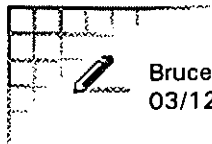


**NLWJC - Kagan**

**DPC - Box 022 - Folder 008**

**Education - TIMSS Meeting**



Bruce N. Reed  
03/12/98 01:45:10 PM

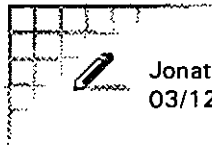
Record Type: Record

To: Jonathan H. Schnur/OVP @ OVP  
cc: Elena Kagan/OPD/EOP, Michael Cohen/OPD/EOP, Christa Robinson/OPD/EOP  
bcc:  
Subject: Re: Announcements/challenges for Monday's TIMSS event

That list sounds fine to me. From #2, I would only highlight a & b -- I wouldn't do the others or make much of them. On #3, I would announce both now, I think.

Rahm wants to leak the school violence report for Monday a.m. I don't think we're going to get much pressure for announcements.

Jonathan H. Schnur @ OVP



Jonathan H. Schnur @ OVP  
03/12/98 01:23:45 PM

Record Type: Record

To: Bruce N. Reed/OPD/EOP, Elena Kagan/OPD/EOP  
cc: Michael Cohen/OPD/EOP, Christa Robinson/OPD/EOP  
Subject: Announcements/challenges for Monday's TIMSS event

Bruce and Elena --

Mike and I discussed a set of possible announcements and challenges that the President could make at Monday's TIMSS event. Mike asked me to run them by you. Could you please take a particularly close look at # 2, the challenges?

The President could:

1) **Highlight the importance of moving forward on his education agenda, focusing heavily on the voluntary national 8th grade test** but also mentioning class size, modern schools/school construction, urban education zones, High Hopes, teacher recruitment and training initiatives, and the \$60 million middle school math initiative in the '99 budget.

2) **Issue a set of challenges for the nation** to help address the issue. calling on:

a. **states to require new math and science teachers to pass assessments of their knowledge of math or science**, and their capacity to teach their subject well, before getting their teaching license. (33 states are members of an organization working to develop and put in place assessments like these over the next three years.)

b. **states and school districts to insist that their math and science teachers have**

**either majored or minored in their subject area** in college. (The average K-8 math teacher only takes 3 undergraduate math courses. 28% of math teachers have neither a major nor minor in math, 55% of physics teachers have neither a major nor minor in physics, and 18% of science teachers have neither a major nor minor in science.)

**c. students to work hard and take tough courses in math and science** in middle school and high school, and for those with real proficiency in math and science to consider making careers in teaching. (To help students do this, also challenge schools to offer tough math and science classes for all students throughout middle and high school.)

**d. businesses to make clear that students' performance in school counts** and look at students transcripts when considering them for jobs. The President could thank the Business Roundtable and National Alliance of Business for their work on this issue, and announce that he would convene a meeting of business leaders at the White House to stimulate action on this nationwide.

**e. universities to strengthen their programs preparing math and science** teachers and to encourage more math and science majors to consider careers in teaching.

**f. parents to insist on finding out how their child is doing compared to national standards** and compared to their peers around the nation and world. (This leads into national tests, of course.)

The one other challenge to the states we might want to include is for states to adopt rigorous standards in math and science.

3) Announce new on-line help for parents, teachers, and students in math and science:

**a. TIMSS on-line challenge.** Parents will be able -- beginning at back-to-school time this fall -- to download a math and science quiz from the internet, give it to their children, and get a rough sense of what their children need to know in math and science and how they are doing compared to their peers around the world.

**b. New math and science web-site.** On Monday, a new website will be available connecting teachers, parents, and students to good materials for curriculum and out-of-school math and science learning, drawing on the scientific resources of NASA, the Department of Energy, the National Science Foundations, and other federal agencies involved in math and science. (Thus has been a collaborative effort among more than 40 agencies. It will be ready Monday, but we could also save this for a VP event later this month that could focus more squarely on this website and give more credit to all of the agencies involved.)

THE WHITE HOUSE  
WASHINGTON

March 14, 1998

**PRESIDENTIAL MEETING ON MATH AND SCIENCE EDUCATION**

**DATE:** March 15, 1998  
**LOCATION:** Springbrook High School  
**BRIEFING TIME:** 9:30 am - 10:00 am  
**EVENT TIME:** 10:30 am - 11:50 am (meeting)  
12:00 pm - 12:45 pm (remarks to students)  
**FROM:** Bruce Reed/Mike Cohen

**I. PURPOSE**

To bring together leaders from government, business, education, and the scientific community to discuss the recent 12th grade Third International Math and Science Study (TIMSS) results, and to issue a set of challenges to the nation to improve student achievement. You will also announce new on-line math and science help for parents, teachers, and students.

