

SUPERIOR COURT OF THE STATE OF CALIFORNIA
FOR THE COUNTY OF SAN FRANCISCO

ELIEZER WILLIAMS, et al.,)
)
 Plaintiff,)
)
 vs.)
)
)
STATE OF CALIFORNIA, et al.,)
)
 Defendants.)

)

No. 312236

DEPOSITION OF CHRISTINE ROSSELL
Los Angeles, California
Tuesday, August 12, 2003
Volume I

Reported by:
SHERRYL DOBSON, RPR

CSR No. 5713

JOB No. 43719

1 SUPERIOR COURT OF THE STATE OF CALIFORNIA
 2 FOR THE COUNTY OF SAN FRANCISCO
 3
 4 ELIEZER WILLIAMS, et al.,)
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 5 Plaintiff,)
)
 6 vs.) No. 312236
)
 7 STATE OF CALIFORNIA, et al.,)
)
 8 Defendants.)

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 12 Deposition of CHRISTINE ROSSELL,
 13 Volume 1, taken on behalf of
 14 Plaintiffs, at 555 West 5th Street,
 15 35th Floor, Los Angeles, California,
 16 beginning at 9:25 a.m. and ending at
 17 4:57 p.m. on Tuesday, August 12, 2003,
 18 before SHERRYL DOBSON, Certified
 19 Shorthand Reporter No. 5713.
 20
 21
 22
 23
 24
 25

1 APPEARANCES:
 2
 3 For Plaintiffs:
 4 MORRISON & FOERSTER
 BY: JACK W. LONDEN
 5 Attorney at Law
 425 Market Street
 6 San Francisco, California 94105-2482
 415-268-7415
 7
 8 For Defendant:
 9 O'MELVENY & MYERS
 BY: FRAMROZE M. VIRJEE
 10 Attorney at Law
 400 South Hope Street
 11 Los Angeles, California 90071-2899
 213-430-6000
 12
 13
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1 Los Angeles, California, Tuesday, August 12, 2003
 2 9:25 a.m. - 4:57 p.m.
 3
 4 CHRISTINE ROSSELL,
 5 having been first duly sworn, was examined and testified
 6 as follows:
 7
 8 EXAMINATION
 9 BY MR. LONDEN:
 10 Q State your name, please.
 11 A Christine, C-h-r-i-s-t-i-n-e, Rossell,
 12 R-o-s-s-e-l-l.
 13 Q Where do you live?
 14 A 44 High Street, Brookline, Mass. 02445.
 15 Q You have submitted to the defendants and they
 16 have submitted in this case an expert report; is that
 17 right?
 18 A Yes.
 19 Q You have extensive deposition and court
 20 testifying experience, I understand.
 21 You have listed in the CV attached to your
 22 report a number of consulting engagements. Could you
 23 find that listing? You have the report in front of you?
 24 A Yes.
 25 Q Now --

1 MR. VIRJEE: The record should probably reflect
2 that she brought a copy of the report with her so she
3 would have it. If you want to give her a copy, that's
4 fine, Jack. But we'll stipulate that the copy of the
5 report she has is the same one we gave you.

6 MR. LONDEN: That would be great. There is no need
7 for anyone to spend money making copies of the report,
8 as far as I'm concerned. I have a copy for the
9 reporter.

10 I'll just note that the copy I'm handing the
11 reporter begins, not with the Salvaty declaration, but
12 with the cover page of the April 18, 2003 report,
13 bearing Dr. Rossell's name.

14 MR. VIRJEE: Excellent.

15 MR. LONDEN: And it runs through Appendix 7, Page
16 3.

17 (Discussion off the record)

18 MR. LONDEN: So it will not be marked unless we
19 make special arrangement, and if we do, I'll try to mark
20 what only needs to be marked.

21 MR. VIRJEE: All right. Thank you.

22 BY MR. LONDEN:

23 Q Now, is there a place in your CV that -- in
24 which we will find references to court cases you've
25 worked on?

1 A Yes. Probably the easiest place to look at it
2 is on Page 11 of my CV, in the section called
3 "Consulting."

4 Q I'm with you.

5 And what does that consulting section list
6 contain?

7 A It contains consulting that I have done in
8 various court cases and various other important
9 consultation. There are probably a few things that are
10 missing, smaller things, but those are the important
11 ones, and it's definitely all of the court cases.

12 Q So some less important consulting engagements
13 may not be listed, but all of the court cases are listed?

14 A Yes.

15 Q And is it up to date? I'm sorry, that's an
16 ambiguous question. I'll ask it a different way.

17 How many different court cases have you done
18 any work on during 2003?

19 A This case, and I was just hired in the Pazmino,
20 P-a-z-m-i-n-o --

21 Q You don't need to identify the case if it's
22 confidential -- if your involvement in it is
23 confidential. I just have one question about that case.

24 Is it a California case?

25 A Yes. I don't know if it's confidential.

1 The Fulton County, Georgia, School District
2 case was in 2003, and I also have a case in Madison
3 County, Mississippi, which I see is not on here.

4 Q Tell us about it.

5 A It's a unitary. Madison County is a suburb of
6 Jackson, Mississippi.

7 Q And by a unitary, it is a case in which a
8 district is asking to have its status declared unitary?

9 A Well, at this point really all I am doing is
10 analyzing various factors to see if in fact this makes
11 sense.

12 Q Okay. Does that complete the description of
13 2003 work so far?

14 A I think so.

15 Q Have you testified this year in deposition or
16 in court hearing?

17 A Deposition. I had a deposition in the Fulton
18 County, Georgia school district case, and I testified in
19 Comfort v. Lynn. Oh, now, that's 2002, excuse me.
20 Never mind.

21 Q Pazmino, what is the location of the district
22 or districts or school or schools involved in that case?

23 A It's California, and it's a statewide case, as
24 far as I know. I can't recall where the named
25 plaintiffs are from.

1 Q Who are you working with?

2 MR. VIRJEE: By way of counsel or --

3 BY MR. LONDEN:

4 Q Client, counsel.

5 A I'm working for the State of California, the
6 Attorney General's Office.

7 Q And what's the subject matter of the case?

8 A A plaintiff group has sued the State Board of
9 Education because the State board is requiring that
10 children be taught -- children who are in bilingual
11 education programs be taught an hour a day in English in
12 kindergarten and two and a half hours a day in Grades 1
13 to 3.

14 Q And can you give us a general description of
15 your assignment in that case?

16 MR. VIRJEE: And again, I want you to remember
17 Jack's admonition that if in fact this is confidential
18 and you haven't been identified yet as an expert and it
19 is your understanding that you're not supposed to
20 disclose this, he's not asking you to disclose it.

21 THE WITNESS: I have not been identified as an
22 expert, so maybe I shouldn't say any more. I just don't
23 know whether it's confidential at this point, but I
24 certainly have not been identified as an expert.

25 BY MR. LONDEN:

1 Q Is there any work that you've done on that case
2 that you consider relevant to the opinions that you're
3 prepared to render in this case?

4 MR. VIRJEE: Objection. Vague and ambiguous as to
5 "relevant."

6 You can answer it if you can.

7 BY MR. LONDEN:

8 Q And to be clear, I'm asking, not about a
9 projection of some things you may do in the future, but
10 what you've done, as you sit here today, for that case.

11 A The only relevance is that Kenji Hakuta is an
12 expert in both cases, and so I'm analyzing or responding
13 to reports he has written in both cases. But they're
14 very different reports.

15 Q Looking at the list of consulting engagements
16 that appears at -- starts at Page 11 of your CV and
17 continues through Page -- onto Page 14.

18 Can you identify engagements where you have
19 worked for the plaintiffs -- and by that I mean the
20 challengers of school districts or State administration
21 of schools, if that's meaningful to you.

22 MR. VIRJEE: I'm going to object as vague and
23 ambiguous.

24 You can answer to the extent you understand
25 it. It may not be plaintiffs, obviously.

1 Department of -- excuse me, for the plaintiffs in Davis
2 and U.S. v. East Baton Rouge Parish School District,
3 1982 and 1983. I worked for the plaintiffs in U.S. v.
4 Charleston County School District in the state of
5 California, 1982. I worked for the plaintiffs in U.S.
6 and Pittman v. Mississippi in Hattiesburg Municipal
7 School District in 1985, 1986.

8 I worked for -- I worked for the plaintiffs in
9 U.S. Department of Justice -- for the plaintiffs, the
10 U.S. Department of Justice, in U.S. v. Texas Education
11 Agency, 1985, 1986. I worked for the plaintiffs in
12 Carbajal, which is spelled C-a-r-b-a-j-a-l, versus
13 Albuquerque Public School District, 1998, 1999. And I
14 worked for the plaintiffs in the Lynn case, which is
15 Comfort v. Lynn and Commonwealth of Massachusetts and
16 Bollen, B-o-l-l-e-n, versus Lynn, 2002.

17 Q Can you tell us a little bit about those cases,
18 Comfort and --

19 MR. VIRJEE: You want her to go through each one of
20 them that she mentioned?

21 BY MR. LONDEN:

22 Q No, the last two, Comfort v. Lynn and Bollen v.
23 Lynn.

24 A Yes. A group of parents filed suit against the
25 Lynn School District and the Commonwealth of

1 MR. LONDEN: That's why I was trying to --

2 MR. VIRJEE: Sure.

3 MR. LONDEN: -- add that qualifier. I think we
4 know what -- I think what I'm asking is clear enough, at
5 least to start.

6 THE WITNESS: I worked for the plaintiffs in Carlin
7 v. San Diego Unified in 1977 and 1979.

8 BY MR. LONDEN:

9 Q And that's on 14?

10 A On Page 14. I'm working my way back.

11 Q Great.

12 A I worked for the plaintiffs in Liddell,
13 L-i-d-d-e-l-l, versus Board of Education of Saint Louis,
14 Missouri, March 1978. And by the way, Carlin is spelled
15 C-a-r-l-i-n.

16 And I worked for -- now, in this case -- yes,
17 that's right. I worked for the plaintiffs in Seattle
18 School District Number 1 versus the State of Washington
19 in 1979. I worked for the plaintiffs in Ross v. Houston
20 Independent School District in 1979. I worked for the
21 plaintiffs in Crawford v. Board of Education of Los
22 Angeles in 1979 and 1980. I worked for the plaintiffs
23 in U.S. v. Port Arthur -- Arthur is spelled
24 A-r-t-h-u-r -- Independent School District 1980.

25 I worked for the plaintiffs in the U.S.

1 Massachusetts because the Lynn School District was using
2 race in requests to transfer to magnet schools outside
3 of your neighborhood attendance zone. And the
4 plaintiffs were objecting to that and were requesting
5 that the use of race not be used in guiding or -- well,
6 guiding transfer requests to magnet schools.

7 In the case of Carbajal --

8 Q Again, can I just follow up on that?

9 A Sure.

10 MR. VIRJEE: He didn't ask about Carbajal. He just
11 asked about Comfort. He might ask about it.

12 BY MR. LONDEN:

13 Q Actually, I will, but in a minute.

14 A Sorry, I was remembering the word "two."

15 MR. VIRJEE: Not a problem. Jack's thorough.
16 He'll get there if he wants to.

17 BY MR. LONDEN:

18 Q In Comfort and Bollen, were there class action
19 allegations made by the plaintiffs? Did they say they
20 represented a class?

21 A I don't know.

22 Q And what was your role?

23 A My role --

24 Q Is your role.

25 A My role -- well, it's over.

1 Q Okay.

2 A My role was to read the expert reports for the
3 other side and rebut them if I could.

4 Q Did you submit a report or give testimony?

5 A I did both.

6 Q And can you summarize what you did briefly?

7 A Well, I basically took various allegations that
8 they had -- that the other side's experts made and --
9 for example, that the school district would become
10 horribly segregated if the district stopped using race
11 in transfers -- in approving transfer requests to magnet
12 schools, and did an analysis of the trends that already
13 existed.

14 And then I looked at various studies that they
15 were offering and critiqued them and talked about my
16 experience in doing research on school desegregation and
17 what the trends looked like nationwide. And I think
18 that was about it.

19 Q Tell us about -- a general summary of what
20 Carbajal against Albuquerque School District was about.

21 A That was a case where some Mexican-American
22 parents were suing the school district to have their
23 children taught in English. Their children had been
24 assigned to Spanish bilingual programs and were unable
25 to get out. And they were suing to get their children

1 then became Vasquez, v. San Jose is California.

2 Quiroz -- and that's spelled Q-u-i-r-o-z, v. State Board
3 of Education is California. See, I forgot to underline
4 a case here.

5 Valeria, V-a-l-e-r-i-a, G. versus Pete Wilson
6 is California. Williams, obviously, is California, and
7 so is Pazmino.

8 Q Does that constitute all the California cases
9 you've worked on?

10 A Yes.

11 Q In the listing on Pages 11 through 14, there
12 are dates after the name of the case or at the end of
13 the listing of the -- that designates an engagement.

