

U.S. DEPARTMENT OF EDUCATION

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NATIONAL MATH PANEL MEETING

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BWI Airport Marriott
1743 West Nursery Road
Baltimore, Maryland 21240

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Friday, December 14, 2007, 3 PM

Panel Members:

Larry Faulkner, Chair
Camilla Persson Benbow, Vice-Chair
Deborah Loewenberg Ball
A. Wade Boykin (Not Present)
Douglas Clements
Susan Embretson
Francis (Skip) Fennell
Bert Fristedt
David Geary (Not Present)
Russell Gersten (Not Present)
Tom Loveless
Liping Ma (Not Present)
Valerie F. Reyna
Wilfried Schmid (Not Present)
Robert S. Siegler
James Simons (Not Present)
Sandra Stotsky
Vern Williams
Hung-Hsi Wu (Not Present)

Ex Officios:

Irma Arispe
Daniel (Dan) Berch
Joan Ferrini-Mundy
Raymond Simon (Not Present)
Grover (Russ) Whitehurst (Not Present)

Staff Present:

Tyrrell Flawn, Executive Director
Ida Eblinger Kelley
Marian Banfield
Holly Clark
Jim Yun

1 P R O C E E D I N G S

2 (3:00 p.m.)

3 THE CHAIR: Let me ask everyone to take a seat.

4 I'd like to welcome everyone to the 11th and what we hope
5 to be the final working meeting of the Panel. This panel
6 has been working very hard to get its report finalized
7 well enough to be produced in time for the President's
8 deadline on February 28th. So we scheduled this special
9 meeting to continue work on the Final Report, and I would
10 like to welcome the public members here.

11 I would like to thank the Panel members for,
12 first of all, all of the tremendous amount of hard work
13 that you've undertaken in the last several weeks, but also
14 for making time for this special meeting here.

15 We have a signer available, and I would like to
16 ask if anyone is using the signing services. If not, we
17 will discontinue them with the proviso that we can re-
18 continue them or reestablish them.

19 So let me ask if anyone is using them. If not,
20 we are going to discontinue and you can be notified, if we
21 need to reestablish. I'd also like to thank the Panel, as
22 I said a minute ago, for attending the meeting on a short

1 notice. We were here on November 28th to start work on
2 the Final Report. We made less progress than we had all
3 hoped for, and we didn't finish the discussion, so there
4 has also been a lot of offline work, since that time,
5 largely by e-mail, but we do need a face-to-face meeting
6 to try to settle as much as we can.

7 The Panel was established in April 2006 by
8 executive order of the President to review the best
9 scientific evidence and make recommendations to the
10 President and Secretary of Education on ways to improve
11 mathematics learning with a particular emphasis on algebra
12 readiness.

13 After almost 20 months of reviewing research and
14 considering comments and testimony from hundreds of
15 experts, organizations and interested individuals, the
16 Panel is nearing completion of the task group and
17 subcommittee reports. Today we will be engaged in
18 discussions to try to complete the Final Report.

19 Before we go further, I'd like to recognize a
20 veteran in the audience. Don Langenberg is here. Dr.
21 Langenberg was well known in these parts as chancellor of
22 the -- the chancellor or president?

1 DR. LANGENBERG: Chancellor.

2 THE CHAIR: Chancellor of the University of
3 Maryland System. Before that he was Chancellor of the
4 University of Illinois at Chicago, where we were in
5 partnership, while I was at Urbana. However, what shows
6 that he just can't get enough is that Don Langenberg
7 chaired the National Reading Panel and it lasted longer
8 than this. So he decided to come back for another fix
9 today.

10 Don, we welcome you with us.

11 THE CHAIR: Panel members I invite you to
12 converse with Dr. Langenberg. It may be late in our game,
13 but he still might have something to advise us on.
14 Actually, Tyrell and I met with Don at the outset of our
15 work to talk about how the National Reading Panel did its
16 work and what lessons they had learned and so forth. So
17 welcome, Don.

18 We are going to begin with the background and
19 principal messages sessions. Is the agenda in the book?
20 Okay. I want to note to the Panel that we are going to
21 stick to a time schedule to work through all of the actual
22 sections of the Final Report. We blocked out the time so

1 that each of those parts of the report has its own time
2 for discussion, and I will stick to the times that are
3 here so that we do get through everything.

4 We are not going to finish everything I expect,
5 at least in some of the newer parts that are still fresher
6 to us. If we go over time, then we will just use the time
7 later after lunch. Tomorrow the time is entirely
8 unstructured and we can use it for whatever is left. We
9 can go back to any topic that hasn't been finished.

10 Let me start with the background executive
11 summary and the body, principal messages, executive
12 summary and body and the sections that deal with the
13 Panel, how it was constituted, and how it did its work.
14 These are the executive summary, the body and appendices.

15 I don't want to deal with all three of them at
16 the same time, so let's start with the background. The
17 public has received written copies if they've asked for
18 them and we will also project on the screen. Let's talk
19 about the executive summary part or the background part of
20 the executive summary, that block.

21 This was revised for the last time for this
22 report in the wee hours of the morning, and was

1 transmitted. You may or may not have actually seen it,
2 but it is very similar to what it was before, but it has
3 been modified in some ways that were suggested by various
4 people.

5 The only point that's actually noted for
6 discussion here is the suggestion that the sentence that
7 says, "Many see algebra as a central concern" be
8 lengthened and amplified to include the phrase "both its
9 authentic content and the content of skills necessary for
10 study in the secondary grades."

11 I've indicated that I preferred, as I put it
12 together, a shorter sentence, because it's a place where
13 we turn attention to algebra. With that I open the
14 session. Skip.

15 DR. FENNEL: I prefer the use of the word
16 "concern" and your reason for doing it that way in this
17 portion of the report.

18 THE CHAIR: You prefer the use of the word
19 "concern"?

20 DR. FENNEL: I do.

1 THE CHAIR: I don't think "concern" was really
2 argued, it's just the way the comment marker took care of
3 it.

4 DR. FENNEL: Well, I guess I don't want to get
5 into the weeds as was suggested at this level in this --
6 in the beginning here.

7 THE CHAIR: Okay, all right.

8 DR. STOTSKY: Are we supposed to be agreeing or
9 disagreeing at this point or what --

10 THE CHAIR: You can do anything you want. I
11 mean, this is for discussion of this block and whether we
12 are going to edit it or revise it or whatever.

13 DR. STOTSKY: Okay, I just don't see -- could
14 you read the extra comment again then which I don't see
15 here in the version I have.

16 THE CHAIR: It's in your binder.

17 DR. STOTSKY: It's my comments, I'm sorry. I
18 was going to propose to defend it, so -- since I was the
19 one that proposed it, thank you.

20 THE CHAIR: Well, Sandy while you are thinking
21 about that, why don't I recognize Bob?

1 DR. SIEGLER: Yeah, just a small point here and
2 I think somewhere else in the document there is the
3 assertion that 90 percent of the world's engineers will
4 reside and work in the nations of Asia within 5 years. Is
5 that true? I don't know. It sounds offhand.

6 THE CHAIR: We have a citation on it. Let me
7 comment on one thing also that there's been a little bit
8 of discussion about and that is whether to put citations
9 in the executive summary. By and large executive
10 summaries, in my experience, don't carry citations. The
11 citations are in the body part of the report.

12 There is, of course, as you know, a very similar
13 section in the body that would be fully cited. Now, there
14 is a citation for that fact and it is over on -- Sarah
15 probably knows where it is.

16 (Pause)

17 THE CHAIR: All right, they've now got push-to-
18 talk, so I'm being advised that you need to push the
19 button when you want to talk.

20 MR. LOVELESS: Larry.

21 THE CHAIR: Yes.

1 DR. LOVELESS: I can't find the citation and I
2 don't know what the source is for this, but I know there
3 is at least one highly questionable fact that is thrown
4 around about the numbers of engineers that are being
5 developed, especially in China and India, because
6 engineering degrees don't mean quite the same thing. So I
7 think maybe the way to proceed is if we could have someone
8 fact-check this, then we could just move on.

9 THE CHAIR: Well, it's the kind of thing that
10 has to be fact-checked. It has to be verified.
11 Absolutely, there is no question. My recollection is it
12 was in this. Yeah, we have a citation for it. The
13 question is how good it is. We are going to have to check
14 the facts. If it's not true, then we shouldn't have it
15 there. That's your conclusion, right, Bob?

16 DR. SIEGLER: Indeed.

17 THE CHAIR: Yes, okay. Bert.

18 DR. FRISTEDT: We are hoping with this panel to
19 change things from the current trends.

20 THE CHAIR: Right.

21 DR. FRISTEDT: So the will for the future, sort
22 of, asks that we are not going to have an effect. We hope

1 that the percentages aren't that high or they are higher
2 here by virtue of things we do, so --

3 THE CHAIR: Yes. Well, we won't change things
4 that fast, not within 5 years or whatever the horizon is.
5 Are you generally satisfied with the nature of this
6 background block? I guess that's really the question to
7 pose here.

8 DR. LOVELESS: Yes, let's move.

9 THE CHAIR: Okay. You are?

10 DR. LOVELESS: Yes.

11 THE CHAIR: Sandy, do you want to discuss this
12 one sentence?

13 DR. STOTSKY: Almost from a literary point it
14 was like foreshadowing what some of the two central issues
15 are going to be in this report. That was why I thought it
16 might be there, because what we are dealing with and what
17 gets presented at this point, first, are major topics of
18 algebra, and then the critical skills that lead to them.
19 It's a content issue.

20 And so it was in a sense a device, how to
21 foreshadow or lay the groundwork as the problem for what

1 takes place afterwards, but you may decide that you've got
2 enough coming later on. So that's the question.

3 THE CHAIR: Yeah, what my task was here when I
4 was composing this, and I did compose that sentence, is
5 that we're turning from geopolitics to algebra and I just
6 want to get the reader's mind shifted from a big picture
7 to a smaller picture. I think it's not the time to kind of
8 lay it out.

9 DR. STOTSKY: That's fine.

10 THE CHAIR: Okay, let us go then to the
11 background sections in the body, and that would be on page
12 15 of the printed copy. This has been revised some and
13 Bob Siegler, actually, went through it pretty elaborately
14 and made some suggestions for structure changes and there
15 are some alterations, but the basic flow and the basic
16 concept of it hasn't changed.

17 If you're happy with the first one, you must be
18 more or less happy with this structure. There is that
19 question Sandy raises about this quote, and whether this
20 is the right quote for us to put in here and I think
21 that's a question to raise. Sandy, do you want to go
22 ahead and comment on that?

1 DR. STOTSKY: I thought the quote might address
2 algebra itself more directly and I thought it would be
3 appropriate actually to have a mathematician who is well
4 known or whose name might have some resonance. If you
5 were going to have a quotation, it would be best to have
6 someone in the field of mathematics to talk about how
7 important mathematics is for all of these other kinds of
8 careers or opportunities at the college level.

9 It just struck me that I wouldn't have expected
10 this kind of a quote on the vital importance of
11 mathematics. I just thought this would be a way to really
12 make more prominent the role of mathematicians themselves,
13 because there is some confusion in the field about just
14 what a mathematician is and what he does.

15 CHAIR: Tom, go ahead.

16 DR. LOVELESS: I don't like the quote either. I
17 would not have a mathematician state this. The quotation
18 is about labor markets and the importance of mathematics
19 as an entry to labor markets. We need a labor economist,
20 actually, to make a statement like that, so to have a math
21 educator say that math is important, A, is not terribly
22 revealing; and B, he is really not an authority. Alan

1 Schoenfeld is an authority on a lot of things, but labor
2 markets is not one of those things. I would remove the
3 quote.

4 THE CHAIR: Skip.

5 DR. FENNEL: Well, whatever the quote becomes,
6 who makes it isn't nearly as relevant as the wording.
7 Schoenfeld is a well-respected researcher and mathematics
8 educator, but if people are concerned about the words,
9 then I say we substitute the quote and worry less about
10 who says it.

11 THE CHAIR: Any other thoughts on quotations?
12 Bob.

13 DR. SIEGLER: Yeah, I think it just doesn't
14 matter that much and we really have a lot of complex
15 difficult subjects to focus on. I think we should move to
16 those. Which quote and who said it are minutia compared
17 with some of the issues we have to address.

18 THE CHAIR: We will see if Sarah can find some
19 other quotes. The question, I guess, is you're largely
20 happy with where this is headed and how it's developed. We
21 will have serious fact checking to do here because this is

1 where the facts are. All right, then let's turn back over
2 to the principal messages.

3 The principal messages in the executive summary
4 are on page 3, and the Panel has discussed this pretty
5 extensively. In fact, most of the text here is in violet.
6 For the benefit of the audience, let me indicate that we
7 didn't put this stuff in violet, we trust your eyes.
8 Violet means that we've already had a lot of discussion
9 about it and there has been generally pretty high comfort
10 with text that's in violet.

11 The one paragraph that has been discussed
12 extensively and has some continued discussion is the one
13 about instruction being at the heart of the matter. I
14 invite comment on anything in this principal messages
15 section, but that's the most live issue. Yes, Bert.

16 DR. FRISTEDT: My one comment is, actually, on
17 the content. I wonder if we shouldn't make it mathematics
18 curricula, since we do not have a national curriculum.

19 THE CHAIR: Where?

20 DR. FRISTEDT: Yeah, "streamline the mathematics
21 curriculum in grades pre-K to 8."

22 THE CHAIR: In the bullet point?

1 DR. FRISTEDT: Yeah, in the bullet point.

2 THE CHAIR: Yeah. Okay, any comment on that?
3 Sandy.

4 DR. STOTSKY: Now, that would be fine, but I
5 would suggest perhaps getting rid of "grades pre-K to 8,"
6 saying, "streamline elementary and middle school
7 mathematics curricula" so that we leave out that ending
8 grade and not make it quite as definitive. Then shouldn't
9 we say that the goal is to get to algebra, because you've
10 just raised algebra as a central concern and it isn't
11 mentioned here so far at all in the principal messages?

12 So it seems to me in the first one, there should
13 be the point being made that we are emphasizing a well-
14 defined set of the most critical topics in the early
15 grades that can lead to algebra. Somehow, there has got
16 to be a link between what we are saying is the central
17 concern and then the first bullet.

18 THE CHAIR: There has been a sizable discussion
19 about this bullet by e-mail and I think a lot of those
20 questions have already been debated among the Panel. I'm
21 not sure this is the place to work those bullets in that,
22 you know, refined way, but --

1 DR. FENNEL: I agree, I agree.

2 THE CHAIR: Yeah. Go ahead, Skip. You just --

3 DR. FENNEL: I agree with exactly what you
4 said, because I was going to say what you did, but I think
5 we need to move on. This went through several iterations
6 and I think this is where we landed.

7 DR. STOTSKY: There is no connection to algebra
8 on this page.

9 THE CHAIR: Well, I think that issue was
10 discussed. I don't know how else to handle it, Sandy,
11 except to propose a motion to change things, if you want
12 to. What I am indicating is that there was a lot of
13 discussion about this, as you well know.

14 DR. STOTSKY: -- in the early grades -- excuse
15 me, that lead to the study of algebra. Maybe Tom can
16 figure out some other words there too, but that's all. It
17 is simply to tie it to the fact that you've said it's a
18 central concern and that's basically what the thrust is,
19 but I would like to get rid of "the grades pre-K to 8" and
20 simply say, "streamline the elementary and middle school
21 mathematics curricula" to at least get rid of specific
22 grades and make that more general.

1 THE CHAIR: Are you proposing a motion?

2 DR. STOTSKY: Oh, I could propose that motion to
3 streamline elementary and middle school -- sorry,
4 streamline elementary and middle school mathematics
5 curricula and emphasize a well-defined set of the most
6 critical topics that lead to the study of algebra.

7 DR. LOVELESS: I don't want to really engage in
8 wordsmithing, but since we are, I want to. What about
9 streamline the mathematics curricula leading to algebra?

10 (Pause)

11 THE CHAIR: What I'm hearing Tom say is, change
12 it to "streamline the elementary and middle school
13 mathematics curricula leading" --

14 DR. LOVELESS: No. Streamline the curricula --
15 the mathematics curricula leading to algebra.

16 THE CHAIR: To algebra and emphasize a well-
17 defined set of the most critical topics --

18 DR. LOVELESS: Yes.

19 THE CHAIR: -- in the early grades or not.

20 DR. LOVELESS: I don't think the early grades
21 are needed, but again, we are just wordsmithing here.

1 DR. FENNEL: I'll indicate, again, this has
2 been vetted numerous times, but I don't think we want to
3 say, "streamline the curriculum that leads to algebra,"
4 because then we are saying two different things here.