**II. BACKGROUND**

You will be meeting with 25 leaders from government, business, education, and the scientific community to discuss how the nation should respond to recent findings from the Third International Math and Science Study (TIMSS) that while U.S. 4th graders are near the first in the world in science and above average in math, U.S. 12th graders lag below the international average in both subjects.

These results demonstrate the importance of implementing your education agenda, including proposals for: national standards and tests in math and reading, smaller classes with well-prepared teachers, modern school buildings, Education Opportunity Zones to end social promotions and fix failing schools, technologically advanced schools, and "High Hopes" mentoring to encourage students to take tough classes and prepare for college.

In addition to reiterating your legislative proposals, you will issue the following new challenges to boost student achievement in math and science.

- **Reducing out-of-field teaching.** You will challenge states and school districts to reduce the percentage of math and science teachers without a major or minor in their subject area. The average K-8th grade math teacher takes only three undergraduate math courses. Twenty-eight percent of secondary math teachers lack a major or minor in their subject area, as do 18% of secondary science teachers and 55% of physics teachers.
- **Rigorous Tests for New Teachers.** You will challenge states to require all new

teachers of math and science to pass challenging tests of math or science knowledge and teaching proficiency. With nearly half of our nation's teaching force to be replaced over the next several years in order to accommodate growing student enrollments and an aging teaching force, raising standards of teaching now can boost the quality of our schools for decades.

- **A Call to Action for Schools, Students, and Parents.** You will challenge schools to offer -- and students to take -- tough math and science courses throughout middle school and high school. Only 25% of U.S. students take algebra before high school, and only 25% of U.S. high school students take physics before graduating. You will challenge parents to insist that school districts provide ways of showing how children are doing compared to national standards and international benchmarks. Today, parents have no way of finding out how their children do compared to the international standards in TIMSS.

You will also announce the following new on-line resources for parents, students, and teachers:

- **"Federal Resources for Educational Excellence" (FREE) Web-site.** A new website is available today to connect teachers, parents, and students to teaching and learning resources in math, science, and other subject areas from NASA, the Energy Department, the National Science Foundation, and other agencies.
- **The TIMSS On-Line Challenge.** The U.S. Department of Education will launch this fall a website that puts TIMSS math and science problems on-line. This will enable parents to give a quiz to their children, learn what their children should know in math and science, and learn how their children are doing compared to students from other countries.

Summary of the TIMSS Results:

TIMSS showed that U.S. 12th graders scored among the lowest of 21 nations in general math and science, with the U.S. outperforming only Cyprus and South Africa. Performance of U.S. 12th graders in advanced math and physics courses also lagged behind their peers from other nations. The 12th grade findings completed a multi-year study showing U.S. 4th graders near the first in the world in science and above average in math, with U.S. 8th graders slightly above the international average in science and below the international average in math. The 21 nations participating in the 12th grade study were the U.S., Canada, Australia, and many European nations. No Asian countries participated in the 12 grade tests. (See attachment of how the U.S. ranks compared to each participating country for all three grades.)

While there is not yet an analysis of the 12th grade TIMSS, an analysis was done of the 8th and 4th grade TIMSS. The analysis found that U.S. curriculum was less advanced, and that it covered more subjects superficially rather than a few subjects in depth. The analysis also showed that U.S. teachers often do not get as much training as those in other nations.

Although other tests (including the National Assessment of Educational Progress) show that U.S. student achievement is improving, TIMSS makes clear these improvements are not rapid enough to keep pace with other nations in an increasingly global economy.

#### Springbrook High School

Springbrook High School is a good school with above-average test scores. Although the school has a solid math and science program, it is not particularly stronger than any of the other academic areas taught in the school. Springbrook has a very diverse student body (35% African American, 20% Asian, 16% Hispanic, 28% white), and it enrolls a total of 2,200 students.

[NOTE: Last week Springbrook High School held its first Anti-Violence Week, to honor one Springbrook student and one former student who were killed within the last year. Former Springbrook student Alfredo Enrique Tello, Jr. was brutally killed at age 19. Samuel Sheinbein (who fled to Israel) and Aaron Needle are charged with the murder. Two months later a Springbrook student Elmer Flores was killed in a robbery.]