14 Are those dates, in general, the dates of your
15 involvement?

16 A Yes.

17 Q On the Diaz and Vasquez cases, it lists July
18 '85 to the present.

19 A Yes.

20 Q What have you done since the year 2000, say, on
21 the San Jose case?

22 A I wrote a report, a declaration, for San Jose a
23 few months ago, analyzing the Greene factors and the
24 other issues that were part of their consent decree.

25 Q This is something that you completed during

1 out, to be taught in English.

2 Q What was the legal basis, if you understand it,
3 for the plaintiffs' claim? Was it a constitutional
4 claim, for example?

5 A I can't remember.

6 MR. VIRJEE: Objection. Calls for a legal
7 conclusion, calls for speculation.

8 THE WITNESS: I can't remember.

9 BY MR. LONDEN:

10 Q What was your role?

11 A My role was to simply describe my research on
12 bilingual education versus other approaches to educating
13 English learners.

14 Q Okay. Can we go through the list again and
15 identify the cases that related to California? Cases or
16 consulting engagements, if they weren't cases.

17 A Again, starting at the back, Carlin v. San
18 Diego is California. Crawford v. L.A. is California.
19 Teresa P. v. Berkeley Unified is California. The Ocean
20 View School District case -- or consulting was
21 California. Hernandez v. Stockton is California.
22 Zambrano Z-a-m-b-r-a-n-o, v. Oakland is California.
23 Honig, et al., v. East Side Union High School District
24 is California. Robla School District versus California
25 State Board of Education is California. Diaz, which

1 2002, or was it -- has it gone on to 2003?

2 A 2003. I started it, I believe, in 2002. I
3 could be wrong about that, but it's --

4 MR. VIRJEE: Just for clarification, I think you
5 asked what she'd done since 2000 as well.

6 MR. LONDEN: I did. I'm going backwards.

7 Q And can you give us a description, please, of
8 how you went about preparing -- what sources of
9 information and methods you used, in general, in
10 preparing the declaration?

11 MR. VIRJEE: Objection. Vague and ambiguous.

12 What sources she relied on for reaching her
13 conclusion in the declarations?

14 MR. LONDEN: Right.

15 MR. VIRJEE: I think the document will speak for
16 itself, and if you can remember all the sources you
17 cited to, give them to him.

18 BY MR. LONDEN:

19 Q This is what's known as a preliminary question,
20 to see whether there's anything relevant to this case
21 that I need to ask about. So if you could give a
22 general description of the sources of information, the
23 methods you used, and the subjects addressed in the
24 declaration, so I can tell whether I need to follow up,
25 that'd be sufficient.

1 MR. VIRJEE: And I'm going to object as overbroad
2 and vague and ambiguous.

3 You can answer if you can.

4 THE WITNESS: I looked at the six Greene factors,
5 which are student assignment, faculty assignment, staff
6 assignment, transportation, extracurricular and
7 facilities. And analyzed data that I have from the
8 school district, data from the California CDE Web site,
9 and -- I did something else besides the six Greene
10 factors. I looked -- I discussed briefly, but didn't do
11 much analysis, of the issue of compliance with the
12 English language learner portion of the consent decree,
13 and I briefly discussed the issue of achievement.

14 I think that is it.

15 BY MR. LONDEN:

16 Q Is it fair to say that, in general, what the
17 declaration in that case related to was an assessment of
18 some relevant factors to whether the consent decree or
19 remedial order in that case should be continued?

20 MR. VIRJEE: Objection. The document speaks for
21 itself.

22 THE WITNESS: That's not quite the way I looked at
23 it, but --

24 BY MR. LONDEN:

25 Q How did you look at it?

1 BY MR. LONDEN:

2 Q Go ahead.

3 A I can no longer remember the question. So
4 would you please ask it again?

5 Q Sure.

6 A I'm trying to find out how it's
7 mutually-exclusive.

8 Q I don't think it is.

9 Did you do any data runs as part of your work
10 on Valeria G. versus Pete Wilson? It's a different
11 question.

12 A I know it's a different question. I'm trying
13 to think of what the answer is. I don't think so. My
14 memory is that it was mainly a summary of the research
15 and a verbal response to various allegations and issues
16 raised in the plaintiffs' experts' reports.

17 Q Okay. In the Quiroz against State Board of
18 Education case?

19 A Yes.

20 Q What were the main issues, as you understood
21 them?

22 A Well, at that time California still had the
23 State Department of Education pushing bilingual
24 education, and -- but if you didn't want to do bilingual
25 education, you could file for a waiver. And Orange

1 A Whether or not the school district should be
2 unitary.

3 Q And it was about the San Jose Unified School
4 District?

5 A Correct.

6 Q Okay. Can you give us a general description of
7 the subject matter of the Valeria G. against Pete Wilson
8 case, as you understood it?

9 A That was a lawsuit brought by plaintiffs right
10 after Prop 227 was passed, alleging that the
11 implementation of Prop 227 would be a violation of
12 the -- I think the major claim was a violation of the
13 civil rights of English language learners in California.

14 Q And what was your role?

15 A My role was to discuss the research on
16 bilingual education, my own research on bilingual
17 education, and to analyze that issue and to rebut other
18 experts, to the extent that I could.

19 Q Did you do empirical analysis yourself, as
20 opposed to reviewing empirical analysis others had done,
21 in connection with Valeria G. against Pete Wilson?

22 MR. VIRJEE: I would object to the extent those
23 were mutually-exclusive.

24 If you did both, you can answer. It was one or
25 the other in his question.

1 County wanted to be -- wanted to teach their children in
2 English, their English learners in English. And so they
3 filed for a waiver.

4 And for reasons I can't remember, it went to
5 trial, and I wrote a report, I believe. It was a short
6 report -- this is my memory -- discussing the research
7 on bilingual education and what's the most effective
8 program for English language learners and testified in
9 that case on those issues.

10 Q Did you analyze data for purposes of generating
11 that report or that testimony?

12 A I don't remember analyzing data.

13 Q In the Robla School District against California
14 State Board of Education case, what, to the best of your
15 recollection, were the main issues?

16 A That's a long time ago, and it was a little
17 case.

18 Q That may be all I need to know.

19 A It had something to do with a merger, a
20 proposed merger or a proposed disaggregation, one or the
21 other. And I believe I looked at the issue of long-term
22 trends.

23 Q Did you do analysis of data for that case?

24 A I must have.

25 MR. VIRJEE: Don't want you to guess or speculate,

1 but he's entitled to your best recollection.
 2 BY MR. LONDEN:
 3 Q A fair answer is, I may have but I don't
 4 recall, or I don't recall anything; I don't know
 5 enough. That's all --
 6 A I recall --
 7 Q -- I need to know.
 8 A I recall very little of that case. It was a
 9 very small case. I was never deposed. It didn't go to
 10 trial.
 11 Q I am in the course of asking some questions to
 12 try to be specific about your sources of experience and
 13 knowledge about California. And right now I'm working
 14 through cases. And I'm going to ask some more
 15 questions. So I don't want to be mysterious about what
 16 I'm trying to accomplish.
 17 And on the other hand, you can rely on me to
 18 ask a question that you can just answer. But that's
 19 what I'm up to at the moment.
 20 Honig against East Side Union High School
 21 District is on the list. Can you tell us what the main
 22 issues in that case were?
 23 A Yes. East Side High School District was using
 24 Channel 1, which was a news -- is a news program. I'm
 25 trying to think, that wealthy man from Knox County,

1 Tennessee. Starts with a "W." Forgotten his name --
 2 was giving out all kinds of video equipment to school
 3 districts if they would run Channel 1, which was a news
 4 program for young people.
 5 And the controversial aspect of it was that --
 6 I believe Channel 1 had advertisements. And the State
 7 Board of Education made some ruling that made it
 8 difficult for East Side High School to continue Channel
 9 1, and I can't remember the details of that ruling. But
 10 they felt compelled to -- or maybe it was the -- no,
 11 it -- if it's Honig v. East Side, I think the State
 12 filed the lawsuit against East Side High School to get
 13 them to stop using Channel 1. That's my recollection.
 14 Q What was your role?
 15 A My role was to analyze -- well, to design a
 16 survey of students and carry it out and to analyze a --
 17 analyze the results of this, to find out to what extent
 18 students were learning from the program and to what
 19 extent they are being adversely affected by the
 20 advertisements.
 21 Q Okay. The case of Zambrano against Oakland
 22 Unified School -- District, I assume -- is listed.
 23 What were the main issues in that case?
 24 A Did I leave off the word "District"?
 25 Q It doesn't matter. It's clear.

1 A There Oakland was under --
 2 Q Making notes of typos, I see.
 3 A Yeah. Always helps.
 4 MR. VIRJEE: Always a work in progress.
 5 THE WITNESS: In that case -- it began with a
 6 lawsuit that Oakland was operating under when I was
 7 asked to consult for them. And I don't recall the
 8 details of the lawsuit itself. I was asked to analyze
 9 the relative effectiveness of the different programs for
 10 English language learners in Oakland.
 11 BY MR. LONDEN:
 12 Q And that was in 1989?
 13 A Yes.
 14 Q In general, how did you go about analyzing the
 15 relative effectiveness of programs?
 16 A Well, I never completed the analysis, but I
 17 collected a lot of data on students' achievement test
 18 scores, the kinds of programs they were in, the
 19 characteristics of their teachers, and I got this from
 20 the Oakland Unified School District. Their personal
 21 characteristics, the students' personal
 22 characteristics.
 23 And I had intended analyzing -- statistically
 24 analyzing the various programs, but I did not get to the
 25 point of writing a report or doing the analysis.

1 Q Did you get to the point in that case of
 2 dealing with the problem of how to identify the English
 3 learners for comparative purposes? If that's a clear
 4 question.
 5 A It's not clear.
 6 Q In your report you talk about problems that can
 7 arise in analysis from the use of a group identified by
 8 their low performance.
 9 A Yes.
 10 Q Was that a problem that you thought about in
 11 connection with your work on Zambrano?
 12 A I would think so, but I don't remember.
 13 Q Are there other examples where you have thought
 14 about appropriate ways to avoid that problem in doing
 15 empirical research on bilingual education?
 16 MR. VIRJEE: Other examples meaning other cases?
 17 BY MR. LONDEN:
 18 Q Other cases or engagements you've worked on.
 19 MR. VIRJEE: Or articles --
 20 MR. LONDEN: Studies, articles.
 21 MR. VIRJEE: -- studies she's done, any
 22 other instances.
 23 THE WITNESS: Well, I've written about this subject
 24 quite a bit.
 25 BY MR. LONDEN:

1 Q I know that.
 2 And have you developed any views of ways of
 3 doing empirical analysis aimed at English learners on
 4 the specific question of avoiding that methodological
 5 problem?
 6 A Well, it's -- yes, I mean -- the answer is yes.
 7 Q Could you summarize your views.
 8 A Well, my views are that it's inappropriate to
 9 compare the test scores of English learners to the test
 10 scores of fluent English-proficient children and blame
 11 the fact that the test scores of English learners are
 12 lower on whatever program they're in. In my analyses, I
 13 statistically control for as many characteristics as I
 14 can, and I compare only English learners to other
 15 English learners.
 16 Q By comparing English learners to other English
 17 learners, you're avoiding the problem of comparing
 18 some -- a group identified by low performance to a group
 19 that's not identified by low performance? Is that right?
 20 A Well, you certainly overcome the major
 21 problem. There are other little problems that creep
 22 into any analysis, but obviously, it's just not
 23 appropriate to compare English learners to fluent
 24 English-proficient children.
 25 Q Are there other methods or analytical

1 techniques that you understand to be useful to avoid the
 2 problem of comparing groups defined by low
 3 performance -- I'll make it specific to language
 4 speakers -- language speakers who are identified by low
 5 performance to others? Besides comparing ELs to other
 6 ELs.
 7 A You just don't do it.
 8 Q Okay. My question is aimed at finding
 9 techniques other than comparing ELs to other ELs.
 10 MR. VIRJEE: Techniques for what?
 11 BY MR. LONDEN:
 12 Q For analyzing the comparative performance or
 13 conditions affecting English learners without
 14 encountering the analytical problem you've identified.
 15 And I hear you say there aren't any, but do I
 16 have that right?
 17 MR. VIRJEE: I don't think she's testified to that,
 18 but --
 19 THE WITNESS: Well, I don't really understand what
 20 you're getting at, but I can only emphasize once again
 21 it is inappropriate to compare the test scores of
 22 English learners to those of fluent English-proficient
 23 children. And to then contribute the low test scores of
 24 the English learners to the program they're in.
 25 BY MR. LONDEN:

1 Q Let's go back to the list.
 2 Hernandez against Stockton Unified School
 3 District is on the list, and could you please give us a
 4 general summary of the issues in that case?
 5 A (Witness reviews documents.)
 6 Q Second from the bottom on 12. Page 12,
 7 Stockton Unified School District -- Hernandez against
 8 Stockton Unified School District.
 9 A It's at the top of Page 13 on my copy.
 10 Q May I hand you a copy of what I take it to be
 11 identical in substance but --
 12 MR. VIRJEE: Paginated differently from --
 13 BY MR. LONDEN:
 14 Q Paginated differently from a --
 15 MR. VIRJEE: -- being printed out.
 16 BY MR. LONDEN:
 17 Q -- different print, I imagine.
 18 A It isn't. It's paginated the same as mine.
 19 Q Well, then it's my problem.
 20 We'll use your page references, because the CV
 21 that I'm working from at the moment is a CV that was
 22 attached to Mr. Salvaty's declaration, which I gather is
 23 now paginated a little differently. So no big deal.
 24 A Hernandez v. Stockton was a case in which the
 25 school district wanted to change their desegregation

1 plans. They had been operating under a court-ordered
 2 mandatory reassignment plan, and they wanted to change
 3 to what I would call -- what I sometimes call a magnet
 4 voluntary plan. And they asked me to help design that
 5 plan and to defend it in court, if necessary.
 6 Q And the plan was for assignment of students to
 7 schools?
 8 A Yes.
 9 Q What, if any, analysis of data did you do?
 10 A Well, I wrote a report, a fairly lengthy
 11 report, and that report analyzed desegregation trends in
 12 Stockton. It also discussed my research elsewhere
 13 across the nation and -- in Stockton we conducted a
 14 parent survey, and so the results of the parent survey
 15 were discussed in the report.
 16 I think I made -- I mean, I basically drew the
 17 conclusion that a magnet voluntary plan would ultimately
 18 produce more interracial exposure than the current
 19 mandatory reassignment plan.
 20 Q Your CV lists Ocean View School District,
 21 Huntington Beach, and you told us earlier that was
 22 consulting.
 23 What was the general subject matter there?
 24 A They were trying to figure out how to rezone
 25 their schools so as to produce more integration, but to

1 minimize white flight.