5 "Streamline the mathematics curriculum in grades
6 pre-K through 8." That says we have a burgeoning
7 curriculum around this country in lots of ways, however
8 you define that, by state standards, and what have you,
9 and we are suggesting that that be streamlined. And
10 "emphasize a well-defined set of the most critical
11 topics," says there is a subset of that larger
12 mathematics, all of it important, but there is that subset
13 that we want to say is more critical at these grade
14 levels.

15 I think to say then that these lead directly to
16 algebra was a problem that some of the mathematicians and
17 I had with that, because some kids are going to come at
18 that and get ready at various stages. I think it's pretty
19 important to talk about pre-K through 8, because the pre-K
20 side of this is the most expansive growing element of
21 education in this country, and so that's I think why we
22 landed on what we're looking at.

1 DR. BENBOW: I just want to second that motion.
2 I think we have carefully vetted this and I would really
3 hesitate to change it at this point in time and for the
4 very reasons that Skip mentioned.

5 THE CHAIR: Well, right now, I don't think we've
6 got a motion. I think Sandy sort of moved something. Tom
7 sort of moved something.

8 DR. LOVELESS: I was just trying to help out on
9 the sort of move, so --

10 THE CHAIR: Yeah. Well, --

11 DR. STOTSKY: Excuse me, to get to Skip's
12 concern about preschooling, streamline the preschool to
13 middle school mathematics curricula and emphasize a well-
14 defined set of the most critical topics that lead to
15 algebra is what the charge of the executive order is. How
16 do we get students more successful in algebra?

17 THE CHAIR: What I'm concerned about is if we
18 try to do this kind of detailed wordsmithing here, we are
19 not going to get there. We are going to spend a
20 tremendous amount of time doing it. We should use these
21 offline discussion groups of all interested parties to
22 comment. They converged in this case, and that's why this

1 document has this sentence. If we need to reopen that,
2 then we need to reopen it, I think, offline in the same
3 form, and not try to do this work here, Dan.

4 DR. BERCH: Yes, I agree. We shouldn't try to
5 do it here. I would just emphasize that I agree with
6 Sandy's point about having something in there, somewhere
7 in these bullets leading to algebra and that we consider
8 that if we do the wordsmithing offline.

9 THE CHAIR: Okay, we will reopen the bullet
10 point offline, but I don't think we can do this editing
11 here. I might comment for the benefit of the public that
12 there is a lot of emphasis being placed on these bullet
13 points, because bullet points are sort of super summaries
14 of the main messages of this document, so we are paying a
15 lot of attention to those bullet points and there has been
16 quite a lot of discussion over e-mail to try to get them
17 refined with interested parties. I think that's still the
18 way we are going address it. Yes, Bob.

19 DR. SIEGLER: I would like to propose a
20 mechanism for dealing with this large class of problems.
21 I mean, we're never going to get even a tenth of the way
22 through here if we proceed at this rate. We're arguing

1 about much too much about much too little. The idea I
2 have is that for this large class of issues, where there
3 are remaining disagreements about the exact wording, we
4 set aside an hour out of the time after the meeting where
5 this will be discussed online for a given issue.

6 At the end of the time anyone who wants to vote
7 on it can vote on it and that will be the way we resolve
8 it. However the vote comes out it comes out. This project
9 is much too large to get bogged down like this.

10 THE CHAIR: You're proposing we do that here?

11 DR. SIEGLER: No, no, oh, God no. No, no, I'm
12 saying that after the meeting -- you know, when the
13 meeting's done and we're all back wherever we live, that,
14 say, 2:00 to 3:00 p.m. on Monday will be devoted to the
15 exact wording of this point number one.

16 THE CHAIR: Well, we are going to have to deal
17 with whatever the federal regulations are on convening and
18 voting, and --

19 DR. SIEGLER: But we can have an informal vote
20 that we agree to -- you know, we'll repeat --

21 THE CHAIR: Well, there are limits to what we
22 can do on that matter.

1 DR. SIEGLER: Okay.

2 THE CHAIR: For the most part we've been doing
3 this work in a sub-quorum way and bringing things to the
4 Panel for ratification. That can work as long as the
5 Panel trusts the subgroups. When we get into this
6 situation where there seems to be high value on this
7 sentence we are going to have to have, I think, an
8 iterative discussion again, but we may not be able to
9 vote.

10 DR. SIEGLER: Yeah, but there are a lot of
11 points like this.

12 THE CHAIR: I know that, but these are primetime
13 ones. I can tell you that this same discussion is going
14 to happen with every one of these bullets, and if we try
15 to edit all of these bullets here, we will use all of
16 today to try to get through them, and we can't afford
17 that. So I think we'll take this back to another round of
18 discussion, but we're going to need to settle at some
19 point.

20 Camilla, did you have something you wanted to
21 say? Okay.

1 What about other things besides these individual
2 bullets, which we are having separate discussions about.
3 What about the rest of the principal messages section?
4 Any issues you want to discuss there? Can we turn over to
5 the principal messages section in the body?

6 THE CHAIR: Page 21. It is a little longer, but
7 very similar. Bert.

8 DR. FRISTEDT: Well, I have a continuing concern
9 about the paragraph with "instruction is at the heart of
10 the matter." It tends to give the message that if there
11 were enough research, that would do everything for telling
12 the teacher what to do. It doesn't actually say that, but
13 there is the on-the-spot judgment of the teacher that's
14 also important and I'm just not liking the flavor of it as
15 it sits. Now, this is still in black, so it's presumably
16 still undergoing changes. I don't want anyone to feel that
17 just because it's in violet it's already in stone. It's
18 not in stone, but it --

19 THE CHAIR: -- there is a flag that there is a
20 lot of acceptance.

1 DR. FRISTEDT: Okay, so anyway, this is one
2 where I have a concern and I'll try to come up with a
3 sentence that might make things a little smoother.

4 THE CHAIR: I think again the main messages we
5 are trying to convey here are simply that there are things
6 we can do. There are conclusions to reach but there are
7 also big swathes of activity here, where in fact, research
8 doesn't tell us very much and that if we were systematic
9 about developing knowledge and experience, we might be
10 able to do better in a continuous improvement model over a
11 long term. That's essentially the two concepts here.
12 Sandy.

13 DR. STOTSKY: Okay. It's that same paragraph
14 Bert just mentioned, but my take on it is that it somehow
15 shifts the focus to pedagogy because that's really what
16 instruction more or less means. It doesn't say curriculum
17 and instruction are at the heart of the matter, which
18 would then give it a dual focus.

19 This really talks more about the effect of
20 teachers and those skills. It doesn't even mention the
21 knowledge part of it at all, which is more the focus of
22 the rest of the paper as well, at least what we start off

1 with. We never really discuss pedagogical skills for the
2 teacher in the entire report that directly. We have no
3 evidence one way or the other on whether they lack them,
4 have enough of them, or whatever.

5 So somehow this just struck me as coming in from
6 another planet in a sense and diverting us from
7 instruction.

8 THE CHAIR: Dan.

9 DR. BERCH: Yes. I don't want to wordsmith, I
10 just want to raise two issues with respect to Bert's point
11 and Sandy's, in part. We might be able to soften two
12 aspects of this in a certain way that might take care of
13 it.

14 Not necessarily make instruction at the heart of
15 the matter but one of the crucial components. Then at the
16 end, instead of saying the answers must be found on the
17 basis of rigorous research, we could say something to the
18 effect of "rigorous research and demanding evaluations,
19 can contribute importantly to this." So it's a
20 contributor, but it's not everything based on that with
21 something to that effect. Would that resolve the issue for
22 you?

1 THE CHAIR: Right. I think. What I'm really
2 hearing is that people are generally happy with this
3 section. The things that are going to have to be given
4 close attention as we finish up are this one paragraph and
5 the individual message bullets that we already know we
6 were paying a lot of attention to, right?

7 Okay, is that a reasonable conclusion for us to say
8 that we are more or less happy with this but we need to
9 deal with that paragraph and we need to deal with the
10 message bullets?

11 DR. FENNELL: Yes.

12 THE CHAIR: Okay, then let's move on.
13 All right, that takes us to the Panel sections. Tyrrell
14 knows the page numbers, so 4 and 5 in the Executive
15 Summary just talks about what the Panel is and how it was
16 appointed by the President and what its scope was and how
17 it did its work. Any discussion about that? This has
18 been a yawner for a long time now. All we need to do is
19 fill in the page references, I think.

20 Okay. Then back over, at 18 and 19 is where you
21 get essentially, the same information in the body of the
22 report, although you have here the list of items from the

1 President's charge. We have the voices from the field,
2 the box from the Algebra Teachers' Survey and there was a
3 paragraph here that was worked late, and I left it in
4 black because it is the new one. But my guess is, there
5 is not a lot of dissatisfaction with it. There was a high
6 degree of interest in having this paragraph.

7 DR. FENNEL: That's right.

8 THE CHAIR: This is on page 20, the black
9 paragraph. Is everybody okay on the Panel section from
10 the body?

11 DR. SIEGLER: Yeah, is there some way we can
12 vote once we have a quorum to make this into a violet
13 color, so we don't return to it?

14 THE CHAIR: Well, if you don't say anything it's
15 going to go violet.

16 (Laughter)

17 DR. SIEGLER: Oh, good, okay. Excuse me.

18 THE CHAIR: Unless there are still live
19 questions, then I will turn it violet. If we keep moving
20 on, and nobody raises anything it gets violetized. Okay,
21 let's go back to the appendices I would like you to at
22 least thumb through those and make sure that you are happy

1 enough with them.

2 Appendix A is page 62, that's a copy of the
3 Presidential executive order. You don't get to edit that.
4 Appendix B is a list of names and affiliations of the
5 Panel members, staff and consultants.

6 Again I would like to ask you all to take a look
7 at your name and your affiliation and tell me if you are
8 happy with it. The ones that are in black are people who
9 haven't come back to me. We can deal with that offline.

10 Appendix C is the organization and operation of
11 the Panel. It's more detail about how we divide it up and
12 operate it. Appendix D is where we met and the dates.
13 Appendix C is the rosters of the task groups and
14 subcommittees.

15 Any comments? You are happy with the Panel
16 material? All right. That means then we are done. We
17 have some tasks left to do and the ones that are the main
18 ones are the principle message bullet points we already
19 knew about in that one paragraph. I would appreciate if
20 the interested people, but especially Bert and Dan, and
21 Sandy, might take a look at trying to get that paragraph
22 worked while we are here because I think there's a chance

1 we could get that done.

2 All right. That's the paragraph on page 22, the
3 bottom of 22 continuing over to 23 and also that same
4 paragraph or something close to it. It's in the body or
5 in the executive summary. Okay, what's next?

6 DR. FENNEL: Mr. Chairman, I know Wilfried is
7 coming in tomorrow; I will work with him on the content,
8 the streamlining.

9 THE CHAIR: Yeah, Fennell, if we can get that
10 bullet point refined here, that would be good. My guess
11 is that it would be possible to do it. Okay, Tyrrell
12 points out we have two people who are delayed, Valerie and
13 Doug, and we also have Deborah arriving soon. But since
14 they are not here, she points out that doing research
15 policies and mechanisms and Teachers probably is not the
16 right thing to do.

17 And she suggests we go to Instructional
18 Materials. Are you game for that? Okay, we are going
19 over to Instructional Materials at page 12 and 13. Oh,
20 here's Valerie. Is Doug with you?

21 DR. REYNA: Doug will be here shortly.

22 THE CHAIR: Let's go ahead and do Instructional

1 Materials then. I think Doug has been an interested party
2 in research. We are on page 12, Instructional Materials.
3 We have many questions here for a small section. There
4 are issues that have been raised on item 29, although I
5 would say there's generally convergence on 29. There's
6 just simply a question about whether to keep sentence 1,
7 really.

8 And on 30 that's the question about whether the
9 item about states and districts striving for greater and
10 greater agreement should live or not. There are members
11 here who believe that it shouldn't be in the executive
12 summary. There's some who don't believe that it should be
13 anywhere and we have to decide that.

14 Item 31, relates to mathematical accuracy and
15 it's not a question of the point being there, there's a
16 question about the version. So let me take 29 first.
17 There's simply the question about the one sentence.
18 Anybody want to speak to the one sentence? Bob?

19 DR. SIEGLER: Well, I have one very particular
20 small idea for a change and the larger point of why I
21 think this is an important sentence to make. The small
22 point is, I think, it would be more accurate if we said in

1 the first sentence, "in an attempt to reach Pre-K to 12
2 market with varied curriculum goals and expectations"
3 because it is impossible to say what far too many is
4 compared to what. So, but it is unarguable that they are
5 extremely varied.

6 The reason I think that this point is very worth
7 making here is that the publishers, when they testified
8 before the committee, all agreed that the variety of goals
9 in different states, when exactly different topics would
10 be handled, contributed between 20 and 25 percent to the
11 800 plus page length of these books. That's a very
12 serious problem. It's expensive. It's onerous to carry
13 the books around and it makes coherence impossible because
14 you never know what chapters will have been covered and
15 which ones will be done, before which other ones. So I
16 think that this is really an important point to make.

17 THE CHAIR: Irma.

18 DR. ARISPE: Could we just add what Bob just
19 said, "publishers," that way it cites it to the source
20 that we are using, I like that suggestion.

21 THE CHAIR: You are just saying make a citation
22 in the actual point.

1 DR. ARISPE: I will say that publishers indicate
2 or have testified so that it's clear that it's the
3 publishers themselves. I like the idea of the varied
4 content because that really wasn't a lot of what we
5 discussed in that group.

6 THE CHAIR: So put the actual testimony there;
7 publishers themselves have testified.

8 DR. FENNELL: Mr. Chairman.

9 THE CHAIR: Yeah.

10 DR. FENNELL: Only in response to Bob's question
11 about how much is too many, and I don't think we need to
12 say this because I think his revision kind of captures the
13 thought, depending upon how you count. There are states
14 with as few as 32 or so expectations in a given year, and
15 there are states with over 110. When we talk about lack
16 of coherence that's what we mean. So I think that is what
17 the market is for those who propose to publish materials.
18 That's just Pre-K through 8, not algebra specifically.

19 THE CHAIR: Bert.

20 DR. FRISTEDT: I like Irma's comment because we
21 haven't checked these things out ourselves in the detail,
22 we should or we could maybe. We are relying on what the

1 publishers say and they have a self-interest in saying
2 this. So I do like Irma's suggestion. Now, I know Skip
3 has mentioned that the states vary a lot in the number of
4 items but whether they actually differ in the amount of
5 material is a different story. Because some states just
6 break it down, this is my major concern with this whole
7 section but it comes more with 30 than with 29.

8 THE CHAIR: No, I think they also cover things
9 in different years and that's an issue.

10 DR. LOVELESS: I am skeptical with the
11 publishers' explanation. And one danger in our singling
12 out this explanation is that it leaves out other
13 explanations like the fluff in textbooks and the
14 photographs and the use of stories in the textbooks.

15 The publishers produce one text for California,
16 and that particular text has grown in length as well. So
17 that can't be explained on the basis of varying and it is
18 a stated list of textbooks that are accepted, so that
19 can't be explained.

20 THE CHAIR: That is shorter in the national
21 edition.

22 DR. LOVELESS: It is, but it also has increased

1 in length. So it's true that perhaps this is one of the
2 reasons why textbooks are growing in length but it's the
3 only one that we really talk about.

4 DR. SIEGLER: So, there actually were not just
5 qualitative comments from the publishers but quantitative.
6 We looked at the length of the three state-specific books
7 in a given year for, I believe, Algebra I, and they looked
8 at the national edition and it was on the order of 220
9 pages difference on average.

10 So it is not just one source, it's a very major
11 source. That said, I agree that it's a good idea to cite
12 excessive photographs and inspirational stories and other
13 sources of fluff. Maybe we can work on getting the
14 wording exactly right. Because, I agree it's a good idea
15 to cite other things too but this is I think the giant
16 source of it and the others were also substantial sources,
17 maybe not quite as large.

18 THE CHAIR: We tried to get agreement at the
19 meeting and this went around and around by e-mail and we
20 got down to essentially a permanent disagreement. So I
21 think we are going to end up having to get it resolved.

22 DR. SIEGLER: Who would like to work on it,

1 Skip?

2 DR. FENNEL: I would.

3 DR. LOVELESS: I would, yes.

4 DR. SIEGLER: So the four of us will take it

5 DR. LOVELESS: Yeah, because I think the data we
6 need in addition to the 20 percent, which I agree with you
7 is substantial, is what was it 30 years ago. Perhaps
8 California was 50 percent the size of the average national
9 book, 30 years ago. So the addition of the fluff could
10 really be the larger driver here.

11 DR. SIEGLER: We actually got data from the four
12 publishers that testified. Marian Banfield looked at the
13 testimony to verify how long they were. We asked for late
14 60s or early 70s version of the same book or similar place
15 in their catalog and they were on average about half as
16 long. You are right that this is not the only source of
17 it. Who knows which is bigger though? This is certainly a
18 very large one.