### **III. PARTICIPANTS**

#### Briefing Participants:

Secretary Riley

Secretary Pena

Bruce Reed

Rahm Emanuel

Mike Cohen

#### Event Participants:

**Secretary Richard Riley**

**Secretary Federico Pena**

**Governor Parris Glendening, Maryland**

**Governor Cecil Underwood, West Virginia**

**Mayor Richard Daley, Chicago, IL**

**Mayor Richard Riordan, Los Angeles, CA**

**Mayor Lee Clancey, Cedar Rapids, IA**

**William Schmidt, National Coordinator for TIMSS, Professor, Michigan St. University**

**Rudy Crew, Chancellor of New York City Schools**

**Diane Ravitch, Former Assistant Secretary of Education in the Bush Administration.**

Currently, a Senior Fellow at Brookings and Research Professor at New York University.

**Bruce Alberts, President of the National Academy of Sciences**

**Neil Lane, President of the National Science Foundation**

**Bill Nye, Host of Weekly Television Show, "Bill Nye The Science Guy"**

**Alan Wurtzel, Vice Chairman of the Board, Circuit City**

**Wilmer Cody, Chair of the Chief State School Officers and Commissioner of Education in Kentucky**

**Robert Moses, Director of the Algebra Project, which helps disadvantaged students prepare for rigorous math classes**

**Bob Chase, NEA President**

**Sandy Feldman**, AFT President

**Nancy Grasmick**, Superintendent of Schools, Maryland

**Migues Nevarez**, President of University of Texas Pan American

**Walter Secada**, Professor of Math and Science Education at the University of Wisconsin,  
and Director of the Department of Education Regional Comprehensive Assistance Center

**Cindy Mayorga**, Springbrook High School Student

**Cyrus Ishikawa**, Springbrook High School Math and Physics Teacher

**Congressman Wynn**

**Senator Sarbanes**

#### **IV. PRESS PLAN**

**MEETING:** Pool Press for Opening Statement. Meeting is then Closed Press.

**SPEECH:** Open press remarks before the student body.

#### **V. SEQUENCE OF EVENTS**

- **YOU** will be greeted at the school by Principal Mike Durso, Governor Glendening, Superintendent of Schools Nancy Grasmick, and Members of Congress.
  - \*You will also be greeted by Michael Cohen's son, Ross, who attends Springbrook.
- **YOU** will enter the media center and take your seat at the table. (All other participants will already be seated.)
- The Pool will enter the room.
- **YOU** will make a statement to the press and invite Secretary Riley to make remarks.
- Sec. Riley will make remarks and introduce Bill Schmidt, TIMSS Nat'l Coordinator.
- Bill Schmidt will briefly review the TIMSS findings, then the pool will depart.
- **YOU** will begin the meeting by calling on Secretary Pena to briefly describe the Energy Department's commitment to Science education.
- **YOU** will then open the meeting by calling on each participant to speak. Each participant will give a brief statement on their view of the improvements that can be made in math and science education, and you are free to respond. (**YOU** should begin by calling on the Governors and Mayors present.)
- 10 minutes prior to the close of the meeting Bill Nye will depart to the auditorium, where he will do a brief pre-program for the students.
- Secretary Riley will help bring the meeting to a close.
- **YOU** will thank participants and then depart.

#### Speech to the Student Body:

- **YOU** will be announced onto the stage accompanied by the school Principal and Secretary Riley.
- The Principal will make brief remarks and introduce **YOU**.
- **YOU** will make remarks.
- **YOU** will work a ropeline, and then proceed to the overflow room.
- **YOU** will make very brief, informal remarks, and then depart.

#### **VI. REMARKS**

Provided by Speechwriting.

## **DISCUSSION POINTS FOR EDUCATION MEETING**

- (1) Improving performance is critical to U.S. economic growth and individuals personal opportunities**

  - Most of the highest growth areas in our economy are in areas that require strong math and science skills (e.g., information technology, health professions, systems analysts, engineers).
  - Almost 90% of new jobs require more than a high school level of literacy and math skills.
  - For students to get on the road to college and high paying jobs, math and science skills are critical. Students who take algebra and geometry go to college at much higher rates (83% vs. 36%) than those who don't.
- (2) We must have higher standards and expectations in middle and high school mathematics and science.**