2 Q And what was your role?

3 A My role was to look at various ways in which
4 the school district could be rezoned and to estimate how
5 much white flight would be produced by drawing the line
6 this way versus that way.

7 Q Did your performance of that engagement involve
8 analysis, statistical or otherwise, of -- empirical
9 analysis of data?

10 A Yes.

11 Q And how do you -- how did you, if you did do
12 this, estimate white flight?

13 A I don't remember.

14 Q In Teresa P. against Berkeley Unified School
15 District, what were the main issues in the case?

16 A Well, the State of California had received
17 some complaints about Berkeley Unified that they weren't
18 using enough Spanish in their Spanish bilingual
19 education classes. And so they -- they began to
20 pressure the school district to use more Spanish or come
21 up with a plan to use more Spanish.

22 And then a group of plaintiffs, named
23 plaintiffs, filed suit against the school district,
24 requesting, essentially, more Spanish in the Spanish
25 bilingual classes and -- programs, and not just in terms

1 Q And so you were comparing students in one type
2 program to students in another type program?

3 A Yes.

4 Q Okay. Could you tell us briefly the main
5 issues in Crawford against Board of Education of Los
6 Angeles.

7 A The basic issue was -- the school district had
8 been found guilty of intentional segregation -- no,
9 sorry, cross that out.

10 This was a State case. And the State law at
11 that time required that schools be racially balanced.
12 And the Superior Court judge in that case had ruled that
13 the schools in L.A. Unified were not racially balanced.
14 So now the next issue was what to do about it.

15 And I worked for the justice -- no, sorry, the
16 ACLU. I worked for the ACLU. And analyzed the issue of
17 how much white flight would be produced by a mandatory
18 reassignment plan and whether or not, despite that
19 mandatory reassignment plan, there would still be
20 sufficient integration in the schools to justify a
21 mandatory reassignment plan. That was essentially it.

22 Q Please give us a summary of the main issues, as
23 best you recall, in Carlin against San Diego Unified
24 School District.

25 A It was pretty similar to L.A. Unified, and my

1 of how much goes on during the day, but also grades.
2 For example, the Berkeley Spanish bilingual class
3 basically ended at the end of elementary school, and
4 they wanted it continued through middle school and high
5 school.

6 Q What was your role?

7 A My role was to do an analysis of the
8 effectiveness of the different programs that children
9 in -- English learners in Berkeley Unified were in, the
10 educational effectiveness, and to analyze parents'
11 support for various approaches to educating English
12 learners and to rebut other experts' reports and
13 declarations, to the extent that I could.

14 Q If you recall, what method did you use to
15 analyze the relative effectiveness of different programs?

16 A Multiple regression.

17 Q Comparing what to what?

18 A Comparing children in -- the achievement of
19 children in bilingual education to the achievement of
20 children in -- comparing the achievement of English
21 learners in bilingual education to the achievement of
22 English learners in English language programs.

23 Q Were both those types of programs being
24 practiced in Berkeley at the time?

25 A Yes.

1 role was very much the same, which is that I was asked
2 to analyze data and the likelihood that there would be
3 white flight from a mandatory reassignment plan and how
4 much integration would there be, even if there was white
5 flight and to testify in court about that and to rebut
6 the other experts, to the extent that I was able to.

7 Q Okay. Have I asked you and have you given me
8 general descriptions of each of the California
9 consulting engagements on this resume?

10 MR. VIRJEE: Well, I guess the record will speak
11 for itself. We can look and see whether she's missed
12 any.

13 BY MR. LONDEN:

14 Q I don't think I missed any California
15 engagements in going through the list; is that right?

16 A I don't know.

17 Q Okay. Silly question.

18 What other kinds of work have you done that has
19 involved the schools or school districts located in
20 California? Give me a general idea.

21 A Well, I've been analyzing data on California
22 schools, demographic data, achievement data, program
23 involvement data, school characteristics, for at least
24 the last five years and -- for the entire state. And
25 then earlier than that, of course, analyzing various

1 school districts in great detail but also looking at
2 counties or states whenever that comparison was
3 appropriate.

4 Q At the end of that answer you referred to
5 analyzing data from specific school districts or
6 counties, and could you tell me the kinds of occasions
7 when you have done that with reference to school
8 districts in California and counties in California.

9 A Well --

10 Q And let me start by saying, you don't have to
11 tell me again about the consulting engagements. I'm
12 asking about other occasions.

13 A There are times when I will want to estimate
14 whether or not the enrollment change in a particular
15 school district is greater or less than you would expect
16 just normally, from the normal demographic trend, and
17 one way to do that is to compare that particular school
18 district to the trends in the county it resides in. And
19 sometimes to the state.

20 Q What have been the occasions for you to do
21 that, other than the consulting engagements you've told
22 me about?

23 A I've had a large data set, started with 90
24 northern school districts, when I was writing my
25 dissertation many moons ago, and that included quite a

1 number of California school districts. Probably about a
2 dozen. And then that was expanded, that sample was
3 expanded to hundred and 13, but the school districts
4 that were added were southern school districts.

5 And then in 1990 the sample was expanded to 600
6 school districts in the United States. So a lot more
7 California school districts were added. And so that
8 ongoing research on school desegregation and the
9 outcomes of different desegregation plans includes a lot
10 of California school districts.

11 Q And what do you do with the data set currently,
12 if anything?

13 MR. VIRJEE: Objection. That's vague and overbroad
14 as to what she does with it.

15 THE WITNESS: I just -- I just published a paper
16 analyzing the data. So I continue to analyze it for
17 academic purposes. I also will occasionally use it,
18 when needed, in a court case, if I want to look at
19 trends or compare the school district I'm working with
20 to national trends or something like that.

21 "The desegregation efficiency of magnet
22 schools," for example, was an analysis of that data
23 set. And I -- I might have done some analysis in "The
24 Evolution of school desegregation plans since 1954." I
25 don't recall.

1 BY MR. LONDEN:

2 Q So you've just listed two articles in which
3 you've made use of the data set --

4 A You said recently.

5 Q Recently, yeah. Among others.

6 A Yeah.

7 Q Are you able to tell us the data categories
8 that are included in the data set, or summarize them?

9 A Well, it's a really lengthy -- the study began
10 with a very lengthy survey to be given to school
11 districts that I helped design along with David Armor.
12 We basically designed it. And it was a national survey,
13 which asked all kinds of questions about the
14 desegregation plan you used to have, the desegregation
15 plan you currently have, a lot of questions about the
16 characteristics of those plans previously and currently,
17 techniques being used and --

18 Q By that you mean which assignment techniques?

19 A Yes. And not just assignment techniques, but
20 also magnet schools, what kind of magnet schools.

21 The grant came from the magnet schools
22 assistance program. So they wanted to know a lot about
23 magnet schools. So we asked a lot of questions about
24 magnet schools. And then we merged that with
25 demographic data that we had going back to 1968 on

1 enrollment characteristics, by race, racial composition
2 of schools, and -- in the school districts, and then
3 there was a sub-sample of school districts which got a
4 very in-depth survey, asking even more questions about
5 their schools, magnet schools and other schools.

6 Q Is your data set available to others?

7 A I have been giving it away whenever asked.

8 Q Have you made use of that data set in doing
9 work on this case? That is, have you derived data that
10 you used in analyses -- have you derived data from that
11 data set that you used in analyses that you did in this
12 case?

13 A I would say it's the reverse, which is that
14 data set -- which is always being updated -- uses data
15 that I used in this case.

16 Q To make sure that I understand that, the data
17 that you used in this case was obtained from sources
18 including, but maybe not limited to, the California
19 Department of Education Web site; is that right?

20 A Correct.

21 Q And you used sources in this case that
22 overlapped with sources that you use as to California
23 data in inputting data to update your large data set; is
24 that true?

25 A I think I misspoke. Now that I'm thinking

1 about it, even though I could have gone to the
2 California Department of Ed Web site to update the 600
3 school district study, I'm actually getting the data
4 from another source. The U.S. Government has --
5 collects data and keeps it on the enrollment in all the
6 schools in the U.S. It's called the common core of
7 data, CCD. And that's another Web site. That's got
8 California schools, but it's got all the schools in the
9 U.S.

10 Q So for your large data set, which was expanded
11 in 1990 to 600 school districts, you obtained data,
12 including data about California schools, from CCD?

13 A Yes.

14 Q And is it correct that, in doing the analysis
15 of data in this case, you obtained no data for that
16 purpose from your large data set?

17 A My memory is I did not.

18 Q Okay. Did you make any other use of the large
19 data set in reaching any specific conclusions in this
20 case?

21 MR. VIRJEE: Objection. Vague and ambiguous as to
22 make any other use of the data set.

23 THE WITNESS: I didn't -- I don't recall doing any
24 analysis of that data set --

25 BY MR. LONDEN:

1 analyze data specifically about California school
2 districts or education in California counties?

3 A Well, I've described to you my analysis of
4 schools and programs since 1998.

5 Q Right.

6 A So that pretty much wraps it up.

7 Q Good.

8 Now, you also said that over at least the past
9 five years, you've been analyzing data for the entire
10 state.

11 Can you tell us about the context in which
12 you've been doing that?

13 A What does "context" mean?

14 Q What has led you to do that? An article? An
15 engagement?

16 A I wanted to do it.

17 Q Okay. How have you done it?

18 A I've collected data from -- I've downloaded
19 data from the State Web site -- Web sites; the State has
20 many Web sites -- merged all these different data
21 files. I've also observed classrooms. But I've been
22 doing that, really, since 1986. And talked to teachers
23 and principals.

24 Q And what I want to understand is the occasions
25 for doing that.

1 Q Okay.

2 A -- for this case.

3 Q Now, leaving aside your consulting engagements
4 and the work you've done to update the large data set
5 over the years, are there other occasions that have led
6 you to obtain and analyze data about specific school
7 districts or counties in California?

8 A Could you repeat that question, please?

9 Q Sure.

10 You've already -- I've already asked you about
11 the list of consulting engagements on your CV, and
12 you've already told me about work you've done to update
13 the large data set over time. So I want to put those
14 aside from the scope of this question.

15 Are there other work -- is there other work
16 you've undertaken that has involved the analysis of data
17 specifically about either school districts or education
18 in counties in California?

19 A Just what I described to you.

20 MR. VIRJEE: And also, you didn't put aside
21 Williams. So you're --
22 BY MR. LONDEN:

23 Q And I'm also putting aside Williams for this
24 purpose.

25 So is there anything else that's led you to

1 You've told us about specific consulting
2 engagements on cases or otherwise. Other than those,
3 have there been specific occasions for you to observe
4 classrooms in California?

5 MR. VIRJEE: Objection. Vague and ambiguous as to
6 "specific occasions."

7 THE WITNESS: Yes.

8 BY MR. LONDEN:

9 Q Tell us about them.

10 A In connection with my writing on this issue, I
11 have visited schools and classrooms.

12 Q Where?

13 A In California?

14 Q Yeah, in California.

15 MR. VIRJEE: Any particular time frame you want her
16 to cover or any time -- any classroom at any time.

17 MR. LONDEN: Any classroom, any time.

18 Q And I'll get as specific as your memory or our
19 need takes, but give me a general description of the
20 occasions.

21 A Well, other than the consulting occasions.

22 Q Right.

23 A I have been visiting schools in San Diego
24 Unified, Oceanside, Los Angeles, San Francisco, a little
25 school district outside of Berkeley, where my -- whose

1 name I can't remember. So I think that's what I have
2 observed. Outside of the consulting.