19 THE CHAIR: Okay. Well, Bert, go ahead.

20 DR. FRISTEDT: I want to make just one quick
21 comment. I know Bob and I go back and forth on this, but
22 just consider a particular topic like skill with the prime

1 numbers. Now, I happen to know that in Minnesota they're
2 not mentioned in the state standards until sixth grade.
3 Minnesota was writing its standards primarily for
4 assessment not for the teachers.

5 I know some other states begin with prime
6 numbers in fourth grade. But they are writing for a
7 slightly different purpose. Now, a publisher who looks at
8 that should realize that they have got to think, but they
9 should realize that we should begin with the small section
10 on prime numbers at grade four. Even the Minnesota crowd
11 doesn't mention it in the standards until grade six
12 because they are talking about when it should be assessed.

13 They should instead work on just getting a
14 smooth discussion from year-to-year, growing each year
15 without regard to state standards. They'll see at the
16 end, they are matching quite nicely. But if they go to
17 the state standards, item by item they are just going to
18 have a badly organized book that's much too long.

19 This is what concerns me because I read the
20 various state standards. I'm not seeing these differences
21 that people talk about once you start factoring in these
22 other features.

1 THE CHAIR: Joan, you held your hand up a long
2 time ago.

3 DR. FERRINI-MUNDY: Yes, I was just going to
4 suggest that maybe we should simply say textbooks have
5 become unwieldy and not try to have a reason.

6 THE CHAIR: Okay, let me suggest we go on to
7 item 30. There's a more substantial issue there, I think.
8 What I'm hearing is on item 29 there's not any
9 disagreement on whether to keep the item, it's really a
10 question of how it should be worded.

11 Item 30, there's a question about whether we
12 should have an item. This is simply a point that calls
13 for collaboration, if possible, among states and districts
14 to try to produce a more unified basis for going forward.
15 But there are people who believe that's not a good idea.
16 Let me open the question as to whether we should have the
17 item. Bert?

18 DR. FRISTEDT: Well, you can tell from my
19 remarks in connection with 29 that I am one who thinks 30
20 should go. I think it's a way of textbook publishers
21 putting the blame elsewhere rather than focusing on
22 writing a well-organized book. Keeping standards in mind,

1 but having a nice flow from year-to-year in their textbook
2 series, they would find that they need to do very little
3 alteration to match with the states if they do that.

4 THE CHAIR: Okay, Camilla.

5 DR. BENBOW: I disagree very strongly and I
6 think that we absolutely need to have state and school
7 districts strive for much greater agreement on what is
8 taught. We have chaos right now and we have to reduce the
9 amount of chaos in our schools.

10 DR. CLEMENTS: I agree, and from my admittedly
11 informal interactions with various publishers they are
12 always saying we just can't sell it here. So it's not a
13 question of them believing it's better even necessarily,
14 it's a question of their own financial interest.

15 THE CHAIR: Well, I think the chaos has other
16 effects to and that it's extremely difficult for kids to
17 move from district to district. That's an issue we don't
18 talk about really at all in this report, but it bears on
19 this issue. Skip?

20 DR. FENNELL: I agree with Camilla and Doug. I
21 think this issue of "blame needs to be shared," and how we
22 share that is in trying to strive for some level of

1 coherence in this thing we call the Pre K through 8
2 curriculum. Have textbook publishers, and those in charge
3 of such decisions, be they states or school districts,
4 come together because one of the issues that you just
5 mentioned, which we don't deal with here and probably
6 shouldn't frankly, is this issue of mobility from state to
7 state within school districts in the same state.

8 THE CHAIR: Do you want to resolve this by vote?

9 DR. FENNEL: Yes.

10 DR. SIEGLER: Actually, I've been trying to map
11 out a kind of framework for what a revised 30 to address
12 some of Bert's concerns and others around the table might
13 look like. And it would amount to 29 is the basic problem
14 that the books are unwieldy and way too long. And 30
15 would go something like a number of changes could
16 contribute in major ways to briefer more coherent
17 textbooks.

18 Four publishers testified before the committee.
19 Other sources also contribute in major ways to the
20 excessive length of current textbooks. We mentioned
21 things like too many photographs and inspirational stories
22 and whatever else seem to be the sources.

1 THE CHAIR: But you are proposing all that in
2 30?

3 DR. SIEGLER: Yes, well, yeah, that would be in
4 30.

5 THE CHAIR: That would be in 30?

6 DR. SIEGLER: Yeah.

7 THE CHAIR: 29 wouldn't --

8 DR. SIEGLER: 29 is the need and 30 is the --

9 THE CHAIR: And then 30 would have what Irma was
10 suggesting?

11 DR. SIEGLER: Yes, as well as a reference to
12 things like all the huge number of photographs and --

13 DR. LOVELESS: Non-mathematical content.

14 DR. SIEGLER: Non-mathematical content, yeah.

15 THE CHAIR: So you are not proposing to rewrite
16 29, you are proposing to rewrite 30?

17 DR. SIEGLER: Right, except for Joan's good
18 suggestion to just start with "textbooks have become
19 unwieldy."

20 THE CHAIR: So you are going to rewrite 29 and
21 30?

22 DR. SIEGLER: Yes, well, just with Joan's one

1 addition.

2 DR. FERRINI-MUNDY: I thought we had closed on
3 30, we had that done.

4 DR. BENBOW: What about the issue in 30? States
5 and districts should strive for greater agreement
6 regarding which topics will be emphasized and covered on
7 particular grades. Where does that go now?

8 DR. SIEGLER: There would be the next sentence
9 actually, after "A number of changes could contribute in
10 major ways to briefer more coherent textbooks," four
11 publishers have testified. States and districts should
12 strive for greater agreement. I was happy with the old
13 version. May be we should just leave well enough alone.

14 THE CHAIR: I'd suggest you leave 30 alone and
15 try to put all of the excessive linked stuff in 29.

16 DR. FENNELL: Question from DR. LOVELESS. I've
17 yet to read an inspirational story in a math book.

18 DR. LOVELESS: They are in there.

19 THE CHAIR: We need to resolve whether we are
20 going to keep the 30 or not and that question needs to be
21 resolved. Yes, I think we are going to vote. Somebody
22 move that we are going to keep 30.

1 DR. FENNELL: So moved.

2 DR. BENBOW: Second.

3 THE CHAIR: All right, now, any further
4 discussion? Then we are going to go to the vote, those in
5 favor of keeping the 30 please elevate your hand.

6 (Show of hands)

7 THE CHAIR: All right, those opposed.

8 (Show of hands)

9 THE CHAIR: All right, we are going to keep 30.
10 Okay, let's go to 31. And 31 is mathematical accuracy. We
11 have two possible alternates here, and I commend them to
12 you, so you can tell me which one you want. One of them
13 is really about accuracy, and one of them is about more
14 than accuracy. Skip?

15 DR. FENNELL: It seems to me, and I guess I'd
16 like to hear Bob Siegler's response on this that the
17 potential revision of 29 would carry with it some of the
18 coherence that your revision talked about. I like the
19 relative simplicity, and absolute importance of the
20 current 31 that deals with mathematical accuracy.

21 THE CHAIR: Wait. This is not my revision.

22 DR. FENNELL: Well, whoseever's revision it is,

1 I guess, I am in support of what's currently there as 31.
2 I think that some of the suggestions to the right of that
3 maybe carried in this revision of 29.

4 DR. SIEGLER: I agree with Skip and for the same
5 reasons.

6 THE CHAIR: Okay, what I am proposing here is
7 that 31 stays as written unless somebody makes a motion to
8 substitute. Bert makes a motion to substitute.

9 DR. FRISTEDT: Yeah.

10 THE CHAIR: Is there a second? Failing a second
11 we are going to keep 31 as is. Okay, then Bob what you've
12 got is to work on 29, okay? All right, now we are going
13 to the instructional, yes --

14 DR. FRISTEDT: I have one more thing I'd like to
15 add to assessment, another point, I've written it down
16 here, maybe I can give it you --

17 THE CHAIR: Instructional Materials?

18 DR. FRISTEDT: Instructional Materials, yes.

19 THE CHAIR: Do you have a point to be added?

20 DR. FRISTEDT: Yes.

21 THE CHAIR: Okay.

22 DR. FRISTEDT: Should I give it to you or read

1 it?

2 THE CHAIR: Read it.

3 DR. FRISTEDT: Okay. Taking account of the fact
4 that home situations for students vary widely for many
5 reasons, including level of mathematical knowledge,
6 publishers must organize and present their material in a
7 manner that does not rely on help with the actual
8 mathematics at home.

9 THE CHAIR: This is a point you've made in
10 discussion Bert, but do you want to go further with it.
11 No, I am not saying do you want to increase the text. I'm
12 saying do you want to amplify why you are for it.

13 DR. FRISTEDT: Yes, I've seen examples. I don't
14 want to mention a particular textbook where it is clear
15 that the take-home material is intended to get parents or
16 others adults at home involved in instructing the
17 particular mathematics.

18 I think this is a kind of thing that naturally
19 increases the achievement gap. In particular, I mean, in
20 my own situation I am able to provide that mathematical
21 help for my grandchild. I don't think some others could
22 get that kind of help at home. Yet it seems to be

1 designed that way. It's not just the teacher, it's the
2 materials.

3 THE CHAIR: Can I ask you to read that point
4 again?

5 DR. FRISTEDT: Sure. Taking account of the fact
6 that home situations for students vary widely for many
7 reasons, including level of mathematical knowledge,
8 publishers must organize and present their material in a
9 manner that does not rely on help with the actual
10 mathematics at home.

11 THE CHAIR: So it is textbook oriented?

12 DR. FRISTEDT: Yes.

13 THE CHAIR: That's really the question I had.

14 DR. FRISTEDT: Okay.

15 THE CHAIR: All right. Do you want to move
16 this?

17 DR. FRISTEDT: I will move it.

18 THE CHAIR: Okay, question is, is there a
19 second? Okay, I am not hearing a second. All right.
20 Okay, now, we still have the Instructional Materials
21 section in the body that is page 52. The actual
22 recommendations are not actually identically worded. The

1 first formal recommendation, "Publishers must insure...", is
2 identical to what's in the executive summary. And the
3 third one, "States and districts should strive...", is
4 identical to what is in the executive summary.

5 The middle one, "All parties should strive for
6 more compact and more coherent mathematics books," is a
7 stand-alone item that essentially echoes the first bullet
8 in the executive summary, but it is not identical. Any
9 comments or questions here? There is contention over
10 whether to retain the paragraph, but in effect we've
11 settled that question with the vote over whether to retain
12 the recommendation.

13 So I believe all outstanding issues here are
14 settled except possibly the last paragraph. There was some
15 comment with that last clause including, "applications in
16 which the primary challenge is," et cetera. Bert?

17 DR. FRISTEDT: First of all the last clause
18 doesn't read very well.

19 THE CHAIR: Well, the question raised is there
20 any reason not to delete it?

21 DR. FRISTEDT: Okay. I have another concern
22 about this paragraph that's the long thing in the side bar

1 that's for me. I don't know quite how to handle this, but
2 Vern isn't here. He pointed out that all these things are
3 accurate here from our viewpoint of the Instructional
4 Materials subcommittee. We don't want to give publishers
5 the message to start writing these extra supplements. We
6 want to give the message to cut down the length by cutting
7 out things.

8 After you've done that you may find that some of
9 the things you've cut out could be in supplements for
10 particular students either for advanced students or
11 students who need enrichment or extra help. We need
12 something to fix up the tone, so that cutting the length
13 is primary. Vern was concerned the publishers would just
14 see this is as an invitation to write more things.

15 THE CHAIR: Lots of publishers do.

16 DR. FRISTEDT: Yes, but we don't want to give
17 them the encouragement. We want to encourage them first
18 to cut the length.

19 THE CHAIR: What you are proposing as an
20 alternative is substituting this existing paragraph with
21 this larger passage.

22 DR. FRISTEDT: That is what I am proposing, but

1 if it's accepted it could certainly use some wordsmithing
2 because that's rather cumbersome, I know.

3 THE CHAIR: The Chair is waiting for a motion.
4 Yes, Skip.

5 DR. FENNELL: I was one of perhaps a couple of
6 people who suggested deleting the phrase and including
7 applications when their primary challenge is posed by the
8 social studies or science contexts in textbooks and those
9 subject areas. In other words suggesting that those be
10 placed elsewhere, I just don't know that the Math Panel
11 has anything to say relative to what ought to go in about
12 other subjects. Having said that, I would propose that we
13 vote on the existing paragraph with that deletion.

14 THE CHAIR: Well, let's deal with the question
15 of the deletion first.

16 DR. FENNELL: All right.

17 THE CHAIR: You are proposing the deletion?

18 DR. FENNELL: Yes.

19 THE CHAIR: Is there a second?

20 DR. BENBOW: Second.

21 THE CHAIR: Is there discussion about whether
22 there is redeeming value in the last clause? Bert?

1 DR. FRISTEDT: I certainly would like it deleted
2 the way it is because of cumbersomeness. I think we do as
3 the Math Panel have a role to speak for math across the
4 curriculum just like the Reading Panel can speak for
5 reading across the curriculum. And it is important to
6 give a nudge to people for whom mathematics occurs
7 naturally in their classroom to make use of it. They can
8 make use of it if it's in the textbooks, rather than the
9 textbooks avoiding it. So if we make the statement smooth
10 enough, I think, it is in our interest to do it and it is
11 part of our role.

12 THE CHAIR: Okay, Bob.

13 DR. SIEGLER: I would favor deleting the last
14 clause for the reasons that Skip said, but also the second
15 to last clause. You know, I think our directive to the
16 publishers should be, you need to make these books shorter
17 and more coherent, but we don't want to micromanage their
18 task.

19 I mean, if we have things that are really
20 glaring like the number of photographs, I can see leaving
21 that in, but who are we to say. We have no expertise
22 professionally, in saying that placing content aimed at

1 providing extra review and enrichment activities for
2 motivation should be in supplements rather than the main
3 textbook.

4 I think that the same discussion that we are
5 going to have about number 29 will probably be relevant
6 here too. But whether these should be in supplements, in
7 textbooks, or nowhere, who knows. For me a lot of the
8 answer is nowhere. You know, but that's just my personal
9 opinion. It's not because of anything I know
10 professionally.

11 THE CHAIR: I got a motion on the floor here,
12 which doesn't include the second to the last clause.

13 DR. SIEGLER: Okay, well, I will -- yeah.

14 THE CHAIR: Are you ready to vote? Those who
15 want to delete the last clause, raise your hands.

16 (Show of hands)

17 THE CHAIR: Those who want to keep the last
18 clause raise your hands.

19 (No response)

20 THE CHAIR: Okay, the last clause is gone. Now,
21 we are available for other motions.

22 DR. SIEGLER: I move to delete what was the

1 second-to-last clause?

2 THE CHAIR: You want to go for the whole
3 paragraph, while you are at it?

4 (Laughter)

5 DR. SIEGLER: No, I'd like the photograph part.
6 Loveless would take out pictures. We are going way back.
7 Can I --

8 THE CHAIR: I think before we do that, Bert is
9 going to probably move it if we do a substitution, right?

10 DR. FRISTEDT: Can I move that first?

11 THE CHAIR: Why not. I think that makes more
12 sense than fooling around further with this clause. Okay.
13 All right.

14 DR. FRISTEDT: I move that the thing in the
15 right-hand column be substituted for the last paragraph
16 keeping open the option once that's done for some
17 wordsmithing by others.

18 THE CHAIR: All right, Bert's moved a
19 substitution. Is there a second?

20 (No response)

21 THE CHAIR: There is no second. So we will
22 stick with the paragraph we've got. Now, Bob wants to

1 make a motion. Skip. But Bob wants to make a motion.

2 Let him make his motion.

3 DR. SIEGLER: I will hold.

4 DR. FENNELL: Before Bob makes a motion, let me
5 just claim that while photographs and inspiring
6 mathematical stories have, in fact, probably contributed
7 to the size of books, I would maintain that they have
8 become, in a word that I believe is attributed to Tom,
9 bloated, by an attempt to provide other kinds of
10 activities.

11 The fact is kids need review and it's often in
12 the book and largely because a whole lot of school
13 districts expect it to be in the book and/or states. Some
14 students need enrichment kinds of activities, some
15 students need other kinds, and so these things are
16 necessary. I guess the issue becomes, where does and how
17 does a teacher get his or her hands on them and how are
18 they connected to the base of instruction that in most
19 classrooms tends to be the textbook. So I just wanted to
20 make that claim and I think it is a fairly accurate claim
21 and then hear what Bob has to say with the move.

22 DR. LOVELESS: Can I add before -- because Bob

1 may want to respond to me?

