of learning" guiding the growth of students who would be considered "workers."

James Gates, representing NCTM, the acknowledged pioneers in all curriculum standards-setting activities, testified that math is in no position to demand additional time and the discipline

considers itself well-treated in the current school in terms of time. "We're talking," he said, "about one hour per day for mathematics in school. That's not a startling figure to use and it is pretty consistent with the recommendations of the Council of Chief State School Officers."

He acknowledged, however, that "Our standards are not based on research but on what mathematicians and math educators consider to be important. We actually have not thought that much about time and we need to do that. The curriculum standards I am describing are not the curriculum I received as a student or that I taught as a teacher."

Teacher Time. The adequacy of time for teacher preparation became a significant feature of the hearing when Commissioner Walker presented the panelists with a forced choice: "I'm only going to give you ten extra days," said Walker. "Do you use those ten days for teacher planning time, more learning time, or a mixture of both?"

With only one exception, panelists agreed the extra time should go to teachers, generally with provisos that local teachers determine how to use the additional time and that breaking out of the lockstep of public address announcements, bells, 50-minute periods and bus schedules was important. The exception was NCTE's Myers who cautioned against handing out additional time for teacher preparation indiscriminately. "I would make teachers submit a proposal on how they wanted to use the additional time," said Myers. We have had a lot of ten-day experiments with planning time and most of them were a waste of time. Make the teachers submit a proposal; many of them might want additional time in the classroom instead of planning."

Pragmatism and the Status Quo. Another significant feature of the hearing was a debate about whether or not the curriculum standards discussion suffered from the implicit assumption that today's school calendar would remain the calendar of the future. This discussion is fascinating said Commissioner Barrett, but he wondered if the panelists had fully thought through the implications of their proposals. "Most of you have made pragmatic concessions to the status quo in terms of time; you have, perhaps understandably, fitted your ideas into the time the world has provided to you. If all of you people got together at a summit to design a program to accommodate these curriculum standards, would a five-hour, thirty-minute day and a 180-day school year be enough?"

Panelists appeared reluctant to confront the issue directly. De Souza, acknowledging that the hearing was his first opportunity meet with some of his standards-setting colleagues, reported that several of the social science disciplines are in regular contact and that a summit under a broad umbrella might be useful. NCTM's Gates and Florio from the National Science Foundation responded that their major interest lay in redesigning schools and raising expectations, but that most decisions about time lay, properly, at the local level. Lehman reported that music educators could enthusiastically support additional time.

One witness, however, argued that the important thing in standards-setting was to divorce the effort from time, at least at the outset. Implicitly endorsing Barrett's point of departure, NSF consultant Pratt said, "Most of us are too pre-occupied with time in the form of the Carnegie unit as the basic building block of curriculum. What we should be doing is worrying first about what is important for youngsters to know. Then we should worry about how to help students. Only after those two steps should we start thinking about time and how to reorganize it."

Disciplines versus a Common Core of Learning

Perhaps prompted by the revelation that each discipline appeared to be developing curriculum standards in isolation from the others, Commissioner Higgins asked "Don't we need a common core of learning? The question is not simply what do we want our students to know and be able to do, but also what values do we hope they will develop. Have you given any consideration to a common core organized around broader themes than you currently recommend, themes such as the human record, communication, stewardship, and reasoning and problem-solving?"

Without exception, disciplinary hackles rose on the necks of the panel members. NCTM's Gates found the idea attractive, but observed that closure would need to be reached on how mathematics fit into such a structure. Acknowledging that the communications theme appeared ready-made for English teachers, NCTE's Myers said the problem identified by Gates would also be a problem for English teachers. "After all, we do have a disciplinary interest," said Myers.

"Would intensive, multi-week blocks on different topics be a way to encourage interdisciplinary cooperation?" asked Commissioner Schwartz seeking a resolution of the growing disagreement pitting a common core against the disciplines. Not good enough responded Lehman. "Music always loses out in these schemes," he said. "The integrity of the discipline needs attention."

Making it Happen

Putting demanding curriculum standards in place for all students will not occur overnight simply by wishing for them, or even by defining them. In the short-run, a time-consuming formal process of standards adoption within disciplines and national endorsement of the standards will be required. In the long run, an even more difficult and probably time-consuming process is on the horizon: transforming schools as institutions to accommodate the new standards.

The Formal Process. The most concise description of the formal process was included in de Souza's testimony. He described standards setting in all disciplines (including geography, history, English, mathematics, science , civics, the arts, and foreign languages) as a first step in a major undertaking. The standards are to be voluntary and all of the disciplines are going to remarkable lengths to employ a broad-based consensus process reaching beyond the academy, the schools, and professionals in the various disciplines to include parents, policymakers, and business leaders.

De Souza expects the geography standards to be reviewed by more than 2,000 people, along with 100 state social studies and science coordinators, 750 geography educators, legislative aides to state legislative committees and governors, and representatives of the National PTA, the Association for Curriculum Development, state and local school board members, business leaders and teachers' unions. An electronic town meeting is in the embryonic stages of being planned.

Assuming all goes well to that point, according to de Souza, pending legislation contemplates that the standards will be reviewed by a federally-appointed body and then examined by the National Education Goals Panel for acceptance and publication, perhaps as early as December 1993. Then the real work of implementing the standards in schools can begin.

Model T or a New Sports Car? The tacit assumption throughout the hearing on the part of witnesses and members of the Commission is that the most demanding work ahead lies not in developing the new standards but in implementing them in the real world.

"Given the general nature and common features of your proposals," said Commission Executive Director Goldberg, "all of you are really talking about a new kind of schooling. What does that imply and what does it mean for time?" Panelists nodded in agreement as NCTE's Gates responded immediately, "We need much more flexible time for creating new kinds of learning. And we will definitely need more time for planning, and probably for students so that they can learn independently."

"Assume," said Commissioner Barrett, "that there is an unrecognized market demand out there for a longer school day, what would that mean in terms of your standards and the process of schooling? Would you use it for custodial care or for more learning?" Myers and Lehman led a chorus of responses in favor of quality learning, as opposed to simply taking up time. David Florio pointed out that a longer day and year might be used "to integrate other services into the school. In many communities, schools are the safest places for students." He thought it important that each school constructs its program to fit its own circumstances.

But this discussion quickly branched out into a free-wheeling conversation touching on virtually every topic of concern to educators nationwide. Commission member Schwartz opened up the issue of teacher preparation and certification. Can it be improved? "These standards," responded de Souza, "carry the most profound implications for teacher preparation. Many of today's teachers are not up to dealing with them."

"A good point," added NCTE's Myers. "We have to understand the labor-intensive nature of teaching. The act of teaching another is itself a life skill. Perhaps there are lessons to be learned from industry. The General Motors-Japanese automobile plant in California, NUMMI, narrowed 1,200 job descriptions down to four and advanced teamwork and workers-teaching-workers within the plan. Perhaps we can learn from that." What we are really talking about, said Florio, "is

reinventing schools as 'places where people learn' using interactive technologies, not as places where people are taught."

"Speaking of technology," said Commissioner Cross, "we now find a lot of distance learning in areas such as mathematics. In such a circumstance, who are we certifying, the teacher coming over the air, or the local teachers? In many ways the whole idea of certification is a Model T design idea applied to the production of a sleek new sports car."

With that provocative analogy, the hearing adjourned.

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HEARING GUESTS AND WITNESSES

Paul Lehman
Music Educators National Conference

David Florio
National Academy of Sciences

Miles Myers
National Council of Teachers of English

James Gates
National Council of Teachers of Mathematics

Anthony de Souza
National Geographic Society

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