3 Q Right.

4 When have you visited schools in San Diego
5 Unified?

6 MR. VIRJEE: Just a clarification. I think in each
7 of those she indicated in those cities. I honestly
8 don't know whether she meant just those unified school
9 districts or other school districts within those cities.

10 MR. LONDEN: Her answer was San Jose Unified. The
11 others were not specific to unified.

12 MR. VIRJEE: I appreciate that. San Diego
13 Unified. Okay, thank you.

14 BY MR. LONDEN:

15 Q When was that?

16 A Probably the spring 1999 and again in 2001.

17 Q And what was the purpose of those visits?

18 A I just want to see what's going on in the
19 classrooms, observe, look to see what language is being
20 used, what approaches are being used, talk to teachers.

21 Q Were you looking at bilingual -- at the
22 education of English learners?

23 A Yes.

24 Q And was there any other focus of your attention
25 in those visits in San Diego Unified besides the

1 A That's the title I gave them, but I believe
2 they've changed it. Well, here's the title in my vitae,
3 "Dismantling Bilingual Education: The impact of Prop
4 227 in California."

5 Q And what do you think the title for publication
6 will be?

7 A I can't remember. All I can remember is they
8 changed my title dramatically, I thought.

9 Q Okay. The observations in Oceanside, where, if
10 anywhere, have you published something that relied on
11 those?

12 A Well, both the report and that article discuss,
13 sort of summarize, those observations.

14 Q You mentioned classroom observations in Los
15 Angeles.

16 A Yes.

17 Q When were those?

18 A Spring of 1999, and then again in either 2001
19 or 2002.

20 Q And what was the focus of your attention in
21 those visits?

22 A The programs for English language learners.

23 Q And that gave information that you relied on in
24 the report and article that you've referred to about
25 English learners; is that right?

1 education of English learners?

2 A No.

3 Q Oceanside, when did you visit classrooms there?

4 A I believe it was 2001 or 2002. San Diego might
5 have been 2002 also.

6 Q And what was your purpose in visiting classes
7 in Oceanside in 2001 and 2002?

8 A Just to see what is going on in the classrooms,
9 talk to teachers, talk to principals. For English
10 learners.

11 Q For English learners.

12 Did the San Diego Unified observations provide
13 information that you used in anything you published?

14 A Yes.

15 Q And what did you publish that used the San
16 Diego observations?

17 A Well, using the word "published" loosely --

18 Q Yeah.

19 A I wrote a large report on the implementation of
20 Prop 227, and a summary of that report and its findings
21 is being published in "Education Next," which is a
22 journal, an academic journal, and it's called,
23 "Dismantling bilingual" -- I don't think that's actually
24 the new title.

25 Q You're looking --

1 A Yes.

2 Q San Francisco classroom visits, when did you do
3 that?

4 A Spring of '99 and that's it. I didn't go back.

5 Q Was that also focused on instruction for
6 English learners?

7 A Yes.

8 Q It also informed work that you did related to
9 the report and article about Proposition 227
10 implementation --

11 A Yes.

12 Q -- is that right?

13 And classroom observations in a small district
14 outside Berkeley, when were they?

15 A Spring of 1999.

16 Q Also related to English learners?

17 A Yes.

18 Q And also part of what you used to inform
19 yourself for the report and article on Prop 227?

20 A Yes.

21 Q Now, you mentioned having merged data files
22 from -- or at least including data from the CDE's Web
23 site regarding education in California for at least the
24 past five years. If I understood your answer.

25 Why did you do that?

1 A To analyze the programs for English learners in
2 the implementation of Prop 227.

3 Q Did you make use of the merged data files that
4 you created or caused to be created in the course of
5 your work on this case?

6 A Yes.

7 MR. VIRJEE: Objection. Vague and ambiguous as to
8 "make use."

9 BY MR. LONDEN:

10 Q How did you make use of those data files in the
11 course of your work in this case?

12 A I analyzed it.

13 Q What do you mean when you say you analyzed the
14 data?

15 A I statistically analyzed it.

16 Q So is it fair to say that some of the reports
17 regarding the results of regression analysis regarding
18 English learners that support your report in this case
19 were created from the merged data files you have been
20 maintaining over the past five years?

21 A Yes.

22 Q Are those data files accessible to outsiders,
23 aside from discovery in this case?

24 A There's some point at which I will make them
25 available to outsiders, but no one has asked. The data

1 other instances? It's vague and ambiguous.

2 THE WITNESS: Whenever there's an issue of
3 bilingual education in California, I generally will go
4 to that data file to analyze the issue.

5 BY MR. LONDEN:

6 Q And what occasions have there been to do that,
7 aside from the report and summary article that you've
8 told us about about dismantling -- that had at one point
9 the title "Dismantling Bilingual Education," or the
10 consulting engagements you've told us about?

11 MR. VIRJEE: Or the Williams case.

12 BY MR. LONDEN:

13 Q Or the Williams case.

14 A I'm using that data file in the Pazmino case,
15 and in the article "All That Glitters is not Gold" I use
16 that data file. In the article "Different Questions,
17 Different Answers." Actually, I don't remember if I
18 did or not. And then, you know, it's always sort of a
19 background to other articles.

20 Q Okay. I need a bathroom break.

21 A Good idea.

22 (Brief recess taken.)

23 BY MR. LONDEN:

24 Q Have there been occasions that we have not
25 described yet in which you have analyzed data about

1 is publicly -- all of it is publicly available. So I
2 think the average person would prefer to just download
3 the data themselves.

4 Q Do you have a name that you use for the merged
5 data files that you've put together over the past five
6 years regarding English learners in California?

7 A It has a file name, but I can't remember what
8 it is.

9 Q Okay. Have you made an electronic copy of --
10 or have you had someone make -- of those data files for
11 production in this case?

12 A Yes.

13 Q And did you give that copy to counsel for the
14 State?

15 A Yes.

16 Q Now, I take it you've used those data files in
17 connection with the report you did on implementation of
18 Prop 227, right?

19 A Yes.

20 Q Have there been other publications for which
21 you've used those data files?

22 MR. VIRJEE: I'm going to object again as to vague
23 and ambiguous as to "used."

24 You mean offered a statistical analysis of
25 those data files or the conclusions that she reached in

1 school districts, either individually or collectively,
2 in California?

3 A I don't know.

4 Q None come to mind right now?

5 A None come to mind. I think I've covered the
6 field, but I could easily have left something out.

7 Q I understand.

8 How did you first come to know anything about
9 this case?

10 A I received a phone call from Paul Salvaty,
11 S-a-l-v-a-t-y.

12 Q When?

13 A January or February of 2003. Maybe December of
14 2002. Sometime in the winter.

15 Q And did you talk with Mr. Salvaty about
16 possible engagement in this case?

17 A Yes.

18 Q How was that characterized in the first place
19 by him or by you, the engagement?

20 A What do you mean by characterized?

21 Q At the beginning what did you understand your
22 potential assignment to be?

23 A I was asked if I would be willing to -- he
24 described the case to me, and I asked -- I was asked if
25 I would be willing to read Kenji Hakuta's report and

1 rebut it, to the extent that I could. And also to read
2 Jeanne Oakes' report, the summary report, to see if
3 there was anything else that I thought I might be able
4 to rebut or analyze, and to write a report. And then,
5 if this goes to trial, to testify.

6 Q Okay. And you said you would be willing to
7 consider those undertakings, I take it.

8 What happened next?

9 A Yes, I said I would consider doing that. And
10 then I was sent a lot of documents. Was I sent them or
11 did I download them? Well, I may have been -- anyway, I
12 received -- somehow the -- I know I was sent -- no, I
13 think I was sent to a Web site, now that I think about
14 it. I think I was sent to your -- the plaintiffs' Web
15 site, and -- directed to the plaintiffs' Web site, where
16 I downloaded the briefs and reports, and read the
17 briefs. I might have received something in the mail as
18 well. That was the next stage.

19 And then after reading, I started analyzing
20 various issues that I thought needed to be analyzed and
21 writing about various allegations and statements that I
22 felt I could rebut. And I turned a report in.

23 Q Okay. In the course of doing your work on the
24 report, you downloaded some documents from the Web site
25 decentschools.org?

1 A I think probably because of references in the
2 Hakuta report and the Oakes report then would send me to
3 Darling-Hammond's report to see exactly what she said.

4 Q Is it fair to say that your purpose in
5 consulting Linda Darling-Hammond's report was to check
6 for the basis for statements in the Hakuta's report and
7 Oakes's summary report?

8 A More or less.

9 Q And how did you come to select the parts of the
10 Corley report that you read?

11 A I don't remember. I may have read the whole
12 report, actually, now that I think about it. So I don't
13 think I had any reason for reading it. I mean, I wasn't
14 looking for something, that I can remember.

15 Q Okay. Do you recall receiving written
16 materials created by the plaintiffs or their experts
17 from another source than the Web site?

18 A Yes. Now that you mention it. And actually,
19 as you were answering that -- asking that question, the
20 first letter triggered an image in my mind of three huge
21 three-ring binders that I received that were apparently
22 materials they had turned over to O'Melveny & Myers.

23 Q Who did you mean by "they" in that last --

24 A The plaintiffs' experts.

25 Q Can you describe the contents of the binders?

1 A Yes.

2 Q What documents did you read from that Web site?

3 A I read a lot of briefs. I don't remember if I
4 read all of them. And I think I read a few newspaper
5 articles. And I read several of the reports.

6 Q Expert reports?

7 A Yes.

8 Q Which ones do you remember reading?

9 A I read Kenji Hakuta's report. I read Jeanne
10 Oakes' summary report. I read parts of Linda
11 Darling-Hammond's report -- Hammond is H-a-m-m-o-n-d --
12 and part of Corley's report. I can't remember if his
13 name is spelled with an "E" or not. I might have read
14 parts of other reports. I think I read a little bit of
15 other Jeanne Oakes's reports.

16 Q Did you read digests or summaries, putting
17 aside Oakes' summary report as that, of any other
18 reports?

19 A Where would I have read summaries of other
20 reports?

21 Q I was really fishing around for whether someone
22 prepared summaries for you.

23 A I don't think so.

24 Q How did you come to choose the parts of Linda
25 Darling-Hammond's report that you read?

1 A It was various drafts, draft reports and things
2 written by Kenji Hakuta and other people.

3 Q What was the -- was there a common subject to
4 the materials in the binders?

5 A I don't recall.

6 Q What did you do with materials in the binders?

7 A I looked through it, and I pulled out, I think,
8 at least one study that I looked at in more detail, but
9 most of it did not look understandable.

10 Q Did the three-ring binders contain reports by
11 any experts other than Hakuta, Oakes or Hammond or
12 Corley, if it contained those?

13 A I don't remember.

14 Q So including the three-ring binders, as well as
15 the Web site, the reports you remember reading are
16 Hakuta and Oakes, part of Darling-Hammond -- let me
17 correct that. Hakuta and the Oakes summary report, part
18 of Darling-Hammond and part or all of Corley; is that
19 right?

20 MR. VIRJEE: She also testified that she may have
21 read part of the other Oakes reports.

22 THE WITNESS: Yeah.

23 BY MR. LONDEN:

24 Q But that -- so corrected, that's the list?

25 A I think so, yes.

1 Q Okay. Now, in the course of working on this
2 engagement, what lawyers have you talked with who are
3 involved in the case?

4 A Paul Salvaty, Peter Choate, C-h-o-a-t-e, and
5 then yesterday I talked to Fram, F-r-a-m, Virjee,
6 V-i-r-j-e-e.

7 Q Have you -- other than the three notebooks
8 and -- or other than the three notebooks, have you
9 gotten any written materials from the lawyers in the
10 case?

11 A I have, because I got those big three-ring
12 binders, and there may have been other things with it.

13 Q Has anyone else besides -- withdraw that
14 question.

15 Now, after you talked with Mr. Salvaty in
16 December or January about the potential engagement, did
17 you have later discussions about exactly what your
18 assignment would be with -- discussions with lawyers?

19 A Not really. Well, a little bit. And also, by
20 the way, I'm remembering now that I received some expert
21 reports on the defendants' side with materials that were
22 sent to me.

23 I had brief conversations with Paul Salvaty
24 after I would finish a draft. I would send it off to
25 him. I sent a draft off to him, and he made some

1 was going to do.

2 And I had a discussion with -- I don't think I
3 talked to Herb Walberg before I finished my report,
4 although I can't -- maybe I did. A little fuzzy on
5 that. I did talk to him, but whether it was before or
6 after my report, I can't remember.

7 Q Did Mr. Hanushek, Ms. Raymond or Mr. Walberg
8 make any suggestions that had any effect on how you did
9 your work?

10 A No.

11 Q Is this a fair description of how you went
12 about the work, that you agreed to look at the Hakuta
13 report and the Oakes summary report and decide whether
14 there were questions you thought you could meaningfully
15 address?

16 A Yes.

17 Q And then you designed and undertook some
18 analysis of data to assist you in doing that?

19 A Yes.

20 Q And you wrote a draft and sent it to
21 Mr. Salvaty?

22 A Yes.

23 Q He made some non-substantive comments, you did
24 more drafting, and completed the report?

25 A Yes, I believe so.

1 comments. They weren't really substantive, just
2 cleaning up the grammar and a few points. I can't
3 remember even what they were.