2 THE CHAIR: Sure, go ahead.

3 DR. LOVELESS: The wording is very soft. We are
4 not demanding that they move all this stuff into
5 supplemental materials. We are just giving them
6 suggestions on ways they may want to reduce the book, and
7 we do demand they reduce the book, so it does make sense
8 that we make suggestions. I think there is enough latitude
9 for them to make their own judgment as to how to do that.

10 THE CHAIR: Okay, Bob. Go ahead.

11 DR. SIEGLER: Fair enough, I withdraw the
12 motion.

13 THE CHAIR: All right, good. You get brownie
14 points for that. Now, with that I'm not hearing that
15 there is any more argument with Instructional Materials.
16 That and the section generally you're happy with as edited
17 here, right?

18 DR. SIEGLER: Right.

19 THE CHAIR: Okay, and that means that the
20 Instructional Materials area body is okay as it is edited.
21 The only one left to argue about is 29 and you're going to
22 work on recasting that before we leave here, right? Good.

1 Okay, that means -- Tyrrell says we are on time.
2 So now, we are going back up to research. We deferred
3 because Valerie, Doug, and Deborah were coming in and they
4 were involved in the research discussion, so I think we
5 are now going to research. We will go to the bullet
6 points first in the executive summary and those are on 13.

7 "Research policies and mechanisms." There has
8 been quite a lot of discussion about various aspects of
9 this. Let me indicate that I did put 36 in violet because
10 there seemed to be quite a bit of convergence on the idea.
11 We aren't at a break yet, right? No, okay. Tom is just
12 going to get coffee, that's all. Okay.

13 THE CHAIR: Good, we have fifteen minutes.
14 "Research policies," is in violet because there seemed to
15 be convergence on the fact that the point would exist in
16 more or less this language. Doug raised a question about
17 whether mechanisms of learning is not a more natural
18 predecessor to effective instructional practices and that
19 the order of those items might be changed. Let me raise
20 the question of whether 36, in fact, is to be edited,
21 aside from even that point. Valerie, do you want to
22 speak?

1 DR. REYNA: I know we've had a lot of discussion
2 back and forth. I guess my sense of the most recent
3 discussion is that we'd converged around this language,
4 but I would be eager to hear if there are people that
5 don't feel that way.

6 THE CHAIR: I'm sensing that there is acceptance
7 -- Sandy.

8 DR. STOTSKY: I just wanted to raise the
9 question, as I'm looking more closely at this, as to
10 whether more research is needed just on those things that
11 are mentioned, without mentioning other things, for
12 example, like time on task, classroom grouping. I mean,
13 there are a whole series of very important issues in math
14 teaching and in other subjects that could be included.
15 And I'm not even clear in my own mind whether more
16 research on practices specifically is going to get us much
17 farther than we are right now.

18 This isn't like the National Reading Panel,
19 which in many ways focused on early beginning reading and
20 there were two contrasting theories about how to do that.
21 It's not necessary that there could be much that would be
22 gained from instructional practices because it might be

1 just a variation in the teachers' judgment. There are a
2 lot of other issues and that's the only point I'm raising
3 that this seems to focus on just a few of the possible
4 issues that could be added here as important issues in
5 teaching any subject.

6 THE CHAIR: Deborah.

7 DR. BALL: I agree with Sandy's first point
8 about it not being clear, that why these particular things
9 are on the list and not other things. For example, we
10 don't say anything about teacher education, which is a big
11 issue elsewhere in the report. But mainly, rather than
12 lobbying for other things to be included, it's a little
13 unclear, unless we are going to discuss which are the ones
14 we most want to prioritize that there be research.
15 Otherwise, it's not clear to me that that's how these got
16 there.

17 On her second point, I'm actually, a little bit
18 worried about us committing ourselves too strongly in the
19 methodological domain, when there are huge changes
20 happening right now about the way randomized clinical
21 trials will be done. I just spent a couple of days with
22 Steve Raudenbush who is arguably probably the leading

1 methodologist on questions of instructional research and
2 it's clear that there are going to be things possible
3 already about instructional treatments.

4 So I don't want to commit too far on this. I
5 think we want to say something about this, but I don't
6 want to get too specific about the nature of what will and
7 won't be able to be studied. I think the first point Sandy
8 makes is very important and I'm curious what other
9 panelists think about the question of what the three items
10 are that we --

11 THE CHAIR: So how does that translate? Does
12 that translate into a longer list of one to five items or
13 one to seventeen items or does it translate to deleting
14 the list?

15 DR. BALL: Maybe we shouldn't try to do that
16 here, because throughout the report we do mention things,
17 unless we want to try to collect the things we most want
18 to prioritize here. It might be possible to state this
19 without listing the things or maybe we want to talk about
20 areas we found most wanting. There were areas that we
21 really significantly found wanting that really impeded our
22 ability to say things that need to get said, and need to

1 get worked on.

2 THE CHAIR: Valerie.

3 DR. REYNA: Just a little bit of background as
4 to why these three areas. These areas map on to the
5 charge of the Panel. They weren't intended to replace the
6 work of the task groups, so if there are content area
7 concerns, the idea would be that the content area advice
8 would come from the separate task groups, not from this.
9 The two specific things that you mention, Sandy, I would
10 consider subsumed in these items.

11 So for example, time on task is normally covered
12 as a mechanism of learning and grouping would be for
13 example an instructional approach. So these are three
14 broad categories. They are not intended to stipulate a
15 whole long list of things that might be studied or to
16 provide, you know, very specific constraints on that. We
17 had a group on teaching effectiveness, so teaching
18 effectiveness is mentioned, and then I think most of the
19 Panel felt that, gee, we could have a lot more good work
20 in that area.

21 We had a group on learning processes and so
22 learning processes is mentioned. And finally we had a

1 group on instructional practices, and so instructional
2 practices is mentioned. It's not -- again, this is not
3 intended to exclude anything, but simply to say in the
4 broad categories that we've already identified as of
5 importance that we need more good rigorous scientific work
6 in those areas.

7 THE CHAIR: Tom.

8 DR. LOVELESS: If we were going to expand that,
9 what would we add? I think teacher education definitely
10 needs to be added, but are there other candidates?

11 THE CHAIR: Teacher education is in three,
12 depending upon how you read three.

13 DR. LOVELESS: Yeah, I don't and when I read it,
14 it wasn't there.

15 DR. SIEGLER: Larry, would it address the
16 problem if we just said, ways to enhance teacher
17 effectiveness including improved teacher education that
18 are directly -- because I think it is worth mentioning
19 explicitly just so everyone will read it the same way.

20 DR. BALL: Would people accept that as being the
21 umbrella term, including the different kinds of teachers'
22 education, which is the way that our task group did that.

1 I know that people don't always read it that way. In other
2 words, there is professional development and
3 preservice/in-service and I'm not sure Sandy likes to make
4 sure we distinguish those, so I'm comfortable with using
5 just that phrase. I just want to make sure the rest of the
6 Panel would be comfortable with that.

7 DR. BERCH: I thought it was very important what
8 Valerie just mentioned about the rationale for this. So
9 it sounds like we are agreeing to stick to some sort of
10 generic phrases here and we wordsmith those appropriately.
11 The only other thing I would ask, and I don't really want
12 to add to this, is that given that we had an additional
13 task group, the Assessment one, would we need to cover
14 that separately or include it somehow in one of these
15 others?

16 THE CHAIR: I'd say that if we don't leave the
17 list of specifics in there's hardly any point in having
18 the point. If we try to make the list of specifics too
19 long, it's going to become a useless thing. The mapping
20 onto what the Panel is about is a good principle. That's
21 my judgment. Camilla.

22 DR. BENBOW: Yeah, I mean, I guess if you would

1 add teacher education then you will have left out only one
2 area. I mean, you've left out assessment and, you know,
3 we did have recommendations there. In a way, I'm coming
4 down to it that we don't even need that sentence, because
5 we just need to do more research to illuminate these
6 areas.

7 THE CHAIR: You would vote for taking this
8 sentence out?

9 DR. BENBOW: To be specific, I think we need the
10 bullet. I just don't know if we need to be specific, but
11 otherwise we should probably add "assessment" too.

12 DR. REYNA: I have no objection to adding
13 assessment and I agree with Larry's ascertainment that
14 some level of specificity here is important. I think some
15 of these words were chosen to hearken to the kind of work
16 that we all found missing when we were sitting around the
17 table, things like mechanisms of learning. I'm so glad we
18 had this addition about teacher education. I think that's
19 very important. That certainly came up a lot, and I'd be
20 happy to add "assessment" here too. I think it's
21 important to give people an occasional retrieval cue.

22 THE CHAIR: Well, let me propose that we try to

1 address this in a series of votes. It seems to me the
2 first thing is to decide whether a specific list is
3 needed. If the answer is yes, then we can decide whether
4 to include the teacher education phrase and we can decide
5 whether to include assessment. How is that? Does that
6 work? Okay, can somebody give me a motion that either we
7 delete or retain the sentence with the specifics?

8 DR. FENNELL: I got one, Larry.

9 THE CHAIR: Go ahead.

10 DR. FENNELL: I would like to move that we
11 essentially keep what's here and add a little bit more
12 specificity to the, I will call it, the teacher education
13 example. That's my motion.

14 THE CHAIR: Okay, that's your motion. Okay.
15 Can your specificity be the phrase including teacher
16 education after teachers' effectiveness?

17 DR. FENNELL: If you'd like it to be there,
18 that's fine.

19 DR. LOVELESS: And assessment.

20 THE CHAIR: Sure, Tom.

21 DR. FENNELL: Well, assessment would be item 4,
22 right?

1 DR. LOVELESS: Okay, and some photographs and
2 inspirational stories.

3 (Laughter)

4 THE CHAIR: Let's just deal with Skip's motion
5 right now, and then we will deal with assessment later.
6 Okay, the question is, do you want the motion to retain?
7 But, first of all, we have to have a second.

8 DR. BALL: Second.

9 THE CHAIR: Okay. Now, are you ready to vote?
10 The question then is who is for Skip's motion, which would
11 retain the language we have here with the addition of the
12 teacher education phrase?

13 (Show of hands)

14 THE CHAIR: All right, and those opposed?

15 (Show of hands)

16 THE CHAIR: All right, we've got retention.
17 Now, the next question is assessment. Do you want to move
18 that assessment be added as --

19 DR. BENBOW: Yes, I move that we add assessment
20 to the list. We could talk about test and item design.
21 And Susan, probably has a much better way of phrasing it.
22 I will defer to her.

1 DR. EMBRETSON: That was about what I was going
2 to suggest that we need research on item and test design,
3 features that improve the mathematical content of the
4 test. I second your motion.

5 THE CHAIR: Okay, we are going to need to get a
6 suitable phrase, but the idea is to insert an item 4 on
7 assessment, is that correct?

8 DR. REYNA: How about ways to improve test and
9 item design, including improving mathematical content?

10 SPEAKER: No.

11 DR. REYNA: No, or including mathematical
12 content?

13 DR. EMBRETSON: So well --

14 DR. REYNA: That needs wordsmithing.

15 THE CHAIR: You will do that offline. The
16 question is, do you want the item now. Is there a motion
17 to add an item on assessment?

18 DR. LOVELESS: I move we add an item on
19 assessment.

20 THE CHAIR: You move -- then okay.

21 DR. BENBOW: Second.

22 THE CHAIR: And we have a second. Those in

1 favor, please raise your hands.

2 (Show of hands)

3 THE CHAIR: Opposed.

4 (No response)

5 THE CHAIR: Okay, we're going to add assessment.

6 All right. That means that we pretty well disposed of
7 this item here. Susan, you need to come up with language,
8 and then tell us what it is, and then I'm sure it will be
9 edited.

10 (Laughter)

11 THE CHAIR: All right, item 37. "The large
12 quantity of studies is reduced appreciably," et cetera.
13 This is basically a finding. Anything you want to say
14 about it? Dan.

15 DR. BERCH: Yes, if something is in violet, is
16 there a reason why we are discussing it?

17 THE CHAIR: I'm simply giving you a chance here,
18 okay?

19 DR. BERCH: I appreciate that. I just didn't
20 know. Okay.

21 THE CHAIR: But you'd rather not have it.
22 Susan.

1 DR. EMBRETSON: Yeah, I have actually an
2 addition here, because it really does favor randomized
3 designs, and randomized designs are not necessarily
4 practical for some sorts of issues that need to be
5 studied. Therefore, I think you might add in a clause
6 about methodologically rigorous quasi-experimental
7 procedures that are currently available.

8 THE CHAIR: Where?

9 DR. EMBRETSON: Well, I guess kind of right
10 after "A stringent methodological criteria with an
11 emphasis on the supportive studies that incorporate
12 randomized control designs..."

13 THE CHAIR: Yes.

14 DR. EMBRETSON: -- and then some or --

15 THE CHAIR: So right before the period?

16 DR. EMBRETSON: Yeah, yeah.

17 THE CHAIR: You're going to tell us what the
18 "or" is?

19 DR. EMBRETSON: Yeah, methodologically rigorous
20 quasi-experimental designs for cases in which
21 randomization is not practical or ethical.

22 DR. REYNA: I should add that the intent was not

1 to exclude any other design; there was simply a lack of
2 those kinds of designs. It shouldn't be taken as these
3 are the only kinds of designs. It definitely was not
4 intended in that way and it is not worded in that way.

5 THE CHAIR: Okay

6 DR. EMBRETSON: This is where randomized
7 procedures are not practical or ethical.

8 THE CHAIR: Okay, did you get that, Sara? You
9 got ethical too? Okay, good.

10 THE CHAIR: Valerie.

11 DR. REYNA: I don't know if we want to get down
12 to that level. This is still the executive summary.
13 Perhaps we can just simply leave it as quasi designs or
14 quasi-experimental designs. Exactly when you'd use a
15 randomized and exactly what's practical and what isn't is
16 a matter of debate and we really haven't had that debate.
17 I would simply add the quasi-experimental designs without
18 stipulating exactly when and where it has to be used.
19 Again, partially, because this is an executive summary.

20 THE CHAIR: Is that a friendly amendment? Okay.
21 Is the group more or less receptive -- bow to the
22 addition?

1 DR. FERRINI-MUNDY: Oh, to the addition. Yes,
2 I'm fine with the addition.

3 THE CHAIR: Okay. Go ahead now, Joan.

4 DR. FERRINI-MUNDY: Okay, the last sentence --

5 THE CHAIR: Yeah.

6 DR. FERRINI-MUNDY: -- which I agree with, "A
7 continuum of research should be funded from smaller scale
8 experiments." I wonder if there should be space in that
9 continuum for smaller, exploratory studies or smaller-
10 scale descriptive studies. I mean, this does make it
11 sound like there is but one continuum, which doesn't leave
12 space for descriptive, exploratory, phenomenon-
13 constructing kind of designs.

14 THE CHAIR: So you want to change the words?

15 DR. FERRINI-MUNDY: Well, I'm not sure, I would
16 rather get a sense from the group of whether they agree or
17 not.

18 DR. CLEMENTS: I think it was originally written
19 as studies --

20 DR. FERRINI-MUNDY: Yes.

21 DR. CLEMENTS: -- not experiments for that first
22 term.

1 DR. FERRINI-MUNDY: Smaller scale studies.

2 DR. CLEMENTS: Exactly.

3 DR. FERRINI-MUNDY: Smaller scale studies rather
4 than experiments early on.

5 DR. EMBRETSON: That last sentence also
6 conflicts with the addition I proposed on the quasi-
7 experimental designs, because it says randomized
8 experiments.

9 DR. REYNA: Let me add a clarification.
10 "Continuum" meant everything in between too.

11 DR. FERRINI-MUNDY: Yeah, I'm just not sure that
12 the starting point would necessarily be smaller scale
13 experiments. It might be something else. One fix might
14 be to say, from smaller-scale studies, just replace
15 "experiments" by "studies."

16 DR. REYNA: I can tell you the rationale why we
17 didn't include smaller scale, because that's the problem,
18 we had a lot of really small-scale studies that we
19 couldn't generalize from. Again this is not a statement on
20 what's acceptable research at all. It's a statement about
21 what do we need more of, and so we wanted to underline
22 that there was a continuum and hopefully an inclusive one.

1 We could add "including innovative studies," for example.
2 That would be part of that continuum in the middle. We
3 originally had a phrase about innovation in there.

4 THE CHAIR: Okay, Deborah.

5 DR. BALL: Maybe they were trying to put too
6 much in this right here, because I thought number 37 is
7 primarily responsive to the fact that we did have this
8 difficulty, particularly in the Teachers Task Group area.

9 I'm just trying this out on the rest of you. If
10 we stopped before continuum, it would allow us just to say
11 that's a problem we were having. It just gets very
12 complicated, because then we have a whole separate
13 discussion about the range of kinds of research that are
14 needed to build programmatic work. I don't know that
15 that's what this should be about.