  - In grades 4-8, students in other nations are studying algebra, geometry and other topics, while U.S. students continue to be taught primarily arithmetic.
  - The content taught in U.S. eighth-grade mathematics classrooms is generally at a seventh grade level compared to the 40 other nations in the TIMSS study.
  - A recent international comparison of science and math examinations for college-bound students by the AFT shows that our SAT, ACT, and AP exams are much less rigorous than similar exams from other nations.
  - The standards of state assessments vary widely, and many 8th grade mathematics assessments are less rigorous than the NAEP standards. The voluntary national tests will help address this.
- (3) Students should take four years of rigorous high school mathematics and science.**

  - Only 25% of U.S. high school students take physics and only 10% take calculus. Most students do not take four years of high school mathematics and science. Even among college bound students, less than half do so.
  - Businesses can demonstrate the importance of a rigorous course of study by looking at student transcripts when making hiring decisions. The U.S. Chamber of Commerce, the National Alliance of Business, and the Business Roundtable are encouraging employers to do this.
- (4) U.S. curriculum should be more focused, instead of covering more subjects superficially.**

  - At 8th grade, U.S. mathematics and science curriculum is less focused than that of other nations --"a mile wide and an inch deep."



- The typical U.S. 8th grade mathematics textbook covers 35 topics while the typical Japanese 8th grade textbook covers 7.
- (5) **Teachers must be prepared to teach challenging math and science.**
- The average K-8 teacher of mathematics takes only 3 undergraduate math courses. In high school, in 1993-94, 28% of mathematics teachers, 18% of general science teachers and 55% of physics teachers were teaching out-of-field, meaning that they have neither a major nor a minor in the subject they teach.
  - TIMSS found that in a typical U.S. classroom, students are drilled to learn how to repeat how the teacher solves a problem. In Japan, students are asked to solve problems and then present their methods and solutions to the class in order to increase their own understanding.
  - This is why it is essential that states require new teachers to take rigorous tests of their knowledge and skills, that states and districts reduce the number of out-of-field teachers, and that colleges and universities commit to recruiting and preparing more top-notch math and science teachers.
- (6) **Our students do not start behind, they fall behind.**
- In comparison with students in other nations U.S. 4th graders students are above average in mathematics and second only to Korea in science.
  - The strong performance of the "First in the World Challenge" districts north of Chicago show that with the right effort, our students can be first in the world.
- (7) **U.S. achievement in mathematics and science is improving, but not fast enough.**
- The achievement of U.S. students has improved in the last decade as shown by higher scores on the NAEP, SAT, and ACT.
  - TIMSS and other international assessments show that other nations are also improving. Thus, to improve our relative international standing and remain competitive in the increasingly global economy, we must redouble our efforts.
- (8) **U.S. students are mastering the basics of computation but have troubles with more advanced content and skills**
- Both NAEP and TIMSS show that our students do well in the basics of computation. 79% of 8th graders can add, subtract, multiply and divide.
  - Our students have trouble with more advanced content (geometry, measurement, algebra) and with solving multi-step problems.
- (9) **We must destroy the myth that math and science are only for a few students.**
- Surveys show that about half of middle and high school students say they will drop math and science as soon as they are able to -- even if they want to go into fields such as engineering or medicine that require math and science knowledge.

## **PARTICIPANTS IN MEETING ON MATH AND SCIENCE EDUCATION**

**Secretary Richard Riley**

**Secretary Federico Pena**

**Governor Parris Glendening, Maryland**

**Governor Cecil Underwood, West Virginia**

**Mayor Richard Daley, Chicago, IL**

**Mayor Richard Riordan, Los Angeles, CA**

**Mayor Lee Clancey, Cedar Rapids, IA**

**William Schmidt, National Coordinator for TIMSS, Professor at Michigan State University**

**Rudy Crew, Chancellor of New York City Schools**

**Diane Ravitch, Former Assistant Secretary of Education in the Bush Administration. Currently, a Senior Fellow at Brookings and Research Professor at New York University.**

**Bruce Alberts, President of the National Academy of Sciences**

**Neil Lane, President of the National Science Foundation**

**Bill Nye, Host of Weekly Television Show, "Bill Nye The Science Guy"**

**Alan Wurtzel, Vice Chairman of the Board for Circuit City, and Chair of the National Alliance of Business Task Force on Education Standards**