4 And I think that was -- I think I also kept him
5 informed of what exactly I was doing. I think I must
6 have called a couple of times and either left messages
7 on his voice mail or talked to him personally about what
8 I was analyzing.

9 Q Before you engaged in -- or before you
10 undertook the analysis of data for your engagement, did
11 you have a discussion with anyone about the points you
12 thought you could analyze and how you thought you would
13 go about it?

14 A Anyone?

15 Q Well, anyone who you were working with, let's
16 say.

17 MR. VIRJEE: Speaking of anybody at the -- at
18 O'Melveny & Myers? Anyone with counsel?

19 BY MR. LONDEN:

20 Q Anyone. Not your spouse or not casual, but the
21 people you were working with.

22 A Well, I talked to Eric Hanushek about what he
23 had done. And I'm not sure -- I can't remember if I
24 told him what I thought I was going to do. And I talked
25 to Margaret Raymond about what she had done and what I

1 Q Up through the time when you completed the
2 report, who had seen it, in draft or otherwise?

3 MR. VIRJEE: Calls for speculation, lacks
4 foundation.

5 BY MR. LONDEN:

6 Q That you know about.

7 A The only person I know about is Paul Salvaty.
8 Up until that point I don't believe I'd ever talked to
9 anybody except Paul Salvaty. I do know that he had some
10 other individuals read it, because he said that to me,
11 but I don't recall that he mentioned names.

12 Q Did you show drafts to any other experts or
13 colleagues before you completed the version that's been
14 submitted?

15 A No.

16 MR. VIRJEE: By experts you're referring to experts
17 designated in this case?

18 MR. LONDEN: Anybody. Designated, not designated,
19 colleagues --

20 MR. VIRJEE: Calls for speculation as to who's an
21 expert, then.

22 MR. LONDEN: Well, let me rephrase.

23 Q Other than sending a draft to Mr. Salvaty --
24 well, let me avoid an oversight here.

25 There was at least one assistant who helped you

1 on the work you did in relation to the report?

2 A Yes.

3 Q Who was that?

4 A His first name is V-i-v-e-k, and his last name
5 is M-a-n-i, Vivek Mani.

6 Q In general, what did Mr. Mani do to assist you
7 on this engagement?

8 A He helped me with Web searches for the data on
9 funding, and he helped construct some tables, those
10 tables, under my direction.

11 Q Those tables being those on funding?

12 A Yes.

13 And he formatted the printouts that appear --
14 the SPSS printouts that appear in the appendices.

15 Q Did he assist with the text, the narrative
16 text, of the report?

17 A No.

18 Q All right. Who saw -- aside from Mr. Salvaty
19 and anyone Mr. Salvaty showed the drafts to -- draft or
20 drafts to, who else, if anyone, saw the report before
21 you finalized it in the form that it's been submitted?

22 A No one.

23 Q And did anyone other than Mr. Mani assist you
24 with work you did to prepare the report?

25 A No.

1 Q Okay. What did you do to prepare for your
2 deposition today?

3 A I re-read my report, looked at various files,
4 just to refresh my memory as to how things were done,
5 and I had a meeting with Mr. Virjee yesterday afternoon,
6 in which we went over the issues in this case.

7 Q How long was that meeting?

8 A Well, he promised me it would be short;
9 however, it went until, I think, 6:00 o'clock.

10 Am I wrong?

11 MR. VIRJEE: I think 5:30, something like that.

12 THE WITNESS: 5:30 to 6:00.

13 BY MR. LONDEN:

14 Q So how many hours?

15 A Well, I think almost five hours.

16 Q Did you look at documents during that meeting?

17 A No.

18 Q And you said you looked at some files to
19 refresh yourself on the work.

20 What files did you look at in preparation for
21 the deposition?

22 A I looked at my data file, my big data file of
23 the, you know, 9500 schools in California, and I looked
24 at the Excel files that were used in the appendices on
25 State funding and State budgets.

1 Q What did you look at in the big data file of
2 9500 schools in California to prepare for the deposition?

3 A Well, I mean, I just wanted to refresh my
4 memory as to what these variables were and what their
5 label was. As I read through the report, I had a few
6 questions in my mind about what I meant by certain
7 things. So I would do a run to see what I meant.

8 Q Give me an example of the kind of run you did
9 in preparing for the deposition.

10 A Well, for example, to refresh my memory as to
11 exactly how many schools there are in California. You
12 know, I just did a descriptive. How many districts, you
13 know, I looked at one of the other files. There was --
14 there was something else I did. I'm trying to think
15 what it was.

16 Oh, I checked on one of the -- one of the
17 equations, because there's an error in the table, and I
18 just wanted to -- and in the text. And so I wanted to
19 make sure exactly where the error was. So I reran it.

20 Q Do you have the error in mind now?

21 A Well, yeah. The -- on Page 3 --

22 Q Of the report?

23 A Yes.

24 Page 3, Paragraph 3, the third sentence that
25 begins, "The percentage of poor students," should read,

1 "is significant." So you have to cross out "no
2 longer." "And the percentage enrolled in bilingual
3 education is also," and you have to cross out "not," so
4 that it reads, "is also significantly related."

5 And then if you go to Table 1, Equation 3,
6 there should be an asterisk next to .015. And if you go
7 to Table 3, Equation 3, the asterisk next to .402, which
8 is the first line in Equation 3, should be removed.

9 Q How did it come to your attention that these
10 corrections were needed?

11 A I read the report. I re-read the report.

12 Q In reading the text of the report, did you
13 notice that that sentence seemed problematic, or how did
14 it come to your attention?

15 A I looked at the table, then looked at the text,
16 and went, whoops, there's a problem here.

17 Q Okay. Does that complete a description of what
18 you did in looking at the files, the big data file of
19 9500 schools in California, to prepare for the
20 deposition?

21 A I think so.

22 Q Since you completed the report, leaving aside
23 your depo prep, what, if anything else, have you done on
24 this case?

25 A I did something about a month ago, but I can't

1 remember what. Wasn't much. I think I spent about an
2 hour on something, but I don't remember what.

3 Q Okay. Anything else?

4 A I don't think so.

5 Q As of this point, have you or has anybody else
6 identified any tasks that you expect to take on in the
7 future on this matter?

8 A No.

9 (Plaintiff's Exhibits 1 and 2 were marked
10 for identification by the court reporter.)

11 BY MR. LONDEN:

12 Q Put before you, as Exhibit 1 to this deposition
13 transcript, is a document that bears identification
14 numbers STATE-EXP-CR 0021 through 24.

15 And Mr. Virjee, if it's all right, I'll be
16 referring to identification numbers just by their
17 numbers today.

18 MR. VIRJEE: That's fine.

19 MR. LONDEN: Unless they differ from STATE-EXP-CR.

20 MR. VIRJEE: Not a problem.

21 BY MR. LONDEN:

22 Q Do you recognize this?

23 A Yes.

24 Q What is it?

25 A Well, the cover -- the first page is a fax

1 and the final page is the cover sheet, fax transmission
2 cover sheet.

3 Q Between Exhibits 1 and 2, do we have the dates
4 and amount of time and amount of charges for all the
5 work that you and your assistant did through April 27th
6 on this matter?

7 A Yes.

8 Q And have you submitted a bill for work done
9 since April 27?

10 A Yes.

11 Q Do you remember the approximate amount of
12 the -- in dollars of the bill?

13 A It was very small, maybe 500 or a thousand.

14 Q And does the total -- that, when added to the
15 amounts in Exhibits 1 and 2, constitute everything for
16 which you've billed on this matter up to the recent
17 deposition prep work?

18 A Yes.

19 Q Everything for which you billed in this matter,
20 period.

21 A Yes.

22 Q Okay. In the course of working on this
23 engagement, did you undertake any data analyses that you
24 did not refer to in your report?

25 A I don't think so.

1 cover page from me to Joe Egan, and the second page is
2 my log of time and what I did. The third page is my
3 research assistant's time sheet, and the fourth page is
4 my research assistant's time sheet.

5 Q Could you look at the document that's been
6 marked Exhibit 2 to this transcript, which bears I.D.
7 880 through 884, and tell me whether you recognize it.

8 A (Witness reviews documents.)

9 By the way, I see that the facsimile
10 transmission cover page for Exhibit Number 1 has got an
11 old date on it that's incorrect.

12 Q October 22, 1996, is not right?

13 A No.

14 Q Okay.

15 A I have no idea why that date even appears
16 there. Supposed to be blank.

17 Q Now, have you seen Exhibit 2 before? And for
18 that purpose, you can disregard the handwriting below
19 the signature block on the first page.

20 A Yes.

21 Q What is it?

22 A The first page is my letter to Joe Egan, with
23 my bill, and the second page is a log of my time, and
24 the third page is my research assistant's time sheet and
25 the fourth page is my research assistant's time sheet

1 Q I want to show you and identify for the record
2 and ask a few questions about some printouts of data
3 runs that we received in discovery.

4 And as background to that, could you tell us
5 how it was that you came to provide the State's lawyers
6 summary printouts with regard to analysis, other than
7 the tables in your report? How did you pick them?

8 A How did I pick them?

9 Q How did you decide to produce -- let me try to
10 be cleaner with the question.

11 We received some runs -- let me start with
12 specific and then work to general. So question
13 withdrawn.

14 (Plaintiff's Exhibit 3 was marked for
15 identification by the court reporter.)

16 BY MR. LONDEN:

17 Q Our reporter has placed before you a document
18 marked as Exhibit 3 to this deposition, which consists
19 of documents bearing I.D. numbers 0064 through 0095.

20 Do you recognize this?

21 A I'm a little confused by the file name at the
22 bottom and what's at the top as well. So I don't -- I
23 really can't say for sure if it's mine, but it looks
24 like it is.

25 Q In my experience, it sometimes happens that

1 documents that are communicated electronically may be
 2 printed out for production purposes and that process may
 3 create headers and footers. So I'd like you to
 4 disregard the headers and footers that I guess you don't
 5 recognize, and ask if this appears to you to be a
 6 document that describes anything you did.

7 A It looks like the backup for my regression
 8 analyses.

9 Q Can you tell by looking at the -- well, first,
 10 can you describe how this type of document is generated
 11 by the software you use?

12 MR. VIRJEE: Objection. Vague and ambiguous as to
 13 how it's generated.

14 THE WITNESS: Well, when you do a statistical
 15 analysis, a printout is automatically produced. It's
 16 called output.

17 BY MR. LONDEN:

18 Q Is that what this is? Is that what this
 19 appears to be?

20 A Yes, it appears to be that.

21 Q And you use SPSS?

22 A Yes.

23 Q Is this the format typical of an SPSS output
 24 printout?

25 A It looks like it, yes. I actually don't print

1 them out anymore. So it's -- I haven't seen one printed
 2 out in a long time, but it looks pretty much like it.

3 Q Did you provide in an electronic medium the
 4 contents of the output from some or all of your
 5 statistical runs --

6 A Yes.

7 Q -- to the lawyers?

8 A Yes.

9 Q How did you do that?

10 A I e-mailed it to them. No. Did I e-mail it?
 11 I might have just put it on a CD and FedExed it. One or
 12 the other.

13 Q Now, there are several of these. So I'm going
 14 to ask you questions about this one, so that I
 15 understand the format. But my questions go to the
 16 format rather than specific contents right now.

17 Under the title "Regression," there is a table
 18 which bears the title "Descriptive Statistics." The
 19 left column includes a list of titles, the first of
 20 which is, "READ01NP EL studs reading nce 01."

21 What does that describe?

22 A This is the reading achievement score for EL
 23 students in the spring of 2001.

24 Q Is it fair to say that each of the titles in
 25 that column describes a data set?

1 A No.

2 Q How would you describe this column?

3 A Column? Oh, I'm sorry.

4 Q How would you describe the -- what do the
 5 titles in this column tell us? It's a listing of what?

6 A On the left, in the first column are the
 7 variables, and then the average for each one of those
 8 variables, which has the column heading "Mean." And
 9 then the standard deviation for each one of those
 10 variables, and then the column labeled "N" is the sample
 11 size.

12 Q The first row designates students' scores on a
 13 test in '01?

14 A Yes.

15 Q And the second is students' scores on a test in
 16 1999-2000?

17 A Correct.

18 Q What was the source of those data?

19 A The STAR data files that are on the California
 20 CDE Web site.

21 Q What is the data unit that's reported in those
 22 files, the files that were used as inputs to this
 23 regression?

24 A Well, the unit of analysis is schools,
 25 although, for example, the achievement is broken down

1 into subgroups for a school.

2 Q The data that was used to generate the mean
 3 23.36 had schools as the unit of analysis?

4 A It had English learners in a school as the unit
 5 of analysis.

6 Q Okay. So English learners as a group in the
 7 school, and the data reported for that group in the
 8 school was what?