16 THE CHAIR: Deborah is proposing a deletion of
17 the last sentence.

18 DR. BALL: Yeah.

19 THE CHAIR: Are you moving that, Deborah?

20 DR. BALL: Yes.

21 THE CHAIR: Deborah is moving --

22 DR. ARISPE: Second.

1 THE CHAIR: We have a second.

2 DR. LOVELESS: Can Val respond to that?

3 THE CHAIR: Sure, anybody can respond to it.

4 DR. REYNA: The reason for including these two
5 things is, again, these were two things that we thought
6 needed more emphasis. We went through over 16,000
7 research reports. You know, there are some people that
8 argued we only needed the randomized experiments that were
9 field studies in the classroom.

10 There were other people that argued, well, we
11 really ought to put an emphasis on basic mechanisms of
12 learning. What I tried to capture here was that we need
13 the entire continuum from the very basic mechanism driven
14 research to the field studied, applied, in situation kind
15 of research and that it's the gamut here that we are
16 trying to include.

17 THE CHAIR: Doug.

18 DR. CLEMENTS: To build on that, one thing I
19 think this lacks is the notion that it was about coherence
20 in the textbooks that we wanted. It was about coherent
21 programs that moved through a continuum such as this so
22 that you had a coherent program of research on issues.

1 It's not just that we want some kind of balance among
2 various types. That's not captured really here, is it?

3 DR. REYNA: That's captured in the more detailed
4 body that follows this executive summary. This is
5 essentially a placeholder for that.

6 DR. BALL: I still think it's confusing to have
7 it here. It has more bite to keep it as it was. Then we
8 have to talk about what these experiments should be about.
9 There are other experiments that are pretty high priority
10 to do as well.

11 I just think it adds baggage to this one that we
12 don't need and maybe we should look at it in the body and
13 compare it. I still think it would be better to cut before
14 that sentence and make our point clearer.

15 THE CHAIR: Are you ready to vote? Okay, those
16 in favor of Deborah's motion. Deborah's motion is to
17 delete the last sentence of 37, please signify by raising
18 your hands.

19 (Show of hands)

20 THE CHAIR: Which is 1, 2, 3, 4, 5, and 6.
21 Those who -- Dan.

22 DR. BERCH: Point of clarification. If we're

1 voting against that, is it then tantamount to saying we
2 want to keep that sentence as it is?

3 THE CHAIR: Keeping the sentence.

4 DR. BERCH: -- as opposed to some modification
5 of it. That's where I'm a little confused.

6 THE CHAIR: All you're doing is keeping it as it
7 is for the moment.

8 DR. BERCH: Okay, but subject to the change
9 afterward.

10 THE CHAIR: Yes.

11 DR. BERCH: Okay.

12 THE CHAIR: Okay, I have six votes for the
13 motion. Now, those who are opposed to the motion and in
14 effect want to keep this sentence please signify by
15 raising your hands.

16 (Show of hands)

17 THE CHAIR: One, two, three, four. Okay, we
18 have a deletion. All right, we will delete. All right,
19 does that dispose of 37? Okay, we are scheduled for a
20 break right now and this is the end of the time available
21 for research. We will come back to research as we have a
22 window.

1 MS. FLAWN: We have 34 -- 30 more minutes of
2 research after the break.

3 THE CHAIR: Oh, yes, because we have a space
4 created. That's right, okay. We will come back and we
5 will pick this up after the break. The break is from now
6 until 5:00 o'clock.

7 (Recess)

8 THE CHAIR: Please take your seats. The item we
9 are going to pick up is 38, "Leaders of graduate programs
10 in education and related fields should consider increasing
11 the level of attention given to research design and
12 statistical analysis..." et cetera. This is a point that
13 has received quite a bit of discussion, especially in the
14 earlier form.

15 The earlier form as presented here is an
16 alternative. There are people who believe that we can't
17 go as far as exactly what that says. But anyway 38 is up
18 for discussion, so is there more to say about it? Dan.

19 DR. BERCH: Well, I think it should be in there.
20 How can we call for more rigorous research, but not ensure
21 that the people who will be doing it are better trained?

22 THE CHAIR: Well, I think that the argument that

1 was being made before was that it was pretty directive
2 about what should be done in particular graduate programs
3 and the question that was raised is whether we had really
4 a basis in this study for making quite such a directive
5 recommendation. This is the way 38 has evolved. It really
6 advises the people who run those programs to consider it.

7 DR. BERCH: But I think to me it was softened by
8 saying, "should consider."

9 THE CHAIR: Right. But that's been changed and
10 I don't disagree with you. I think the earlier version
11 was challenged. Bob.

12 DR. SIEGLER: Yeah, one of the things that we
13 might want to accomplish in this recommendation is to have
14 teachers, not just people in positions of educational
15 leadership and academicians, but teachers be intelligent
16 consumers of research in the same way that MDs can read at
17 least the editorials from The Journal of the American
18 Medical Association (JAMA) and sometimes the actual
19 articles and understand them. I don't think it's
20 unreasonable to urge schools of education to train
21 teachers to be intelligent consumers of research.

22 THE CHAIR: All right, does anybody want to make

1 a motion or do you want to move on? Deborah.

2 DR. BALL: My only concern about this one is the
3 one that I've mentioned before, is we didn't look into
4 this. We don't know what schools of education do. I,
5 frankly, think this is probably right. It just seems odd
6 to me to be bringing up something upon which we didn't do
7 any review. We don't know what they are up to currently.

8 We know that we don't see good research and
9 we're drawing a dotted line between those two things, but
10 my own personal view would align with this. I'm concerned
11 that this doesn't seem to fit our report. There is a big
12 bunch of issues about doctoral training and education, and
13 it seems to come out of the blue to be bringing this up
14 here.

15 DR. REYNA: I'd just like to comment on several
16 comments that have been made. Softening the language is
17 entirely appropriate in terms of advice. As for the
18 review of graduate programs, that is something that in
19 fact I have done in the past and in fact, systematically,
20 you know, in another life reviewed what is required in
21 graduate programs.

22 We are not making any statement about there

1 should be 32 programs or 48 programs or anything specific
2 like that. We also are not making any specific claims
3 about the number of programs and what they currently
4 cover. We are mainly making inferences based on, you
5 changing the word "increased." Obviously it would be one
6 solution to that problem though.

7 THE CHAIR: You would change what?

8 DR. REYNA: We could just simply consider
9 focusing attention on and not even have the word
10 "increase," because the word "increase" presumes that the
11 current number is small. Now, I can say, you know, I
12 think we all at many, many times have discussed that
13 apparently the current number is small and have pointed to
14 a number of specific examples during the subgroup
15 discussion of this item, which of course, the whole Panel
16 was not a part of.

17 Many people said that these courses are not
18 covered in this program, that program, the other specific
19 program, and many other national programs, so the
20 implication was that the number needed to be increased.
21 But what I'm saying is we could take that out entirely and
22 say, "Attention should be focused on," rather than using

1 the word "increased."

2 THE CHAIR: Deborah.

3 DR. BALL: I think that would help, because that
4 wouldn't imply that we somehow know something about the
5 current state of play, and it would go a little more
6 closely to our concern for the quality of research. I
7 would actually suggest then we modify slightly what we say
8 about analysis though. If we were simply saying "doctoral
9 programs should make sure." I agree with what Bob is
10 saying with regards to teachers. We need to add something
11 in there about teachers understanding the research too.

12 But I think it's not just a statistical
13 analysis. It's also a variety of analytic methods and
14 research design that is very important, so I think it
15 needs a little wordsmithing. But the main point that
16 Valerie made I would support.

17 THE CHAIR: Sandy.

18 DR. STOTSKY: I would wonder if we could clarify
19 what we are asking of both those who are in graduate
20 programs who are going to be doing research, those who are
21 going to be in educational leadership positions to
22 carryout programs or ideas that might be based on research

1 and teachers who need to consume research. We should at
2 least clarify those three groups. The question I would ask
3 is whether the message should be to have a better
4 understanding of the levels of evidence.

5 Actually, it's the sort of thing that was used
6 in this report to get at what is most worthy of being
7 considered when one looks at a study. This is what has
8 become most problematic, actually, for most teachers based
9 on my own experience. There is a lack of understanding of
10 what kinds of criteria do you bring to bear on any
11 research or anything that's called research. It's those
12 levels of evidence that I think should be highlighted in
13 some way that are in your standards of evidence. The
14 direct mention of that would, to me, be a very specific
15 thing that could be useful.

16 THE CHAIR: Well, we are not going to be able to
17 rewrite this here, so who is the team that's going to work
18 on this while we are here?

19 DR. STOTSKY: Well, Val would certainly --

20 THE CHAIR: Okay.

21 DR. CLEMENTS: Can I suggest a wording and if it
22 doesn't work that's fine.

1 THE CHAIR: If it doesn't fly immediately.

2 DR. CLEMENTS: Leaders of graduate programs in
3 education or related fields should ensure attention to
4 research design, analysis, and interpretation -- no comma
5 there, for those entering and then it continues.

6 DR. REYNA: Well, for --

7 DR. CLEMENTS: You want me to --

8 DR. REYNA: -- teachers and those entering.

9 THE CHAIR: For teachers and those entering,
10 okay. All right. Well, let's read it again. I want to
11 make sure Sara (phonetic) gets it here.

12 DR. CLEMENTS: Okay. Leaders of graduate
13 programs in education related fields should and, -- now
14 starts the added -- ensure attention to research design,
15 analysis, and interpretation for teachers and those
16 entering. And then it is the same.

17 DR. STOTSKY: Can we add something about
18 standards of evidence, directly.

19 DR. CLEMENTS: That's why I put in
20 interpretation but maybe you don't think that covers it,
21 Sandy.

22 DR. STOTSKY: I've brought this. It's the

1 evidence. It is a word that means something that may not
2 be covered by --

3 DR. CLEMENTS: I think it's sufficient but I'm
4 happy that --

5 DR. FENNELL: I think the issue of standards of
6 evidence gets deeper than we need to get for here. I
7 think the notion of given attention to research design and
8 standards of evidence is kind of just subsumed by that for
9 this level in my opinion.

10 THE CHAIR: Okay. Let me suggest that Doug make
11 a motion of substituting this language.

12 DR. CLEMENTS: I would move that we might accept
13 this bullet with revisions. Do you want me -- do I have
14 to read it again?

15 THE CHAIR: No, I think you've given your --

16 DR. CLEMENTS: Previously stated.

17 DR. LOVELESS: I'll second.

18 THE CHAIR: Second. Okay, is there a further
19 discussion of that? All right, then we'll go to a vote.
20 The vote is on Doug's motion, which is to substitute that
21 if you vote for you're substituting Doug's language for
22 this language. Those in favor please signify by raising

1 your hand.

2 (Show of hands)

3 THE CHAIR: And those opposed.

4 (No response)

5 THE CHAIR: Okay, we've got a substitution and I
6 think we'll move on. That takes us to 39 the K-awards. I
7 don't have anything more to say about it in introducing
8 it. So, is there a discussion about 39? You're happy
9 with 39? Okay, I better move on. Forty is the creation
10 of cross-disciplinary research teams. In the world of
11 research this is motherhood and apple pie here.

12 (Laughter)

13 THE CHAIR: Item 41, schools should be provided
14 -- yes, I'm sorry, Deborah?

15 DR. BALL: Could we add quantitative research
16 methods or research methods to number 40?

17 THE CHAIR: Where?

18 DR. BALL: We have expertise in substantive
19 fields, but we don't have anything about --

20 THE CHAIR: Oh, yeah, and chemistry is missing
21 too.

22 (Laughter)

1 DR. BALL: I move that we add chemistry.

2 THE CHAIR: Where do you want it?

3 DR. BALL: Or research methodology, so we don't
4 have to get back into --

5 THE CHAIR: Where?

6 DR. BALL: -- what type of research methodology,
7 right now -- in the list.

8 THE CHAIR: But where?

9 DR. BALL: So it could be last, I don't care.
10 Mathematics, mathematics education, and research methods.
11 Just because it is an emerging field right now and I think
12 it's going to be important. Sorry.

13 DR. REYNA: The original suggestion.

14 DR. BALL: Right, but then we can avoid that.
15 We are already saying things elsewhere and I don't think
16 this is the place to have to deal with that again.

17 THE CHAIR: So I'm taking out the "and" before
18 mathematics education.

19 DR. BALL: Yeah, take that out and put --

20 THE CHAIR: I am putting in an "and
21 quantitative..."

22 DR. BALL: Well, I'm actually just saying for

1 now research methods.

2 THE CHAIR: Research methods.

3 DR. BALL: Because we talked plenty about that
4 elsewhere and frankly there will be studies where real
5 expertise and other forms of method will be important.
6 Survey research methods, for example, or --

7 THE CHAIR: All right. Is that a friendly
8 amendment through the Panel?

9 DR. BALL: Yes, it's very friendly.

10 THE CHAIR: Okay.

11 DR. BERCH: How about bringing chemistry?

12 (Laughter)

13 THE CHAIR: It's all right. Okay, we're okay on
14 this. Forty-one, is "Schools should be provided with
15 incentives and resources to provide venues for and
16 encourage collaboration in educational research." We're
17 okay. Item 42, "Unnecessary barriers to research should
18 be lowered," and on that Dan did some, I think, very good
19 editing on this.

20 DR. FERRINI-MUNDY: Excuse me could I just -- I
21 know this is not allowed, but backing up to 41, do we mean
22 to say K through 12 schools, so that no one takes that --

1 THE CHAIR: Actually, I think that is an
2 important point, because when I first started reading this
3 bullet and when it was first proposed, I was wondering if
4 people meant universities.

5 DR. REYNA: That's a good idea. That's another
6 friendly amendment I think.

7 (Laughter)

8 THE CHAIR: So you want Pre-K to 12 schools?

9 DR. FERRINI-MUNDY: Yeah, Pre-K --

10 DR. STOTSKY: That raises a question. Should we
11 not include a higher education or schools of education as
12 well? If there is to be research on teacher education,
13 there should be able to be research at that level where
14 it's actually often much less done. I don't know whether
15 you would want --

16 THE CHAIR: Right. But I think the point of the
17 point is to be able to get research venues and that seems
18 to be what this is about.

19 DR. BENBOW: That was what I was going to say.
20 It's extremely difficult. There is a huge problem for
21 researchers to get access to schools and classrooms, and
22 we really need help to conduct our research these days. I

1 don't think that is as big of an issue in the universities
2 themselves as it is to get access to classrooms and
3 children.

4 THE CHAIR: Bob?

5 DR. SIEGLER: I totally agree with Camilla, but
6 I'm not sure, in fact, I don't think that the IRBs are the
7 problem with getting into schools at least, not the
8 university IRBs.

9 DR. BENBOW: I am talking about 41.

10 THE CHAIR: Not 42, 41.

11 DR. SIEGLER: Oh, I thought 41, we all agreed
12 on.

13 THE CHAIR: Well, we've gotten back to it. Joan
14 reopened it.

15 DR. FERRINI-MUNDY: I added the --

16 DR. REYNA: She added the Pre-K through 12,
17 okay, so --

18 THE CHAIR: Right. I'm moving on to 42, now.
19 Okay, 42 is "Unnecessary barriers..."

20 DR. SIEGLER: Right. And I think the last
21 sentence of this makes a lot of sense and the resolution
22 should be supported, but I don't perceive the IRBs. May

1 be it's just a local thing. Carnegie-Mellon works pretty
2 well, but if it is a problem at other universities --

3 THE CHAIR: I think there are -- there is
4 idiosyncratic behavior in the IRBs. Are you okay with 42?
5 All right, then we're now moving to pages 58 to 60.
6 That's the body, section on research and the first
7 paragraph. There was very little editing in the last
8 round, so I made it violet. Okay, and then otherwise
9 anything else there?

10 Now, the recommendation -- the first
11 recommendation will be, this is identical to what we have
12 in the executive summary. If that's altered, then we
13 would want to alter this. All right. The K awards item
14 was not changed and that's identical to what's in the
15 executive summary. The cross disciplinary team is
16 identical to what's in the executive summary. "The
17 schools" -- this would change to Pre-K to 12, and the
18 "unnecessary barriers" was left alone. In summary, to
19 provide a steady supply, there was nobody arguing with
20 that at the end.

21 DR. LOVELESS: Larry.

22 THE CHAIR: Yes.

1 DR. LOVELESS: I have a question about the post-
2 Sputnik era --

3 THE CHAIR: Yeah.

4 DR. LOVELESS: -- I think someone raised that in
5 an e-mail. I would like to have that struck.

6 DR. REYNA: I don't know if you've read your
7 4,000 most recent e-mails on this topic.

8 (Laughter)

9 DR. LOVELESS: They are in a folder.

10 DR. REYNA: Okay, well, if you had read those
11 many, many e-mails, and I can certainly understand why you
12 might have had other things to do. We dealt with that a
13 little bit in detail. I gave some background with
14 concrete examples and some citations documenting the post-
15 Sputnik era. We're not making the claim, and I think, you
16 know, I think there is agreement about this that there was
17 just unmitigated wonderful educational research produced
18 in that area. That's not the claim.