**Wilmer Cody, Chair of the Chief State School Officers and Commissioner of Education in Kentucky**

**Robert Moses, Director of the Algebra Project, which helps disadvantaged students prepare for rigorous math classes**

**Bob Chase, NEA President**

**Sandy Feldman, AFT President**

**Nancy Grasmick, Superintendent of Schools, Maryland**

**Migues Nevarez, President of University of Texas Pan American**

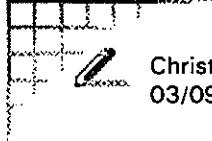
**Walter Secada, Professor of Math and Science Education at the University of Wisconsin, and Director of the Hispanic Dropout Project**

**Cindy Mayorga, Springbrook High School Student**

**Cyrus Ishikawa, Springbrook High School Math and Physics Teacher**

**Congressman Wynn**

**Senator Sarbanes**



Christa Robinson  
03/09/98 12:47:53 PM

Record Type: Record

To: Michelle Crisci/WHO/EOP, Bruce N. Reed/OPD/EOP, Michael Cohen/OPD/EOP, Elena Kagan/OPD/EOP

cc:

Subject: Latest TIMSS Roundtable Participant List

***CONFIRMED TO ATTEND:***

**Governor Tom Underwood**, West Virginia

**Mayor Richard Daley**, Chicago

**Mayor Lee Clancey**, Cedar Rapids, IO (Also serves on US Conf. of Mayors Education Committee as Vice Chair for Elementary and Secondary Education)

**Ed Rust**, CEO of State Farm Insurance

**Rudy Crew**, Chancellor of New York City Schools

**Bob Chase**, NEA President

**Sandy Feldman**, AFT President

**William Schmidt**, National Coordinator for TIMSS, Professor at Michigan State University

**Diane Ravitch**, Asst. Secretary of Education in the Bush Administration

**Bruce Alberts**, President of the National Science Foundation

**Bill Nye**, "the Science Guy"

**Sister Lourdes Sheehan**, Chief Administrator of Catholic Education at the Nat'l Catholic Educational Association

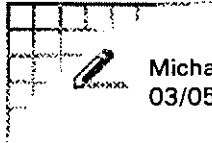
**Bill Codie**, Chair of the Chief State School Officers and Commissioner of Education in Kentucky

***INVITED:***

**Robert Moses**, Director of the Algebra Project, which helps disadvantaged students prepare for rigorous math classes.

**Rachel Evangeline Newman-Turner**, Maryland Math Teacher

**Local School Board Member** (tbd)



Michael Cohen  
03/05/98 01:38:31 PM

Record Type: Record

To: Bruce N. Reed/OPD/EOP, Elena Kagan/OPD/EOP

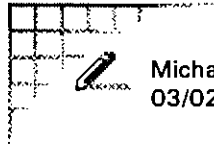
cc:

Subject: TIMSS update

I now have confirmations from Ed Rust, (State Farm CEO), Mayor Daley, Rudy Crew, Diane Ravitch and Bill Schmidt (Mr. TIMSS). I should get confirmation from Feldman and Chase shortly; their staff were working on rearranging their schedules.

I'll provide additional updates on other participants as soon as I have them.

are just about there--as soon as I can tell them what time the meeting is, they can complete



Michael Cohen  
03/02/98 07:50:05 PM

Record Type: Record

To: Elena Kagan/OPD/EOP  
cc: Bruce N. Reed/OPD/EOP  
Subject: TIMSS for tomorrow morning

If it helps, here is a first cut at a meeting list:

- Lou Gerstner, IBM
- Ed Rust, State Farm (head of National Alliance of Business, Business Roundtable Education Task Force, and new member of ACHIEVE Board.
- Gov. Engler or Gov. Voinovich (the political people here will go nuts over Engler, but he's the best R gov. if we want to use this to move our testing agenda forward.
- Gov. Hunt, Gov. Romer or Gov. Carper
- Diane Ravitch
- Mayor Daley or another mayor into education (if Rahm really wants a mayor)
- Bill Schmidt (head of TIMSS study)
- Norma Paulus, Oregon state superintendent of education
- Paul Kimmelman or another representative of Chicago-area 1st in world consortium
- 2 outstanding math/science teachers
- Bob Corrigan, President of Cal. State U system, or Richard Atkinson, President of UC system (and former head of NSF in Carter Administration)
- Hugh Price
- a few scientists/mathematicians, and a few people who would add greater diversity to the list.
- Bob Chase and Sandy Feldman if we want them

This list is too long--and will take some work to keep to a manageable size and still give us what we need.

A Wednesday announcement -- almost two weeks before the meeting--is a guarantee that we will spend considerable time between now and then dealing with people who are ticked off that they are not invited, or represented in some way.