9 A The average was 23.36 across all the schools.

10 Q Across all the schools.

11 A Oh, the data --

12 Q Per each unit --

13 A -- for each school.

14 Q Yes.

15 What was reported?

16 A The average.

17 Q So the first line represents the mean across
 18 all schools, a collection of data for which the units
 19 for that line were each average NCE reading score for
 20 '01 for students classified as English learners; is that
 21 correct?

22 A Well, the grammar in that sentence is a little --

23 Q I tend to do that.

24 A -- odd, and I will use my own sentence, which
 25 is --

1 Q Please do.
 2 A -- that this is -- in each school, it is the
 3 average -- for example, the first line -- reading
 4 achievement for English learners.
 5 Q And in the second line, the designation is
 6 99-2000.
 7 Why did you select that set of data for use in
 8 this analysis?
 9 MR. VIRJEE: That particular year, 99-2000, or are
 10 you asking about all the data in the descriptive
 11 statistics?
 12 MR. LONDEN: I'll put it differently.
 13 MR. VIRJEE: I'm sorry.
 14 BY MR. LONDEN:
 15 Q You were looking at a comparison of scores in
 16 one year to scores in another year; is that right?
 17 A Well, I was predicting the 2001 score from the
 18 2000 score and other characteristics of the score.
 19 Q "PCEL01," what does that designate?
 20 A The percentage of English learners in that
 21 school -- the percentage of students who are English
 22 learners in that school in spring 2001.
 23 Q And what was the source of that data?
 24 A The California Department of Ed Web site.
 25 Q Do you remember more specifically where in the

1 Q Let's take the line we're looking at, "PCBIL01,
 2 percentage bilingual ed 00-01."
 3 That is a listing of specific schools'
 4 percentages bilingual students to number of students in
 5 the population in the year -- academic year 2000-2001,
 6 right? School by school.
 7 A The unit of analysis is the school.
 8 Q All right. In doing the regression analysis to
 9 generate the equations and apply the statistical tests
 10 done with this regression, is there any consequence --
 11 withdraw the question.
 12 This descriptive statistics table reports
 13 averages and standard deviations based on the sample
 14 size, "N," for each of these line items, right?
 15 A Yes.
 16 Q And each of these line items -- the standard
 17 deviation that's reported for each of these line items
 18 is calculated based on that line item alone and not any
 19 interaction or comparison with any other line item in
 20 this table, right?
 21 A Right.
 22 Q Table that's below it is entitled "Correlations."
 23 Can you give us a general description of what
 24 this table tells us?
 25 A It tells us the correlations of each of the

1 Web site that data come from?
 2 A Well, it is the demographic section.
 3 Q Demographics.
 4 The next line is "PCBIL01 percentage bilingual
 5 ed 01-02."
 6 What does that information represent?
 7 MR. VIRJEE: 00-01, you mean?
 8 BY MR. LONDEN:
 9 Q I'm sorry, I misspoke, 00-01.
 10 What does that designation mean?
 11 A The percentage of English learners that are
 12 enrolled in bilingual education in a school.
 13 Q In doing the analysis that's represented here,
 14 were the data that relate to particular schools in
 15 different lines of this chart -- I'll use a
 16 non-technical term -- identified by school across
 17 categories in the chart?
 18 Is that question clear?
 19 A No, it isn't.
 20 Q Did this analysis involve a school-by-school
 21 comparison of the various attributes per school for the
 22 same school?
 23 MR. VIRJEE: Objection. Vague and ambiguous. I
 24 don't understand it either.
 25 BY MR. LONDEN:

1 variables. It tells us the -- each cell is basically
 2 the correlation of the variable in the column heading
 3 with the variable and the row heading. The extent to
 4 which the two co-vary.
 5 Q Now, you mentioned, I think, that this type of
 6 report is automatically generated by SPSS -- or was
 7 automatically generated by SPSS as a result of the
 8 inputs that you ran; is that right?
 9 A Yes.
 10 Q Did you do anything to tailor the format of the
 11 report to the specific analysis you were using?
 12 A No, but you know, I don't think this is -- now
 13 that I'm looking at this, I don't think this is the
 14 right output.
 15 Q We haven't gotten to that yet.
 16 A Okay.
 17 Q I'm just talking about the type of output. I
 18 will attempt to match up some outputs to tables, but
 19 first I wanted to understand what's in the outputs.
 20 And my question is -- and let me just see if
 21 you can answer it generally. In the course of your work
 22 on this case, did you do anything to tailor the
 23 regression outputs to specific analysis? By which I
 24 mean to distinguish -- withdraw the whole thing.
 25 The format and contents of this report, I take

1 it, resulted in the default settings to SPSS to generate
2 an output report?

3 A Yes.

4 Q Okay. So this is not a report that you
5 designed; it's a report that you got from SPSS?

6 MR. VIRJEE: Objection. Vague and ambiguous as to
7 "designed."

8 THE WITNESS: I think so, although -- the word
9 "regression" in here has me a little puzzled, and I
10 don't recall seeing that in SPSS printouts, but maybe,
11 you know, because I always look at it on the screen, I
12 just overlooked that title.

13 BY MR. LONDEN:

14 Q Is there something inappropriate about the
15 title or puzzling, or you just don't remember seeing it?

16 A I don't remember seeing it, which makes me
17 wonder if this was formatted by my research assistant.
18 You know, things look different on the screen than they
19 do in black and white.

20 Q Now, this table of correlations between the
21 factors on the top and the factors on the side --
22 variables on the top and the variables on the side, did
23 you make use of such correlations as the basis for
24 forming opinions in your work on this case?

25 A I don't think so. I mean, I pretty much relied

1 A Yes.

2 Q Is that meaningful to you, "significance
3 (1-tailed)"?

4 A Well, I mean, it means something to me, yes.

5 Q What does it mean?

6 A Well, it simply means that the zone of
7 rejection is only on one side of the normal curve, so
8 that a correlation is more likely to be significant at a
9 given level. When you know the direction of the
10 relationship, usually you choose a one-tailed test,
11 because you're more confident of the way it's going to
12 go.

13 Apparently, the default for SPSS regression for
14 correlations is a one-tailed test.

15 Q What does it tell you in this table there's
16 only one cell with a non-zero value?

17 A That these are all statistically significant.

18 Q Did you make any use of the one-tailed
19 significance factors in doing any of the analysis -- not
20 this table specifically, but one-tailed significance of
21 correlations between the variables?

22 A Not really. I mean, I can't recall of any.

23 Q Okay. On the third page of this exhibit there
24 is what appears to be a continuation of the chart with
25 "N" reported, "N" appearing in the left column.

1 on the regression.

2 Q The title on the left column on the first page
3 is "Pearson Correlation."

4 A Yes.

5 Q What's that?

6 A Oh, that's a -- just a simple correlation
7 between two variables. It's named after a statistician
8 named Pearson. And it is the extent to which two
9 variables co-vary. It ranges from zero to 1.0 and zero
10 to minus 1.0.

11 Q And what would 1.0 tell you?

12 A That the two co-vary perfectly, that for every
13 standard unit change in one variable, there's a standard
14 unit change in the other.

15 Q And zero would mean that there's no coincidence?

16 A There's no co-variation at all.

17 Q Okay. On Page 2, this appears to be a
18 continuation of the correlations table.

19 Is that the way it looks to you?

20 A Yes.

21 Q And the left column says S-i-g, period.

22 Does that appear to be the abbreviation for
23 "significance"?

24 A Yes.

25 Q Parentheses, "1-tailed"?

1 Does that mean that each of the cells reports
2 the set size, number of data units reported for each of
3 the variables?

4 A Yes.

5 Q All right. The next table says, "Variables
6 Entered/Removed (b)."

7 What, if anything, do you understand from this
8 table?

9 A Well, it just tells me the variables that are
10 in my equation.

11 Q So this is a printout, in effect, that reflects
12 what variables were -- that the program ran, if you will?

13 A Yes.

14 Q And this report means -- shows us that none of
15 the variables were removed for purposes of the
16 regression analysis that's reported here?

17 A Correct.

18 Q And the method says "Enter."

19 What does that mean?

20 A Well, it means that I used a procedure in which
21 I force all the variables into the equation, as opposed
22 to other techniques in which you can let the computer
23 choose for you which variables should go in.

24 Q Can you describe some of the other techniques?

25 A Well, there's step-wise, which is the most

1 common, forward step-wise, in which the computer looks
2 at the strength of a variable and decides whether or not
3 it should go into the equation. There's backward
4 step-wise, where the computer puts all the variables --
5 or the statistical program puts all the variables into
6 the equation and then takes them out, based on their
7 relationship, standard errors, other issues.

8 There are a couple of other ways of entering,
9 but I don't recall them right now.

10 Q In your work in general, do you on some
11 appropriate occasions use step-wise or forward step-wise
12 or backward step-wise?

13 A No.

14 Q Enter is the method that you always use on
15 SPSS?

16 A Yes.

17 Q The next table on the next page is model
18 summary. It's entitled "Model Summary."

19 What does this table tell us?

20 A It tells us the correlation of all the
21 variables to the independent variable and the extent to
22 which the independent variables explain change in the
23 dependent variable, which in this case, is reading in
24 '01 for English learners. And it also tells us how much
25 these variables explain of the dependent variable when

1 A Well, it depends, I think, on what it is you're
2 trying to say or do. So you know, in an ideal world
3 you'd want them to be completely independent, but there
4 are times when you tolerate a lack of independence
5 because it's not that important to you that they be
6 independent.

7 Q For purposes of interpreting the results of
8 this kind of linear regression analysis, how do you
9 decide whether you care or not about the independence of
10 the variables that are called independent variables?

11 A Well, if, for example, one of your variables
12 was not -- the only problem there ever is with -- well,
13 pretty much the only problem with a lack of independence
14 or what we might call multicollinearity, the only
15 time -- multicollinearity basically affects your -- the
16 statistical significance of the variables. It has very
17 little effect on the strength of the relationship.

18 And there may be times when it's not that
19 important whether or not a variable is statistically
20 significant or not you're after. You're in favor of
21 explaining a particular -- you want to explain a
22 particular dependent variable, and there are some
23 substantive reasons why you want to keep these variables
24 separate rather than, say, combine them in an index.
25 And so people will tolerate some multicollinearity.

1 we penalize it for the fact that there are a lot of
2 variables, for the number of variables.

3 And then the standard error of the estimate is
4 an estimate of the amount of errors there is in this
5 prediction.

6 Q When you say explain, what does that mean in
7 this context?

8 A Well, it means that we have been able to
9 measure the extent to which the independent variables
10 co-vary with the dependent variables all together.

11 Q When you call it independent variables, why do
12 you use the word "independent"?

13 A Well, that is the custom. A basic assumption
14 of regression analysis is that the variables are
15 independent of each other. And we use the word
16 independent variables.

17 Q And why is it assumed that the set of variables
18 that are called independent variables are independent of
19 each other?

20 A Well, the statistics that are used assume that
21 they're independent, because the estimate is for each
22 variable controlling for the other variables.

23 Q Is it problematic if the variables that are
24 called independent variables are not, in real life,
25 independent?

1 Q You just referred to the strength of a
2 relationship.

3 And for that purpose you look to the R-squared
4 statistic?

5 A Well, the R-square statistic tells you how much
6 the independent variables explain of the dependent
7 variable. So it gives you a sense of the importance of
8 the equation, an explanatory power of the equation. And
9 so that would be one instance where you would tolerate
10 multicollinearity, because you want to explain a
11 particular dependent variable. You might.

12 Q Now, just looking at this particular document
13 and the "Variables Entered" chart we just looked at, the
14 table -- the cell under the heading "Variables Entered"
15 shows us all the -- the whole list of variables, right?

16 A I'm sorry?

17 Q The variables entered are those listed in the
18 cell of the chart under "Variables Entered," right?

19 A Yes.

20 Q And of those variables, the dependent variable
21 is "READ01 NP EL students reading nce 01," right?

22 A Yes.

23 Q So for labeling purposes in this analysis, the
24 other variables are the independent variables, right?

25 A Sorry, would you ask me that again?

1 Q Yeah.
 2 The table shows that a list of variables are
 3 entered, and one of them is the dependent variable; that
 4 is, the "READ01 NP" --
 5 A Where are we? I'm lost.
 6 Q The third page of the table.
 7 A Yes.
 8 Q The third page of the chart is the table that
 9 says "Variables Entered/Removed (b)." And there's a
 10 cell that contains a list of all the variables entered,
 11 and then another cell at the bottom of that particular
 12 chart which identifies the dependent variable.
 13 With me so far?
 14 A Yes.
 15 Q I'm simply trying to say --
 16 A We're now on the same page.
 17 Q Okay. I'm simply trying to confirm that the
 18 variables in the "Variables Entered" list, other than
 19 "READ01 NP" -- that is, the one that's called the
 20 dependent variable -- are the independent variables, or
 21 they're the ones labeled as the independent variables,
 22 right?
 23 A I think I need lunch. The variables in the row
 24 labeled "1" are the independent variables, and the
 25 variables three rows down -- the variable three rows

1 A Yes.
 2 Q Did you create a copy of the data sets or the
 3 data that you used in doing the regression analyses in
 4 your report?
 5 A Yes.
 6 Q And conveyed a copy to the State's counsel to
 7 produce to us?
 8 A Yes.
 9 Q If we wanted to find the data underlying this
 10 variable, "READ0 NP EL students reading NCE 01," how
 11 would we do that?
 12 A You'd look at the data file I gave you.
 13 Q And what would we look for? What label or --
 14 A It would have the same variable label.
 15 Q Okay.
 16 A Variable name and label.
 17 Q So what appears in this table in the left
 18 column, descriptive statistics, are names of files we
 19 should be able to find on the electronic production of
 20 data that you used?
 21 A Not files, variable names.
 22 Q Variable --
 23 A Variables.
 24 Q -- names.
 25 So a variable within a file will have this name?