19 The claim is about collaborations being spawned.
20 I gave concrete examples, for example, of Pat Suppes who
21 is the mathematician, he was a set theorist who worked
22 with Guy Groen who was his student. Guy Groen was a

1 psychologist and then that spawned and that begat, and
2 that begat, and so on and so forth. So these were some
3 concrete examples and there is a collection of monographs
4 that I cite the document not only the work itself by these
5 mathematicians, educators, and people who-- that in the
6 course, their careers were altered by these -- this kind
7 of support. But it documents the nature of the
8 government's support and why it was so crucial in these
9 volumes, so that was gone on about at length.

10 THE CHAIR: In the current wording, however, I
11 think the impression is drawn that because of the phrase
12 "successful model of the post-Sputnik era in educational
13 research..." The post-Sputnik era in educational research
14 also produced new math, which none of us in the field of
15 policy thinks was exactly successful. There was a huge
16 rebellion against out in the field. So I would like to
17 have that struck, I think, with the current wording I
18 think that's the impression.

19 DR. REYNA: I was thinking that perhaps there
20 would be less ambiguity about what was the referent here
21 if we inserted the word collaborations, so that the
22 implication would not be "successful model of research,"

1 but "successful model of collaboration."

2 THE CHAIR: Do you just want to say "Successful
3 model of post-Sputnik era collaboration --"

4 DR. REYNA: "Successful model of collaboration
5 during the post-Sputnik era."

6 DR. LOVELESS: I don't want that either. No,
7 what I'm proposing, I think your point is still made if we
8 just put a period after mathematics education, and we
9 don't hold up a particular model because again I think
10 it's going to confuse people and they'll think that we're
11 endorsing the products of that era.

12 THE CHAIR: Well, let me comment on one aspect
13 of it, Valerie. I think if we keep this language, you're
14 going to have to have the references somewhere. The
15 references will not be cited in the executive summary, but
16 they could be cited here. It's a little peculiar to put a
17 citation reference in the recommendation, but this is the
18 only place this language appears. So, this is where it
19 would have to be. The solution Tom proposes could be
20 beneficial. Bob?

21 DR. SIEGLER: I wonder how many of our readers
22 will even know what Sputnik is anymore.

1 (Laughter)

2 DR. SIEGLER: It's a long time. It is 50 years
3 and, you know, I'm old enough, I remember it, but a lot of
4 people who'll be reading this will be in their 20s and 30s
5 and, you know, this is like talking about the sinking of
6 the Maine.

7 THE CHAIR: But people still talk about the
8 sinking of the Maine?

9 (Laughter)

10 THE CHAIR: They still do movies on the Titanic.

11 (Laughter)

12 THE CHAIR: But, Tom, do you have a motion?

13 DR. LOVELESS: Yeah, I want to move that we put
14 a period after the word "education" and delete everything
15 after that.

16 THE CHAIR: All right. Irma?

17 (No response)

18 THE CHAIR: Okay. Tom has a motion. Is there a
19 second?

20 DR. BALL: Second.

21 THE CHAIR: There is a second. All right, now
22 is there a further discussion? Go ahead Valerie.

1 DR. REYNA: All right. I would just say that
2 there are some wonderful models that I would take a look
3 at that e-mail overnight and see what you think of a
4 collaboration that if we could begin to do those things
5 again that produced lasting commitment to things like
6 elementary school mathematics. I brought the book with me
7 just for this occasion. I would be -- and would be very
8 delighted to share that with you this evening at dinner.

9 THE CHAIR: Let me suggest Valerie that one
10 possibility would be for you to go back up to the text in
11 the paragraph that ends right above the first
12 recommendation, where it says collaborative
13 interdisciplinary research teams and put in that text. The
14 citation to the collaborative models of that era and then
15 you would have a better place to put references actually,
16 and then you could end the recommendation with the period
17 as Tom suggests.

18 DR. REYNA: That would be excellent.

19 THE CHAIR: Is that an agreed path? Do we need
20 to vote on Tom's motion?

21 DR. REYNA: Yeah.

22 THE CHAIR: Okay. Let's vote. Those in favor

1 of Tom's motion, which puts the period after math
2 education, please raise your hand.

3 (Show of hands)

4 THE CHAIR: Opposed?

5 (Show of one hand)

6 THE CHAIR: All right. The period is moved
7 forward. And Valerie you may want to work on that text up
8 above, right?

9 DR. REYNA: Yes.

10 THE CHAIR: Okay. But make sure the references
11 get put in there if you're going to do that. All right,
12 next recommendation, excuse me, next item, Irma had
13 something she wanted to raise.

14 DR. ARISPE: I just wanted to ask if on 42,
15 where it says that institutional review board (IRB)
16 procedures should be streamlined. The common rule does
17 define minimal risk and has a process called expedited
18 review, and I wondered if it would be worthwhile to
19 suggest, "use of expedited review for minimal risk
20 research," rather than "streamlining procedures," which is
21 a bigger task? Just a question.

22 DR. BENBOW: I don't think that gets added,

1 because I think it's also the interpretation on how the
2 IRBs function, and it isn't just the use of the expedited
3 review; it goes way beyond that, and so I just like to
4 leave it as "streamlined procedures" because it's more
5 than just using the expedited review process.

6 THE CHAIR: Okay, that pretty well wraps up
7 research policies and mechanisms. Susan?

8 DR. EMBRETSON: Yeah, I see the support here in
9 the body for basically 38 through 42, but nothing in a
10 recommendation form for 36 and 37 that appear in the
11 executive summary. I think the material is here, but I
12 don't see them rolled out as a recommendation.

13 THE CHAIR: Well, the executive summary is all
14 recommendations. Some of them are findings. In fact, it
15 is called findings and recommendations. And in fact, 36,
16 is basically an item for the executive summary based on
17 the first and second paragraphs of the body. So, there is
18 no recommendation there, it's simply a finding.

19 DR. EMBRETSON: Except what is in the body here
20 then is not consistent in the way we altered 36.

21 THE CHAIR: Well, it would need to be made
22 parallel. Yeah.

1 DR. EMBRETSON: Yeah.

2 THE CHAIR: Yeah. We would have to move the
3 changes in 36 into this text.

4 DR. REYNA: I was assuming that any changes made
5 in the executive summary would be reflected in the body.

6 THE CHAIR: Correct. Okay. All right, we're
7 done with research. We move now to Teachers. The
8 executive summary section dealing with Teachers is on page
9 9, and was edited very late, so I think we're going to
10 take this discussion carefully and slowly.

11 Item 16, "Teachers are crucial to student's
12 opportunities to learn and to their actual learning and
13 achievement..." I have no more that I need to say to get
14 this on the table. Does anybody want to challenge that
15 teachers are crucial? Any comments or questions?

16 (No response)

17 THE CHAIR: Any comments or questions?

18 (No response)

19 THE CHAIR: Tyrrell raises a question, so I will
20 raise it and that is whether the public is going to
21 understand what value-added measures means.

22 DR. BALL: I'm not sure that they will. Earlier

1 we hadn't had it and Sandy feels, I think, pretty strongly
2 that we have it and I agree that it's technically correct.
3 So, I think it's a judgment call by others on the Panel.
4 I mean I agree with Sandy. It's just that that's the only
5 reason we haven't had it originally, it was for that
6 concern is that people might not know. Maybe you can say
7 something about that, Sandy.

8 DR. STOTSKY: I would just say that in
9 educational circles today, "value-added measures" is a
10 very common topic in every school system across the
11 country. It's possible that people outside of education
12 would not be familiar with it, but it has really spread as
13 an idea, because it is the only method for evaluating
14 teacher effectiveness that I know of that's been
15 replicated in research. And I think it's important to
16 mention for that reason, because it shows that we know
17 that this is the way in which they have been identified.
18 But it is a very common term these days everywhere in
19 education.

20 THE CHAIR: What we have done with terms -- we
21 have occasionally run into them like automaticity. We
22 have put parenthesis behind it that give a little more

1 indication of what is meant by the term. I think that
2 that might be called for here if there is something to
3 say.

4 DR. STOTSKY: Are we having a glossary?

5 THE CHAIR: No, there is no glossary. The
6 glossary died for lack of interest. Doug?

7 DR. CLEMENTS: I think that's a good idea to put
8 something parenthetically there. We might also consider
9 just changing the phrase "value-added measures" because
10 it's actually not correct, and it also would lead one to
11 believe that if you had the right test, or measure then
12 you have the value-added measure or something like that.

13 THE CHAIR: Well, that was --

14 DR. CLEMENTS: And that was going to mislead
15 people.

16 DR. BALL: It's correct because they are not
17 value-added measures. It's a measure of analysis. The
18 measures aren't value-added, so that's not correct. But
19 we could insert a parenthetical that will explain what
20 that is.

21 THE CHAIR: Great. Well --

22 DR. BALL: I can try that --

1 THE CHAIR: Would you all work on that?

2 DR. BALL: I'll do that.

3 THE CHAIR: Okay. Yeah, go ahead.

4 DR. FENNELL: Given that the only suggestion
5 here is to tweak the phrase "value-added," could we agree
6 and then Deborah will do that and just move on.

7 THE CHAIR: Yeah, I think, I mean I'm seeing
8 that people are more or less happy with 16. Okay, so that
9 goes. Now, let's go to 17. "It's self evident that
10 teachers cannot teach what they don't know..." And then it
11 goes on from there, considerably.

12 (Laughter)

13 DR. STOTSKY: Actually, that's what I would like
14 to suggest is that this really could be broken up into two
15 recommendations, and that the first part should deal with
16 the issues of both the courses that teachers take and
17 certification, because these are things that happen before
18 someone goes into teaching, whereas a measure of
19 elementary teachers' knowledge after they've been teaching
20 is apples and oranges. It's a totally different kind of
21 thing.

22 Whereas, the other things can by themselves be

1 expressed with the recommendations that you have here.
2 Then in the recommendation that could follow if you pulled
3 out the sentences that dealt with the measure of the
4 elementary teachers' knowledge, which means they are
5 practicing teachers, you could then point out that this
6 would then help with identifying instructional skills, et
7 cetera, whatever is in the rest of that sentence over
8 here.

9 Then, you would have to indicate, also I think,
10 which is the part that's been missing for me is what you
11 would use that measure for, because it's never been clear
12 to me why you would measure the elementary teachers'
13 knowledge and get all of this information, unless there
14 was something you were going to do with it. I'm not
15 prepared to say what should be done necessarily with it,
16 but I just think that that would form a completely
17 coherent piece in itself, but get away from being mixed in
18 with certification, which can be improved, and courses
19 taken which can be improved. But a measure isn't
20 something you're going to improve.

21 THE CHAIR: Deborah?

22 DR. BALL: There may be some way of splitting

1 this, but it's a little difficult because this is
2 summarizing the big question we had which is how is
3 mathematical knowledge related to student achievement.
4 It's not the case that the direct measures are measures of
5 practicing teachers' knowledge. It's a different method
6 for measuring, so you have these two proxy methods,
7 certification and coursework attainment, and the third
8 method that we uncovered in our review of research was
9 measures of teachers' mathematical knowledge that are
10 closer to the useful knowledge they use in practice.

11 So maybe that's not written clearly, but these
12 are the three different types of studies we uncovered, and
13 the strongest signal in the case of elementary teachers
14 was really the only strong signal was in the third case
15 where the kinds of knowledge measured and the kinds of
16 measures used were what you might think of as used
17 knowledge isn't about practicing teachers. So, if this is
18 unclear as to what Sandy just said then it is going to
19 need some editing. It's possible we could split this one
20 into one claim about what we found about the relationship
21 between teacher's knowledge and student achievement gains,
22 and the second one about the problems of accurately or

1 precisely measuring teacher knowledge, we could do that.

2 THE CHAIR: My sense is it does need to be
3 broken up. It's too much.

4 DR. BALL: Should I try that?

5 THE CHAIR: But another possibility that I hold
6 out for your consideration is to split it into a finding
7 and a recommendation. We have done that several places
8 where one of the numbered points is really just a summary
9 of what we learned and what the state of knowledge is in
10 that situation. Then the one following it is what the
11 Panel recommends.

12 So you might want to consider that kind of
13 structure too. If you look at that, that's really what
14 you kind of have done. If you go all the way down to
15 where it says, "Thus the Panel recommends," at the very
16 least you might consider splitting that, so that it
17 becomes a separate number. I mean, what are the roles of
18 numbers here? The numbers are like Bible verses. These
19 are so that people can refer to these by number and they
20 ought to be reasonably sized so that, you know, they're
21 relatively compact as a single number.

22 DR. BALL: Yeah, I would be fine about that and

1 maybe there is a way of clarifying that they were these
2 three methods that we used, and then the second one can be
3 the recommendation.

4 THE CHAIR: Right.

5 DR.STOTSKY: I would just want to add though
6 that the certification and the courses taken have very
7 different implications from using a measure of some kind
8 as a way of looking at teacher's knowledge, because if you
9 find that certification is not related, you do something
10 about certification. If you find the course taking
11 doesn't correlate with elementary teachers' knowledge, you
12 do something about the courses that the teacher has not
13 taken, obviously.

14 But if you're looking at a measure of teacher's
15 knowledge, the question is what use do you make of that
16 measure? It isn't that you're going to strengthen the
17 measure, you're going to do something with the measure,
18 and it could be that you fire the teacher or you don't
19 give her tenure or other things. In other words, it's not
20 clear what good that measure would do as opposed to what
21 you can learn about certification and courses taken by
22 looking at their correlations. They get you into totally

1 different territories.

2 DR. BALL: Yeah, I think that this wasn't
3 clarified, because all three of these are being treated as
4 measures on the question of what mathematics knowledge do
5 elementary teachers need, which is something the Panel
6 wished we would have been able to say more about. So,
7 what we did was, we reviewed what's the evidence about the
8 mathematical knowledge teachers need and there were three
9 approaches to that.

10 The one that gets closest to showing that there
11 is a strong signal of the relationship of teachers knowing
12 math and their kids' achievement is the one where we
13 measure most closely. That's the relevance here. Sandy
14 is talking about the policy parts about certification and
15 the course taking and -- but that's not what this one is
16 about.

17 This one is about do we know whether mathematics
18 knowledge is related to -- teachers' knowledge is related
19 to achievement and so this finding is reporting what we
20 learned about that, and we are left empty handed in this
21 report about what exactly teachers have to know to make a
22 difference in their kids' achievement. It is important to

1 show that when the knowledge is measured more closely to
2 practice, we're getting closer to having an answer to that
3 question. So, that's what needs to be clarified. These
4 were the three approaches to learning. Is there a
5 relationship between teachers' knowledge and their kids'
6 achievement? It's not a policy recommendation here.

7 DR. SIEGLER: I'm wondering if the impact of
8 this statement for purposes of the executive summary would
9 be stronger if we cut out some of the middle part of it
10 about the certification. It is not clear to me why readers
11 at this level need to know this. I think the real take-
12 home message would be clear if we go from especially the
13 elementary school level and then head down to direct
14 assessments of elementary teachers' actual mathematical
15 knowledge and how they show the strongest signal of a
16 relation between teachers' content knowledge and the math
17 achievement. That I think would have more of an impact at
18 this point.

19 DR. BALL: But do we know, by the way, that
20 courses taken by math teachers at the high school level
21 are not better than any test that has been developed for
22 elementary teachers. They are two different things. I

1 don't know how you could leave out one and make a claim
2 for the other. Bob? You were saying.

3 MR. SEIGLER: Well, I defer to Deborah who knows
4 a whole lot more about this issue than I do.

5 DR. BALL: This came up in our last Baltimore
6 meeting and, I guess, I need the Panel to direct what we
7 want to do here. We were directed to be reviewing what's
8 known particularly about K-8 teachers since that's the
9 purview of our report. And we've now inserted lots of
10 language about elementary into this item. I mean, Sandy
11 you did that editing to put elementary in and that's what
12 this section is about.

13 We should leave out the fact that along the way,
14 one of the things we learned is that there is a modest
15 effect or a modest signal of course taking for secondary
16 teachers. But it's somewhat outside what we're actually
17 talking about and course taking isn't related. We found
18 that it was not related to elementary teachers'
19 effectiveness. So, it's really up to the Panel. We can
20 make sure that's clear, but my assumption all along is
21 that the purview of this report is K through algebra,
22 which is I thought what we were doing. So I would be

1 inclined not to comment about the secondary.

2 THE CHAIR: It's actually elementary and middle
3 school.

4 DR. STOTSKY: But there are secondary teachers
5 in the tables. The tables include data on secondary
6 teachers.

7 THE CHAIR: Well, I think that that may be true,
8 Sandy, but that doesn't mean it has to be in the executive
9 summary.

10 DR. STOTSKY: But the conclusion is
11 drawn about courses taken when the courses taken differ by
12 the educational level. To me that has to be brought out.

13 THE CHAIR: Now, all I'm going to say is that
14 this obviously needs more work, so Deborah, I am trying to
15 separate these two. There is something to be said about a
16 test or measure of elementary teachers' knowledge that
17 brings in whatever you've found, but that is separate from
18 the correlation with certification, which is a very
19 important issue in itself. It's also separate from the
20 courses taking correlation, which is a different issue,
21 because there are important implications that need to be
22 brought out for teacher education or preparation.

1 DR. BALL: I don't see why we can work since we
2 have nothing else.

3 THE CHAIR: I think we need to go back to
4 revisit Bob's suggestion. I thought that was a very good
5 suggestion. I think we're getting into too much detail for
6 an executive summary.

7 DR. BALL: I'm prepared to do that and I think
8 we've actually worked this one over quite a bit already.
9 I think it can be clarified by splitting it or breaking it
10 down the way you suggested and it won't be so ambiguous
11 then. Shall I try that?

12 THE CHAIR: See if you can do it for the next
13 day.

14 DR. STOTSKY: Can I ask another question, not on
15 this one.

16 THE CHAIR: Yeah.

17 DR. STOTSKY: It relates to what's here in
18 green. And that is the whole question of what we say if
19 anything about recruiting knowledgeable teachers.

20 THE CHAIR: You're talking about the first item.

21 DR. STOTSKY: Yeah, the first item in the green
22 box.

1 THE CHAIR: Called LRF-3.

2 DR. STOTSKY: And this, it would be before 16 if
3 we were trying to put this maybe in some logical order,
4 but it goes back to your introduction, which talks about
5 the crucial shortage and the growing shortage of
6 knowledgeable math teachers. Nothing more is picked up
7 about that issue in the rest of the report, and I find
8 that to be a very striking omission that we have nothing
9 more to say.

10 So having said that, I thought in Baltimore and
11 I'm sorry I didn't check the minutes, I thought Wu had
12 suggested that we reduce one of the suggested items to say
13 something about schools should attempt to recruit or use
14 methods for recruiting knowledgeable people into teaching
15 and then tie it to the fact that the research shows that
16 math teachers need to know their subject. That would tie
17 it to a research finding which we do later on as well.

18 But I'm concerned that we have absolutely
19 nothing to say about one of the most central issues, and
20 that is the growing shortage of qualified math teachers at
21 the secondary level. We have -- it's there in the
22 introduction and we say nothing.

1 THE CHAIR: Deborah?

2 DR. BALL: You'll recall that the third section
3 of the teacher task report is about recruitment and
4 retention using salary schemes and we do report on that.
5 We actually aren't reporting on recruiting secondary
6 teachers again for the same reason I just talked about.

7 We just say Pre-K elementary and middle-school
8 teachers and we didn't learn anything about how to do
9 that, but we do report on the signal about the importance
10 of mathematics knowledge for teaching.

11 So, I think the report is speaking to that. I
12 don't think we can say more. We didn't uncover any proven
13 strategies for this and we are adding to the knowledge
14 base that it matters, and what we do know about it at this
15 point. I think that's all we can do.

16 I think that needs to be made clear that we're
17 not addressing what is pointed out in the introduction as
18 a critical issue. The growing shortage of secondary math
19 teachers, and therefore because the research would be at
20 the high school level and we're only going up to K-8.
21 There is no research that could tie these new programs
22 that have come up. For example, like Math for America or

1 Teach for America or UTeach. Somehow there should be an
2 acknowledgment that we know that there is a shortage and
3 for some reason we're not dealing with it.

4 THE CHAIR: The question is whether this says
5 anything more than the obvious. Valerie?

6 DR. REYNA: I just was looking ahead at number
7 18. Item number 18 includes a statement that the nation
8 has a high need for better informed and better prepared
9 teachers in mathematics, thus the Panel recommends. So
10 there is an explicit acknowledgement in the executive
11 summary of the need that you mentioned. It's in number 18.
12 So, we're talking about 17, but the concern you raised
13 actually appears to be addressed in number 18 in terms of
14 acknowledging this paucity of folks who are sufficiently
15 trained.

16 THE CHAIR: Dan?

17 DR. BERCH: Maybe we need a motion about the
18 extent to which we should be treating anything about
19 recruitment of secondary teachers. That seems to be the
20 fundamental issue. If we didn't focus on that or we don't
21 have the evidence, why should we be making such a
22 recommendation? So, can we make a motion to that effect,

1 one way or the other?

2 THE CHAIR: Sandy, do you want to move insertion
3 of the text that's there as your point?

4 DR. STOTSKY: Well, this was what I thought Wu
5 had moved in Baltimore, but I may be wrong on this. This
6 is what I don't remember from the minutes that I thought
7 people would. I thought people agreed to it. Perhaps
8 someone could check the minutes. I'm looking to see if
9 the wording is here, "Schools must develop or draw on a
10 variety of carefully evaluated methods to attract and
11 prepare mathematically knowledgeable teachers." We do
12 know that teachers' knowledge of mathematics is related to
13 student achievement that could be the first --

14 THE CHAIR: Well, I need a motion. Or are you
15 going to move --

16 DR. STOTSKY: I make the motion that we could
17 begin with, "Schools must develop or draw on a variety of
18 carefully evaluated methods to attract and prepare
19 mathematically knowledgeable teachers. We know that
20 teachers' knowledge of mathematics is related to students'
21 achievement."

22 THE CHAIR: What Sandy is reading is the LRF-3

1 on page 9. Yeah. Now, Sandy is moving that that just that
2 one sentence, right?

3 THE CHAIR: Sandy is moving that we make as a
4 point, "Schools must develop or draw on a variety of
5 carefully evaluated methods to attract and prepare
6 mathematically knowledgeable teachers, period."

7 DR. STOTSKY: We could say this recommendation
8 is based on the finding that teachers' knowledge of
9 mathematics is related to student achievement.

10 THE CHAIR: Fine. Okay. That's the motion.
11 And is there a second?

12 DR. BALL: Can you make it for the amendment
13 before you second or not?

14 THE CHAIR: No.

15 (Laughter)

16 THE CHAIR: Okay.

17 DR. BALL: It's a very friendly one. Could we
18 say schools and something else like the teacher education
19 programs or something like that? Schools aren't the only
20 people or the only organizations that would be recruiting
21 and preparing teachers. It seems funny to put schools as
22 solely responsible. Would you accept that as a very

1 friendly amendment? Okay, then I would -- if you accept
2 that then I second it.

3 THE CHAIR: Hold it. "Schools must develop or
4 draw on a very variety of carefully evaluated methods to
5 attract and prepare to" -- wait -- what's your language?

6 DR. BALL: This doesn't mention secondary,
7 right? It doesn't mention "secondary," it's just teachers
8 -- mathematically knowledgeable teachers.

9 THE CHAIR: What's your language, Deborah?

10 DR. BALL: "Schools and teacher education
11 programs" and then just insert "and teacher education
12 program" into Sandy's paragraph.

13 THE CHAIR: Must be -- okay. All right. So you
14 -- are you accepting that and you're seconding it? All
15 right. It's now on the floor. Skip?

16 DR. FENNELL: I just have a question.

17 THE CHAIR: You're calling the question or you
18 have a question?

19 DR. FENNELL: No, no, can I ask a question?

20 (Laughter)

21 DR. FENNELL: So there is no where in Deborah's
22 work that really deals with, in particular secondary

1 teachers, and I think she has tried to clarify that a
2 couple of times. I think that is now well understood.
3 And so we have this motion and you need to correct me if
4 I'm wrong here. We have this motion now that is not in
5 any way substantiated in the report. So I need help in
6 understanding how this fits with your report.

7 DR. BALL: It's because I thought it just said
8 mathematically knowledgeable teachers. And the rest of it
9 is fine if the word secondary isn't in there and why
10 couldn't we just say that. That's a second --

11 DR FENNELL: Does say just that. This one says
12 secondary.

13 DR. BALL: Yeah.

14 THE CHAIR: There is no secondary in there.

15 DR. BALL: Right, there is no secondary in
16 there.

17 DR. FENNELL: This is backed up by of course?

18 DR. BALL: Yeah, we think -- it's important that
19 mathematically knowledgeable teacher --

20 DR. FENNELL: Correct.

21 DR. BALL: Skip, it has to be related because we
22 know that teachers' knowledge of mathematics is at least

1 to effect -- achievement so that's --

2 THE CHAIR: Yeah, I think this would become
3 number 18 if you do this. All right. So the motion that
4 is before you is to incorporate language to the effect
5 that schools and teacher education programs must develop
6 or draw on a variety of carefully evaluated methods to
7 attract and prepare mathematically knowledgeable teachers.
8 This recommendation is based on the finding that teachers'
9 knowledge of mathematics is related to student achievement
10 or something to that effect. All right, and that would
11 become, I think, number 18 would be the natural place or
12 number 19 maybe.

13 We can worry about placement later, but it would
14 be a new numbered bullet point. It would not be an add-on
15 to or an insertion in an existing bullet point. Okay, you
16 understand what you're voting on? Okay. Those of you who
17 are -- does anybody want to discuss this further? Okay,
18 you're ready to vote and those who favor inserting this
19 motion or this new bullet point, please signify by raising
20 your hands.

21 And those who oppose, do the same. And those
22 who abstain? There are a few. Okay. All right. So this

1 has been added. All right and it will be number 18 or 19.
2 Okay, we're going over now to number 18, the existing 18.
3 Teaching well requires substantial knowledge and skill and
4 so forth. Research is not of sufficient rigor or quality
5 to permit the Panel to draw conclusions about professional
6 training and other things. Comments on this.

7 DR. BALL: Well, given our discussion of the
8 last couple, I wonder if the Panel wants this one split a
9 bit too, because there are a couple of things going on.
10 One is the finding that we didn't find evidence about
11 different forms of teacher education, and then second is a
12 recommendation about the need to focus on teacher
13 education and develop knowledge about it. Maybe those
14 should be split.

15 THE CHAIR: Well, there are two styles we've
16 used. I will also point that out. We actually have
17 numbered points that have two paragraphs where the finding
18 is given in the first paragraph and the recommendation is
19 given in the second paragraph. And we have other
20 situations where findings are stand-alone and the
21 recommendations are follow-up. So those kinds of
22 structures could be useful. I think that getting this to

1 where it is crisper would be better. Bob.

2 DR. SIEGLER: What is the last point that we
3 added? I mean, to me everything in that point is included
4 in 18.

5 DR. BALL: I think Sandy wanted a strong
6 statement that we started the report by emphasizing this
7 lack. The thing we just voted in was about recruitment and
8 preparation. This is really just about training.

9 THE CHAIR: The way you modify it -- the words
10 you voted in, does put training into it. All this is going
11 to have to continue, to be worked on so.

12 DR. STOTSKY: Can I ask of Loveless, just a
13 general point, I think these are all important, but I
14 think, they need to be made more compact. This is going
15 to bog down the reader here, I'm afraid.

16 THE CHAIR: Yeah, I agree. Yes.

17 DR. BALL: I'm just asking a question about
18 process. Are we looking at these again at this meeting?

19 THE CHAIR: I think what we are going to need to
20 do is probably do a lot of this by e-mail after the fact.

21 DR. BALL: Well, it sounds like we are pretty
22 much agreeing on this, and it just needed some cutting. I

1 could experiment with that. I just don't know if we are
2 going to look at it again, it seemed pretty
3 straightforward to try to break this up, a little more
4 cleanly.

5 THE CHAIR: Yeah, but I will be pretty
6 relentless about this. We are going to need to get this
7 done by Tuesday.

8 DR. BALL: Can I just get it done and then give
9 it to you or Sara.

10 THE CHAIR: Yeah, give it.

11 DR. BALL: Okay. I will do that.

12 THE CHAIR: E-mail it to me.

13 DR. BALL: Okay.

14 THE CHAIR: But I think we're going to need to
15 keep running the e-mail cycles basically until we get this
16 done. But the fewer things we carry away from here, the
17 less e-mail you are going to get.

18 DR. BALL: Right. Yeah.

19 THE CHAIR: But I want to demonstrate to you
20 that I have the capacity to send out a lot of e-mails.

21 (Laughter)

22 DR. STOTSKY: I'm glad to hear that. But I have

1 a couple of questions? Deborah, maybe you could clarify
2 this too, because what I didn't see was anything that said
3 strengthening necessarily alternative pathways. This is
4 an issue for many people and --

5 DR. BALL: Where are we saying alternative?

6 DR. STOTSKY: I'm sorry. There is talk about
7 strengthening teacher preparation, but it doesn't say
8 anything about the alternative pathways. Your research
9 has found no difference between the two, so this needs to
10 be --

11 DR. BALL: It is initial teacher education
12 programs and teacher preparation programs. That word is
13 missing. And then it should be and alternative pathways,
14 those two -- those two words are missing.

15 DR. STOTSKY: So those should be added here,
16 okay.

17 DR. BALL: I'll insert them.

18 DR. STOTSKY: Okay. And the other point I
19 wanted to ask about the induction studies. What you showed
20 was that there is a lack of research. It didn't show that
21 they needed to be strengthened. Now, this is just a minor
22 point, because I wouldn't deny in reality that they

1 wouldn't need to be strengthened.

2 But you actually didn't show that they were weak
3 or strong. You simply found no studies looking at the
4 relationship between induction and student achievement.

5 DR. BALL: We didn't find studies relating any
6 of these programs to student achievement. It's not a
7 different finding. We didn't find that teacher
8 preparation didn't effect student achievement. We didn't
9 find studies that met our criteria.

10 DR. STOTSKY: No, but you're saying something
11 about strengthening induction programs. And all I'm
12 asking is what is the basis for saying that when you
13 literally didn't find out whether they were weak or
14 strong to begin with. In other words, there needs to be
15 more research on whether some of them are stronger, or
16 better than others. You are asking for them to be
17 strengthened. And the issue is was there a finding that
18 they are weak. That's all, I mean, it's a question of
19 what does it relate to in the report?

20 DR. BALL: I think this was meant to be a
21 logical statement, which is there are three phases of
22 teacher's development. One is prior to entry in the

1 initial years, and then ongoing, and it's meant to be more
2 of a logical claim if someone has a better language for
3 that, that's fine. We are really just saying that we need
4 a better system for all those phases of teachers'
5 learning. We need stronger ways of doing that. So maybe
6 someone can suggest something.

7 THE CHAIR: Okay, I want to suggest that we go
8 on, since we really need some red meat here, but coaches
9 have gotten a lot of attention.

10 DR. BALL: Do you have a coach for the football
11 team yet?

12 (Laughter)

13 THE CHAIR: Do I have one, no I don't. I
14 thought they were looking at Louisiana. All right, let's
15 go to the number 19. There has been a lot of discussion on
16 this. There are disagreements about whether it is a good
17 idea to have the recommendation. I would like to open
18 with some preliminary discussion and see if we can move to
19 motions that will resolve at least the main questions.

20 Item 19, is really, whether we want to make a
21 recommendation concerning the use of specialists in any
22 form. There are members of the Panel who feel like we

1 have to comment on this, because it is an exit issue. And
2 yet, the base of research is pretty limited. It's up for
3 discussion. Skip.

4 DR. FENNELL: Of course, we've had a number of
5 topics under discussion over the last couple of weeks.
6 This ranks right up there in the top five in terms of
7 email hits and discussion. I think what you are looking
8 at in number 19 is something that has been vetted pretty
9 carefully.

10 I think that this panel needs to make such a
11 recommendation. Because people who are working right now
12 as elementary math teachers with specific responsibility,
13 solely or at least dedicated to mathematics is a reality,
14 in many if not most states in this country.

15 I also think that we've been very careful about
16 the coach model, and how ill defined that happens to be.
17 So I support what's here because of the tremendous amount
18 of time and effort spent to get it to this spot right now.

19 DR. SIEGLER: Well, I actually have the
20 diametrically opposed conclusion on this. There are a
21 number of places in the report where we address important
22 issues and we say we have no relevant research to either

1 favor or oppose the program. I think a very short item
2 saying exactly that would be appropriate here. The fact
3 is we have no basis for encouraging people to do this.
4 There is no evidence.

5 THE CHAIR: Dan?

6 DR. BERCH: I'm reading, I think from the
7 Standards of Evidence. "The body of research in which
8 each significant conclusion and recommendation in the
9 report is based was characterized as strong or weak
10 according to the quality, quantity, and generalizability
11 of the collective evidence across studies. This
12 information guided the wording of the final report with
13 regard to the confidence with which conclusions and
14 recommendations are presented." So to stick with that, we
15 either need to make a major disclaimer to the effect that
16 we have little basis. We need to do that in a stronger
17 fashion than we have done here, a stronger disclaimer.