1 down, labeled "Dependent Variable" is the dependent
 2 variable. I hope I've answered your question.
 3 Q You have. Thank you.
 4 MR. LONDEN: Off the record for a second.
 5 (Lunch recess taken from 11:58 a.m. to
 6 1:10 p.m.)
 7 BY MR. LONDEN:
 8 Q Dr. Rossell, I'm still looking at the document
 9 we've marked as Exhibit 3.
 10 MR. VIRJEE: Sorry, what page, Jack?
 11 MR. LONDEN: I'm back on the front page.
 12 MR. VIRJEE: Okay.
 13 BY MR. LONDEN:
 14 Q The title in the first row of that descriptive
 15 statistics column, the capital letters, "READ01 NP."
 16 A Yes.
 17 Q Is that the title of a file that you created?
 18 A No, it's the title of a variable.
 19 Q Is there a file where the data was recorded in
 20 some medium that defined the individual points that were
 21 taken into account in the regression in this --
 22 A Yes.
 23 Q -- analysis?
 24 And was that data recorded in a data set that
 25 has a name?

1 A Yes.
 2 Q And that should be true of each of the names in
 3 the regression descriptive statistics tables?
 4 A Yes.
 5 Q Okay. Do the STAR data files that you
 6 used -- strike that.
 7 Are the STAR data files that you used all files
 8 that are available to the public?
 9 A Yes.
 10 Q And those files include reading Stanford 9
 11 exams separately from math Stanford 9 exams?
 12 A They're in the same file, but they're separate
 13 variables.
 14 Q I see.
 15 The "N," the number of data points for this
 16 particular descriptive statistic table, is 4,769, right?
 17 A Yes.
 18 Q And it's the same -- that's the same number for
 19 every variable.
 20 Am I correct in understanding that you used for
 21 this purpose schools for which there was a reported data
 22 point for each of the variables?
 23 A Correct.
 24 Q And what did you do --
 25 MR. VIRJEE: For each of the variables, meaning

1 collectively?
 2 MR. LONDEN: In this table.
 3 MR. VIRJEE: Not each individually, but
 4 collectively.
 5 Vague and ambiguous, I believe.
 6 BY MR. LONDEN:
 7 Q The 4,769 number there reflects how many
 8 schools for which you had each variable that's listed in
 9 the descriptive statistics chart, right?
 10 A Data for each variable, yes.
 11 Q Data for each variable.
 12 A Yes.
 13 Q And the total number of schools in the data
 14 file was larger than 4,769; is that right?
 15 A Yes.
 16 Q How did you pick the 4,769?
 17 A I did not. The computer -- the statistical
 18 program did it.
 19 Q And how did it do it?
 20 A It had to have data for every one of those
 21 variables.
 22 Q So am I right that in the data set that
 23 contained a larger number of schools, the statistical
 24 software searched for schools that had a data point for
 25 every one of these variables?

1 A A value, yes.
 2 Q Data value.
 3 And if there's a value for every one of these
 4 variables, it's included in the 4,769 data units?
 5 MR. VIRJEE: I'm going to object. Asked and
 6 answered, Counsel.
 7 THE WITNESS: Schools, yes.
 8 BY MR. LONDEN:
 9 Q Did you do anything to consider or analyze what
 10 schools were in and what were out of that process of
 11 inclusion?
 12 A No.
 13 Q Am I right that -- withdraw that.
 14 The tool multiple regression is not the only
 15 statistical analytical tool that exists, right?
 16 A Well, it's the workhorse of the social
 17 sciences. It's the most common one. But it's not the
 18 only one.
 19 Q Give me some examples of other techniques.
 20 A Well, if I had a -- there's something called
 21 hierarchical linear model, in which you try to --
 22 although it uses regression techniques, in which you
 23 nest schools inside larger units. I suppose I could
 24 have done analysis of co-variance, but that would have
 25 limited how many variables I used. Cross tabs are

1 unwieldy, and a chi score analysis are unwieldy with as
 2 many variables. I'm not even sure how you'd do it.
 3 So for these variables, I really can't think of
 4 any reasonable approach other than hierarchical linear
 5 models and -- because the others would just be too
 6 unwieldy, too hard to interpret, too -- it just wouldn't
 7 be right.
 8 Q On this first descriptive statistics table, do
 9 you see "EL EM 01," elementary school 00-01, and the
 10 mean is .65.
 11 Am I right that this is either a one or a zero,
 12 depending on whether it's an elementary school or not?
 13 A Yes.
 14 Q And .65 means that 65 percent of the schools in
 15 the 4,769 were elementary schools?
 16 A Yes.
 17 Q Why did you include that variable?
 18 A Elementary schools tend to have higher
 19 achievement than secondary schools. Achievement tends
 20 to go down with the grades.
 21 Q And with this analysis you're looking to
 22 predict the 2001 reading scores from the other
 23 variables, right?
 24 A Correct.
 25 Q And the elementary school variable is either a

1 one or a zero, depending -- it's a one if it's an
 2 elementary school, it's a zero if it's not.
 3 How does that assist you -- how does that
 4 affect the analysis of prediction of the variable; that
 5 is, the 2001 reading score?
 6 A Well, you take the coefficient for elementary,
 7 and you have that coefficient if it's an elementary
 8 school. If it isn't, it's zero, and so it drops out of
 9 the solution of the equation.
 10 Q Do you see the chart, "Coefficients," on the
 11 fourth page?
 12 A Yes.
 13 Q This is a chart that refers to the same
 14 analysis that's described in the descriptive statistics
 15 table we've been looking at, right?
 16 A Yes.
 17 Q What do the coefficients on the same row to the
 18 right of elementary school 2000-2001 tell you?
 19 A If you're in elementary school, you'll have
 20 reading achievement 3.6 points higher than if you're not.
 21 Q Which, as you say, is consistent with saying
 22 that scores go down as students move from elementary
 23 into higher levels?
 24 A Yes.
 25 Q Does it tell you anything else?

1 MR. VIRJEE: Does this particular --
 2 MR. LONDEN: Yeah.
 3 MR. VIRJEE: -- coefficient tell you anything
 4 else?
 5 THE WITNESS: No. Not that I'm aware of.
 6 BY MR. LONDEN:
 7 Q Now, I -- as I understand this analysis, you
 8 used all of the values for all of these variables
 9 throughout their whole scale from zero percent to a
 10 hundred percent, right?
 11 A I analyzed the data that I received, yes, and
 12 there's a fairly full range for every one of these
 13 variables.
 14 Q What do you mean by a fairly full range?
 15 A Well, you know, there's variation.
 16 Q Are you familiar with linear model statistical
 17 analysis that focuses on only part of a given range
 18 rather than the whole range from one to zero? Are you
 19 familiar with that technique?
 20 A One to zero? Rather than one to zero?
 21 Q 1.0 to 0.0 as an expression of a full range of
 22 values.
 23 Have I lost you?
 24 A Yes.
 25 Oh, you mean the range of -- are we talking

1 correlations, the range of zero to --
 2 Q No.
 3 The analysis that's described here looks at
 4 what are called the independent variables, and uses them
 5 to predict a linear pattern for the dependent variable,
 6 here the EL students' reading in 2001; is that right?
 7 A Yes.
 8 Q And that predictive line is a line for all, I
 9 guess, possible values of the reading score, right?
 10 A The predicted line is a prediction of what
 11 these variables explain, and you can solve it -- you can
 12 solve that line or that equation for various
 13 characteristics.
 14 Q Right.
 15 And in this case you're solving it for the
 16 reading score of EL students in 2001?
 17 A You're right.
 18 Q And you're solving it for all possible values;
 19 that is, all scores from zero -- that's not a meaningful
 20 question.
 21 The R-squared is a measure of the fit of that
 22 generated line as compared to the actual data points in
 23 all of them, right?
 24 A Yes.
 25 Q Are you aware of techniques to test the fit of

1 only part of the distribution of the predictive variable?
 2 A No, I don't think so. I might be, but I
 3 don't -- nothing comes to mind.
 4 Q Is that a technique you've used in your own
 5 work before?
 6 A No.
 7 Q There are some relationships that are not -- in
 8 the real world that are not linear, right?
 9 A Right.
 10 Q Are you aware of statistical tests that are
 11 used when one expects the relationship not to be
 12 linear?
 13 A There are things you can do to the data, yes.
 14 Q Such as?
 15 A You can do a logarithmic transformation, which
 16 basically pulls the range in, because the range is too
 17 extreme otherwise. Or has -- the range is affected by
 18 some extreme cases. You can convert your variables into
 19 dummy variables.
 20 I suppose these variables could be converted
 21 into -- and maybe this is the question you were
 22 asking -- into dummy variables, where you test the
 23 effect of the range, let's say, on a zero to 30 and then
 24 the effect of the range 31 to 60 and the effect of the
 25 range 61 to a hundred, something like that. Or just --

1 you know, the dummy variable elementary or not.
 2 Q In the real world, for English language
 3 learners, we hope that they will catch up and be
 4 indistinguishable from others, at least on the basis of
 5 their language ability, right?
 6 A Right.
 7 Q Now, is it fair to say that one implication of
 8 that hope is, at high ends of an achievement scale, we
 9 would not expect to see as much variation in scores on
 10 the basis of language ability --
 11 MR. VIRJEE: Objection. Vague -- are you done?
 12 MR. LONDEN: No.
 13 Q -- as compared to the low end of the
 14 achievement scale?
 15 MR. VIRJEE: Objection. Vague and ambiguous.
 16 THE WITNESS: I don't even understand the question.
 17 BY MR. LONDEN:
 18 Q Well, one of the things that this analysis does
 19 is try to predict a correlation between English learner
 20 status and expected percentage score on the 2001 reading
 21 test, right?
 22 A Their score, yes.
 23 Q And what one would expect is -- or fear, maybe,
 24 is a greater degree of variation on the achievement
 25 score proportionate to that score on the lower end of

1 the scale than on the high end of the scale?
 2 Am I getting the question across?
 3 MR. VIRJEE: Same objection. Vague and ambiguous.
 4 THE WITNESS: I don't even know what the question
 5 is.
 6 BY MR. LONDEN:
 7 Q That's all right.
 8 Well, do you think there is a linear
 9 relationship in the real world between English language
 10 ability and the results measured by the reading test?
 11 A What's your measure of English language
 12 ability?
 13 Q The test.
 14 A So is the test linearly related to the test?
 15 Q No, no. I understand -- it is -- I understand
 16 there's a problem in the question. I'll put a different
 17 question to you. I can come back to it. I'll try
 18 something else --
 19 A Okay.
 20 Q -- in a different context.
 21 You mentioned some other tools besides linear
 22 regression.
 23 Did you use any of those tools in any of the
 24 work you did in this -- on this report?
 25 A No.

1 Q On this particular table, the first variable is
 2 a percentage?
 3 A What are we talking about?
 4 Q The first page, descriptive statistics, EL
 5 students reading NCE 2001.
 6 A Well, it's a -- it's an NCE converted to a
 7 national percentile score. So it more or less -- I
 8 mean, we can think of it, in a colloquial sense, as the
 9 equivalent of a percentage on a scale that goes from
 10 zero to a hundred.
 11 Q And the same is true of the next variable,
 12 right?
 13 A Yes.
 14 Q And the third variable is a percentage?
 15 A Yes.
 16 Q So is the fourth, the fifth --
 17 A Yes.
 18 Q -- and the sixth?
 19 A Yes.
 20 Q The next is total enrollment 2000-2001?
 21 A Right.
 22 Q That's a head count?
 23 A Right.
 24 Q What are you looking for, analytically, by
 25 including that variable?

1 A Larger schools tend to have lower enrollment --
 2 excuse me, lower achievement.
 3 Q And that generated a significant result in this
 4 analysis, according to the coefficient table on the
 5 fourth page?
 6 A Yes.
 7 Q What do we know about that from this analysis
 8 under the coefficients?
 9 A Smaller schools are better.
 10 Q 1.2 percentage points difference on the test?
 11 A No, no.
 12 Q What does it tell us?
 13 A One-tenth of one percent. One-tenth of one
 14 point.
 15 Q I'm sorry.
 16 That's what the minus -- you know that from the
 17 minus "1.232 E-03"?
 18 A Right.
 19 Well, what did you just say? You know it
 20 from --
 21 Q What tells you that?
 22 A Okay. "E-03" means you need to move the --
 23 that scientific notation, it means you need to move the
 24 decimal point over three places to the left.
 25 Q Okay.