18 THE CHAIR: Deborah.

19 DR. BALL: I feel like we are repeating the
20 ground that we went over in the first Baltimore meeting.
21 The reason for this claim is logical, not empirical. It's
22 a very carefully worded item that was worked over by quite

1 a few people that says, we need teachers who are more
2 mathematically knowledgeable; the scale of that need is
3 enormous.

4 We don't have a system to deliver them. One
5 reasonable way to think about that is reduce the number of
6 people who have to know it that well, and allow them to
7 teach more children. Then we connect the dots between
8 saying teachers have to know math, and invest that in
9 fewer or have that required of fewer people.

10 It's simply a logic question and we actually do
11 have quite a few things in this report that are not based
12 on empirical work. Most of Conceptual Knowledge and
13 Skills, for instance, is not based on empirical work. So
14 the want for this claim is a logical one. It's not an
15 empirical one.

16 We are very careful to say that we don't know if
17 this works. But if mathematical knowledge for teaching is
18 related to student's achievement, then having teachers who
19 know it is crucial. And the policy problem and the
20 practical problem is we don't have enough of those people.

21 So this is a reasonable recommendation that's
22 not costly, that simply says more kids will have

1 mathematically knowledgeable teachers if you reduce the
2 number of teachers who are expected to have that level of
3 knowledge. It's purely logical.

4 THE CHAIR: Dan read from Standards of Evidence,
5 so let me read from our principle messages. We have one
6 place where we say a small number of questions have been
7 deemed to have such currency as to require a comment from
8 the Panel, even if the scientific evidence was not
9 sufficient to justify research-based findings.

10 In those instances, the Panel has spoken on the
11 basis of collective professional judgment, but it is also
12 endeavored to minimize both the number and the scope of
13 such comments.

14 Yeah, Tom, then Dan, then Skip.

15 DR. LOVELESS: I agree with what Bob said. This
16 reads like an endorsement and there is no basis on which
17 we can endorse this. I would support every word of it,
18 but we need to find out more about this idea. It's just
19 now an idea, but we don't know its ramifications. Because
20 it's an endorsement and it encourages schools to explore
21 this particular strategy, it could be very disruptive to
22 schools.

1 Elementary schools in particular, they may have
2 to do a lot of reorganization in order to implement this.
3 So let's be very careful before we encourage schools or
4 districts to do something, when we don't really know what
5 the impact of that will be.

6 THE CHAIR: Yes, Dan, then Skip.

7 DR. BERCH: Deb, maybe you can make it clear to
8 me about what you said regarding the empirical basis,
9 because I thought we were saying, on the one hand we
10 didn't have the research. But then on the other hand we
11 are saying, well, it's a logical issue then.

12 If we did have the research, is it something
13 that is potentially an empirical question, and the
14 outcomes could differ from what you think might occur
15 logically? And if that's possible, then we have to be
16 very cautious about making this recommendation.

17 DR. BALL: What Dan is saying is true, because
18 what is outside the scope of the logic argument is
19 organizational change, which is slightly related to
20 something Bob has been talking about a number of times.

21 It wouldn't be related to the direct
22 relationship of having kids have mathematically

1 knowledgeable teachers. We already established that. So
2 if that's all that was involved, there is not something
3 else to study.

4 We already know that having a more
5 mathematically knowledgeable teacher is going to be more
6 likely to produce better achievement. What's not clear
7 from this is that math educators aren't likely to be the
8 people who study this anyway.

9 But it's an important empirical question that
10 is, the organizational changes involved or the changes in
11 resource allocation. Those are things that could affect
12 the outcome and Dan is quite right about that. I think
13 that's related to things Bob's been saying. So that does
14 challenge the logical claim.

15 THE CHAIR: Skip.

16 DR. FENNELL: I'd like to respond to Dan first
17 and that is that as Larry read, I can remember vividly a
18 discussion with both Russes in the room, and neither of
19 them are here right now. That would be Whitehurst and
20 Gersten, who suggested at the time this panel was just
21 beginning that there indeed needs to be opportunities for
22 promising ideas, good questions to be considered as

1 appropriate.

2 I think what Larry read kind of validates that
3 discussion. I think we discussed that either in Washington
4 or in North Carolina. Related to the second point about
5 organizational change, this is being done within shouting
6 distance of the site and in schools and schools districts
7 all across this country and has been for quite sometime.

8 What we need to do as Deborah said in her first
9 time is make sure that while this makes sense, let's begin
10 to collect the necessary data that does indeed show that
11 children who have such teachers, do better; that it does
12 impact achievement in mathematics. To not do this, to not
13 support this, I think, sends a message to teaching that is
14 unfortunate.

15 THE CHAIR: Valerie.

16 DR. REYNA: I think that the point is well taken
17 that some of the claims that we make are not based on
18 empirical research at the moment. Some of us are
19 concerned that simply indicating that this is to be
20 encouraged will be taken as though we recommend it in
21 exactly the same way, with the same weight of evidence as
22 our other recommendations.

1 I think, adding a statement that we cannot
2 endorse this on the basis of research findings explicitly
3 would probably be a good idea. However, I think I've
4 heard several people say that research is urgently needed
5 on this issue, and this is a promising idea.

6 I've heard people on both sides of the question
7 echo that. I think that statement would certainly put a
8 fine point on the urgency of this claim and would point in
9 exactly the right direction, namely that we need evidence
10 on this question, because it is so important.

11 THE CHAIR: Bob.

12 DR. SIEGLER: Yeah, I totally agree with Val's
13 point and Dan's similar point. There is another dimension
14 of this. A great many Americans rightly or wrongly are
15 wedded to the view that it's a good thing for young
16 children to have one teacher all day long. They think
17 that it makes the children more secure, it builds up more
18 of a personal relationship, and that it's okay in middle
19 school and high school to have multiple teachers and
20 rotations among them.

21 But for young children, it's viewed as very
22 important to have a single solid base. To go against that

1 on the basis of no evidence whatsoever, but just because
2 this is being done some places anyway and some people
3 think it's a promising idea is very questionable.

4 I mean, how can you look your neighbors in the
5 eye and say, "Well we don't know, we've no basis in fact
6 for knowing that the benefits of this outweigh the costs."
7 We have no basis for saying that the benefits that we may
8 get on math learning are more important than what we might
9 lose on instruction and reading.

10 And this is not ready for prime time. This is a
11 very good point to research seriously, but to encourage
12 people to adopt it, I think goes much further than I think
13 we should be comfortable with.

14 THE CHAIR: Tom.

15 DR. LOVELESS: Yeah, that is exactly right. We
16 need more evaluation evidence on what happens when you do
17 this. If there is a correlation for instance between good
18 teachers in mathematics and good teachers of reading in
19 elementary classrooms, we would be removing good reading
20 instructors from the teaching of reading, and there would
21 be a consequence of that.

22 If Ms. Jones is no longer going to teach reading

1 and only teach math all day, then we're going to lose a
2 good reading teacher. So there are a number of
3 possibilities out there that have to be evaluated. We
4 haven't done it.

5 This is another intervention, by the way, that
6 lends itself to randomized trials, because you could just
7 randomly assign schools to a condition either of having a
8 specialist or not. So I would be willing to support a
9 research recommendation, but nothing that encourages a
10 practice because we just can't endorse it.

11 THE CHAIR: Well, but you had also said that you
12 can't discourage the practice.

13 DR. LOVELESS: Right. We just don't know.

14 THE CHAIR: We simply can't take a position,
15 that's what you're saying on the basis of research, Skip?

16 DR. FENNELL: Basically two points, one is I
17 would let Ms. Jones continue teaching reading. But more
18 importantly Tom, it says that this should be explored. I
19 think that's what we are talking about here. I think a
20 qualifying statement similar to what Val said, talking
21 about the need for research and the notion that this is
22 exploratory carries the day.

1 THE CHAIR: I'm going to suggest that we stop on
2 this for a moment. What I'd like to do is to, actually,
3 in the interest of progress, I'd like to see if, Deborah
4 and anyone she wants to recruit could rework these teacher
5 executive summary things in time first to put them on the
6 screen, sometime tomorrow morning.

7 What I'd like to suggest is that the proponents
8 of this recommendation recast it, however they want and
9 that the opponents, Bob and Tom and others, Dan maybe,
10 think about wording that they might accept, a research-
11 based wording or a -- we have no evidence and can't
12 encourage or discourage. But -- and let's put those both
13 up tomorrow and see what we come out with. Dan.

14 DR. BERCH: We will make a general statement, to
15 me the important implication of this discussion for other
16 topics. In the statement that you made, Larry, you
17 mentioned the word "collective judgment" of the Panel.

18 This is one of the dangers of relying on
19 professional judgment and expert opinion is that we have
20 opinions and judgments that differ greatly when we don't
21 have a sound evidence base. And so it's clear from this
22 discussion that we couldn't arrive at a collective

1 judgment without, you know, elaborating in some other ways
2 and focusing the recommendation. I just want to emphasize
3 that.

4 THE CHAIR: Yeah, go ahead, Tom.

5 DR. LOVELESS: I think we should vote on this
6 issue. Is this the recommendation about more research or
7 is this the recommendation about a practice that we are
8 encouraging?

9 THE CHAIR: But I don't think we should do it
10 yet, that's why I suggested that we take the two model
11 approach, let Deborah fashion 19 into whatever it will be
12 tomorrow morning. If you all would think about -- I mean,
13 it wouldn't have to be long, one or two sentences or
14 three. That would be the alternative, and then let's see
15 what the two polls are before we make a decision.

16 But two polls are going to be roughly what you
17 are saying. But I'm of the school that this report cannot
18 say anything about this subject. It can say that we
19 cannot encourage or discourage the use of practice on the
20 basis of research that is available to us.

21 We can say that it's something worth doing. I
22 mean the Panel could take either of those positions. But

1 I don't think it can just have no bullet point that says
2 anything about math specialists, okay.

3 DR. FENNEL: In response to Tom, if you do
4 research on this, you will be exploring its viability.

5 THE CHAIR: Dan.

6 DR. LOVELESS: That's fine.

7 DR. BERCH: I don't think, yeah, okay. There is
8 a difference if you characterize this exploration in
9 general or exploration for -- in a research way, and
10 that's it.

11 DR. REYNA: As we seek consensus here pointing
12 to it is one among the many, many things that could be
13 explored and highlighting it clearly gives it a sense that
14 some people consider this a promising, potential avenue.

15 THE CHAIR: Because I think we have to say
16 something. I don't really want to vote on the abstract
17 idea of, yes or no, this bullet point would be here, or
18 not. It's not a --

19 DR. LOVELESS: I'm not suggesting that --

20 THE CHAIR: Yeah.

21 DR. LOVELESS: No, I'm not suggesting them. Is
22 the bullet point going to be cast primarily as a call for

1 research and evaluation of this idea, or is it going to be
2 cast as a promising idea that schools and districts should
3 explore? I take the latter as an endorsement.

4 And I think those are two different things and
5 they are essentially irreconcilable. And rather than have
6 two different groups go off and write two different
7 proposals that are irreconcilable that we are going to
8 have to vote on anyway, let's vote now so that one of
9 those groups won't be wasting its time.

10 DR. FENNELL: I would propose that it's the
11 former Tom, and I would be happy to make a motion that a
12 new 19 be recast that puts the research need upfront for
13 this, so that no one gets the impression that this is
14 totally endorsed without that research driving it.

15 THE CHAIR: Sandy.

16 DR. STOTSKY: I was wondering if the first
17 sentence could be clearer along the lines that Skip just
18 mentioned. Schools should be encouraged to explore and
19 fully evaluate or however else you would want to say that
20 word -- the use of blah-blah-blah, or have research done,
21 something that puts research into the first sentence.

22 DR. FENNELL: No, that doesn't address my

1 concern. I would rather have the first sentence say that,
2 we don't know whether this practice is good or bad. And
3 what we need to have is more research evaluating this
4 intervention to find out whether it's good or bad.

5 DR. REYNA: And because it's an area of
6 importance and concern, we need this urgently and that
7 puts the fine point on it.

8 THE CHAIR: Well, the fact is, we don't have
9 anything to vote on until we get some better language than
10 we have got.

11 DR. BERCH: Larry, could we have some sort of a
12 straw vote or with the principle.

13 THE CHAIR: We can with the straw vote. Give me
14 a sentiment of the Panel.

15 DR. FENNEL: This straw vote would be something
16 on the lines of a revised statement that would have
17 research leading the statement, research needed to frankly
18 try out this model and research has to be front and center
19 early in the discussion, not after the fact.

20 THE CHAIR: Is that going to be an informative
21 enough straw vote?

22 (Laughter)

1 DR. LOVELESS: I didn't hear it. I was working
2 on wording. I was trying to work on the wording.

3 THE CHAIR: Oh, he is working on the wording,
4 okay.

5 (Laughter)

6 DR. LOVELESS: Yeah. I think we should have a
7 straw vote.

8 THE CHAIR: Okay.

9 DR. LOVELESS: Just to get an idea --

10 THE CHAIR: What's the straw vote on --

11 DR. LOVELESS: The straw vote would be
12 essentially recasting this item as a call for research of
13 math specialists, because of the lack of scientific
14 evidence. Either supporting or not supporting the
15 practice or something along the lines of the sentiment
16 currently expressed in the item, which is, "Gee here is a
17 good idea, a lot of people are doing it. We encourage
18 schools and districts to explore."

19 THE CHAIR: All right, look. Let me try a
20 motion. I'm not doing motions but let me suggest we do a
21 straw vote, I would like to see who basically tends to
22 lean more toward the language, like, you find here and who

1 leans more toward the Siegler, Berch, Loveless, poll of
2 this -- okay, I'm not giving full --

3 DR. FENNEL: I'm there too. I'm just -- not
4 with Tom, but with the rest of them, yeah.

5 SPEAKER: Okay.

6 (Laughter)

7 THE CHAIR: All right. You have heard what
8 people's positions are, so I'm saying, position A, is the
9 one that's in here, and position B, is the one that Bob
10 and Tom and Dan have been largely arguing here, okay.

11 All right, who is more sympathetic to position
12 A, kind of the strategy that is used in this document;
13 okay.

14 SPEAKER: (No response)

15 THE CHAIR: And who is more sympathetic to
16 position B?

17 SPEAKER: With show of hands.

18 THE CHAIR: Well, position B is -- you voted for
19 position B, and you have been arguing for position A.

20 DR. FENNEL: Larry, I'm not stupid. I want to
21 get something done here.

22 (Laughter)

1 THE CHAIR: Okay.

2 DR. FRISTEDT: Larry, I'd go along with line B.
3 I think it is useful if some of the judgmental aspects of
4 it, why it might possibly be good and why it might
5 possibly be bad are given, so that you can get some sense
6 of which, why it is a research question. The
7 organizational thing on the one hand --

8 THE CHAIR: Yeah, I think Bob went through a
9 fair amount of that, yeah.

10 DR. SIEGLER: I think the place to do that is
11 not the executive summary, but either in the body or in
12 the teacher report. Deborah maintains it is in the report.

13 THE CHAIR: Okay. Well we are going to need a
14 serious drafting effort on this that merges both pools of
15 people I think, okay. All right, but you, need to get
16 some of these guys involved too.

17 All right, let's go to item 20. We have to be
18 out of here at 6:30, it's only 6 minutes away, so let me
19 just ask about 20, "mixed evidence about the influence of
20 salary inducements." Does anybody want to comment on it?

21 DR. STOTSKY: Just a clarification, what does it
22 mean to say "supporting teacher's effectiveness." I don't

1 really understand the meaning of those three words. How
2 does the salary scheme support teacher's effectiveness? I
3 can understand it supporting retention, but I don't
4 understand it supporting effectiveness.

5 THE CHAIR: Deborah.

6 DR. BALL: Yes, that's a good point because it
7 is too compressed. The performance-based pay schemes are
8 about effectiveness. The skill-based and location-based
9 pay are about recruitment and retention. So it probably
10 just needs to be less compressed.

11 This is the example where we wrote too little,
12 as opposed to where you wrote too much. So we had three
13 kinds of pay schemes and two of them were about
14 recruitment and retention and one was about effectiveness.
15 Thus this is not quite accurate then. We will fix that.

16 THE CHAIR: You are going to -- overnight you
17 are looking for just right.

18 (Laughter)

19 THE CHAIR: Okay. Is that it for now? I think
20 we are going to break at this point. There is not much
21 point I think in going into the body, we only have a few
22 minutes to be able to do anything. So I think we might as

1 well break. All right, and we are reconvening tomorrow at
2 8:30 -- we are adjourned.

3 (Whereupon, at approximately 6:25 p.m., the
4 PROCEEDINGS were adjourned.)