1 A Let me just see the range of my dependent
 2 variable.
 3 Actually, it's even smaller than one-tenth of
 4 one point. Excuse me.
 5 Q And when you said you wanted to look at the
 6 range of your dependent variable, why did you do that?
 7 A Well, because that tells you what the
 8 coefficient means. So I went and I looked -- not the
 9 range, but just the number. I was thinking in -- that
 10 it was a percent -- I mean, a decimal, a fraction.
 11 Q Does the range of the dependent variable have
 12 any importance in understanding the R-squared score?
 13 A It can.
 14 Q Under what circumstances?
 15 A Well, if you don't have -- if you have a very
 16 small range, your R-square will tend to be smaller.
 17 Q And this particular table does not tell us the
 18 range of the EL students' scores in '01; does it?
 19 A No.
 20 Q Is that something that you looked at in the
 21 course of your -- of any of your analysis of the
 22 regression results?
 23 A Well, you know, I'm sort of generally familiar
 24 with the range.
 25 Q As you were going over these results, did you

1 do anything to consider whether there was an impact on
2 R-squared scores from the range of dependent variables?

3 A Well, there's only one dependent variable.

4 Q I meant in the several regressions. I'm
5 sorry.

6 A I don't really know what I -- what you mean by
7 look at. I mean, I -- I can't change my data.

8 Q An example that would be within what I meant by
9 look at is, for example, to take a plot, showing the
10 dependent variables, and consider the range and think
11 about whether that has an impact in itself on the
12 R-squared.

13 A No, I didn't look at that.

14 Q Did you generate charts that plot the data
15 points for these data used in the regression analysis
16 you did?

17 A I don't recall doing that.

18 Q Now, take Exhibit 3 and just walk through it.
19 Hopefully quickly.

20 We got as far as the -- in walking through it
21 before, we got as far as the table Model Summary, I
22 think, at the top of the page that has identification
23 number 0067 on the top. I want to ask you about the
24 following chart, ANOVA.

25 What does ANOVA stand for?

1 square for the residual.

2 Q The next chart is coefficients.

3 What do -- what does the heading
4 "Unstandardized Coefficients" mean?

5 A It means that this is the simple relationship
6 between the dependent variable and a particular
7 independent variable, holding the other variables
8 constant.

9 Q So in the "B" column we'll see units, maybe
10 with scientific notation, of one to a hundred points --
11 points on a scale of one to a hundred on the reading
12 test given this dependent variable, right?

13 A Yes.

14 Q And what does the standard error column tell us?

15 A That's the average error between each data
16 point and the prediction line.

17 Q What does the "Standardized Coefficient"
18 heading mean?

19 A That's a -- it's a coefficient similar to the
20 Pearson correlation coefficient, except in this case
21 it's that particular variable holding the others
22 constant. So it's standardized. And I believe the
23 equation is the standard deviation times the "B"
24 coefficient of "X" divided by the "B" coefficient of
25 "Y."

1 A Analysis of variance.

2 Q And what does this chart tell us?

3 A It tells us how -- it's basically a test of the
4 goodness of fit of the equation. It tells us that this
5 equation is significant.

6 Q What's the sum of the squares mean as a test?

7 A It's -- and I don't recall the exact formula,
8 but it's basically the sum of the squared residuals, the
9 error from your prediction line.

10 Q And DF?

11 A That's the degrees of freedom, which is, I
12 believe, the sample size -- excuse me, for the
13 regression it will be the number of variables minus one.

14 Q And the mean square?

15 A I don't recall the formula for that.

16 Q What does it tell us?

17 A Well, in this particular instance, it doesn't
18 tell us much. The only -- really, the only important
19 variable -- I mean, excuse me, the only important cell
20 is the final column, which is, in this equation,
21 statistically significant.

22 Q What is the "F" statistic that's listed there?
23 What is that about?

24 A The "F" statistic is the -- I believe it's the
25 mean square for the regression divided by the mean

1 Q The T-square, what is that? Or the "T" number.

2 A That's the ratio of "B" to the standard error.

3 Q The first line is "Constant."

4 What does that mean, or how are those values
5 generated?

6 A Well, that's what you get if all the variables
7 are zero. It's also known as the point at which the
8 regression line crosses the "Y" axis or the value of "Y"
9 when "X" is zero.

10 Q Okay. What does the number .756 next to the
11 reading score for English language learners in 99-2000
12 tell you?

13 A That for every change of one unit in the
14 dependent variable -- excuse me, for every change of one
15 unit in the independent variable, there's a .756 change
16 in the dependent variable.

17 Q So the higher the scores for that school for EL
18 students on the 99-2000 SAT 9 reading test -- for each
19 point higher on that, there's a .756 predicted increase
20 on the same test for the year 2001?

21 A No.

22 Q What did I -- was there an error in my
23 statement of the description?

24 A It just didn't sound right to me.

25 Q Okay. Let me ask a different question.

1 The students whose scores are reflected in the
 2 99-2000 data are students from the same school but in a
 3 different year of school than the students reflected in
 4 the 2001 data, right?
 5 A Yes.
 6 MR. VIRJEE: Let me object as overbroad.
 7 Not necessarily. The population changes.
 8 People leave, people come in.
 9 THE WITNESS: Wait a minute. Would you repeat that
 10 question?
 11 MR. LONDEN: It's a fair point.
 12 Q The data unit is the school, and for this
 13 variable -- that is, reading scores in 99-2000 -- we're
 14 looking at the English language students who were in
 15 that school in 99-2000, right, and took the test?
 16 A Yes.
 17 Q And the students whose results are reflected in
 18 the 2001 variable are the group of students who were in
 19 the same school when the 2001 test was given, and there
 20 are differences between those --
 21 MR. VIRJEE: And took the test.
 22 BY MR. LONDEN:
 23 Q -- populations -- and took the test.
 24 And there are differences between those
 25 populations, right?

1 A There will be some differences, yes.
 2 Q Are data available to do this analysis on a
 3 grade-by-grade basis?
 4 A The --
 5 MR. VIRJEE: Objection. Overbroad.
 6 When you say -- you mean on a statewide basis?
 7 MR. LONDEN: No.
 8 MR. VIRJEE: In a particular classroom at a
 9 particular school.
 10 Calls for speculation.
 11 BY MR. LONDEN:
 12 Q Grade by grade within a school.
 13 A One data -- one variable is available grade by
 14 grade, and that's the achievement test data.
 15 Q Are the percentage of English learners
 16 available on a grade-by-grade, per-school basis?
 17 A Yes. Actually, that is also available.
 18 Q But in any event, you haven't done a
 19 grade-by-grade analysis for this work?
 20 A No.
 21 Q Okay. Now, just following the form of this
 22 document, it appears to me that when we get to the
 23 bottom of this coefficients chart, we're done with the
 24 printout for one regression run; is that right?
 25 A Yes.

1 Q And then we're starting the same series of
 2 output charts for another set of variables, right?
 3 A Yes.
 4 Q Okay. Could you look at Table -- at Appendix 4
 5 of your report.
 6 A (Witness reviews documents.)
 7 Q It appears to me that the descriptive
 8 statistics chart that appears on the first page of the
 9 document we've marked as Exhibit 3 matches the
 10 descriptive statistics chart on the first page of
 11 Appendix 4. Is that right?
 12 A Yes.
 13 Q And the model summary chart has the same
 14 contents as the model summary that appears in the
 15 sequence of output charts under that descriptive
 16 statistics chart -- on this printout it's on the fourth
 17 page, right?
 18 A Yes.
 19 Q And the coefficients chart on the first page of
 20 Appendix 4 is the same chart as in that sequence of
 21 output charts in Exhibit 3, right?
 22 A Yes.
 23 Q So is it fair to say that the first page, at
 24 least, of Appendix 4 consists of a presentation of the
 25 three output charts, output statistics model summary and

1 coefficients from the SPSS output run for the regression
 2 that's reported in Exhibit 3, the first -- on the first
 3 four pages?
 4 A It looks like it.
 5 Q Now, I remember you told us that you don't
 6 remember seeing Exhibit 3 in a printout, but making
 7 allowances for that, is it reasonable for us to
 8 understand that Exhibit 3 presents the outputs for a
 9 series of linear regression analyses run on -- that you
 10 run on SPSS?
 11 A Yes. Although in both cases my research
 12 assistant formatted these. I think the word
 13 "Regression" is not in the actual SPSS printouts, but
 14 it's a minor thing.
 15 Q And if I follow you, you looked at the computer
 16 screen and identified analyses that you wanted to
 17 include in your report, maybe all the analyses that were
 18 done, and told your assistant to prepare summary charts
 19 for presentation in your appendix?
 20 A Right.
 21 Q Now, did you include in the appendix or have
 22 your assistant prepare for inclusion in the appendix
 23 summary charts on all the regression analyses that you
 24 did?
 25 A All the final regressions. I think. And by

1 the way, this isn't the final regression, unfortunately.
 2 Q Which isn't?
 3 A This isn't and this isn't.
 4 Q Why do you say that?
 5 A Because percent minority is supposed to be in
 6 here, and it isn't.
 7 Q In where? In Appendix 4, Page 1?
 8 A All of the equations are supposed to have
 9 percent minority in them, and I don't see it in any of
 10 these.
 11 Q Why do you say they're all supposed to have
 12 percent minority?
 13 A Because in the final equation I ran, I put it
 14 in.
 15 Q Is that reflected in your report?
 16 A I hope so.
 17 Q Could you find a place where it's reflected, so
 18 I can follow?
 19 MR. VIRJEE: In the narrative?
 20 MR. LONDEN: In the narrative or tables or anywhere
 21 other than the appendices we're talking about.
 22 THE WITNESS: (Reviews documents.)
 23 MR. VIRJEE: I think, Jack, this is something that
 24 she recognized and referenced to you earlier when she
 25 said this was -- this doesn't look like the final one

1 that she did earlier today. You said you'd get to that.
 2 MR. LONDEN: No, different problem.
 3 THE WITNESS: Oh, different? I said these are the
 4 wrong printouts, and you said --
 5 MR. LONDEN: I'm sorry. Well, at least I don't
 6 recognize it as necessarily the same problem.
 7 MR. VIRJEE: I think that's what she was referring
 8 to.
 9 THE WITNESS: That's what I was referring to. This
 10 does not have percent minority in it.
 11 BY MR. LONDEN:
 12 Q Well, does Appendix 4 have percent minority in
 13 it?
 14 A No.
 15 MR. VIRJEE: That's what she's talking about.
 16 That's what she was referencing.
 17 THE WITNESS: It's not the final run, and I don't
 18 know how my research assistant got the wrong -- I must
 19 have forgotten to send him the final run.
 20 BY MR. LONDEN:
 21 Q In the body of the report, where do you find
 22 percentage of minority students?
 23 A If you go to Page 2 and we talk about -- the
 24 percentage of emergency-credentialed teachers is modeled
 25 by three equations. One, the percent of poor students;

1 two, the percent of poor students and English learners;
 2 and, three, the percentage of poor students, English
 3 learners and minority students. Whether a school is
 4 elementary, the percent enrolled in bilingual education
 5 and the school size. And that's basically the same
 6 model I used throughout.
 7 Q Well, when -- as we've just seen, I think,
 8 appendix -- the appendices -- Appendix 4, anyway, on the
 9 first page and the backup SPSS output printout are all
 10 analysis that doesn't include percent minority?
 11 A Right.
 12 MR. VIRJEE: That's what she's trying to describe
 13 to you. The tables also reflect -- I don't want to
 14 testify, but the tables also reflect percent minority as
 15 well.
 16 MR. LONDEN: Well, they do and the appendices
 17 don't.
 18 MR. VIRJEE: Exactly.
 19 THE WITNESS: If you go to -- well, throughout the
 20 text I'll refer occasionally to percent minority being
 21 in the equation. And that's a critical variable that
 22 has to be in these equations, and I -- it was in the
 23 final equations. I'm very sorry, but I -- apparently I
 24 transmitted the wrong printout.
 25 BY MR. LONDEN:

1 Q Why is it a critical variable?
 2 A Well, because, you know, the research on the
 3 relationship between school characteristics and student
 4 characteristics and achievement, even when you control
 5 for social class, percent minority still has an effect
 6 independent of social class.
 7 Now, most of us would argue that it's because
 8 our measure of social class is not the greatest.
 9 It's whether you're on free or reduced lunch, which is
 10 not a great variable. We could probably wipe it out
 11 entirely if we had more sophisticated social class
 12 variables, but we don't. So when you rely on a variable
 13 like the percent on free or reduced lunch, percent
 14 minority still has an effect on achievement. And you
 15 know, all the research is pretty clear that you --
 16 controlling for social class doesn't completely do it.
 17 Q So --
 18 MR. VIRJEE: By the way, this is something that --
 19 MR. LONDEN: I'll -- just going to ask.
 20 Q When did you realize this?
 21 A When I said to you, these are the wrong
 22 equations.
 23 Q In this table?
 24 A Yeah.
 25 Q In Exhibit 3.

1 A I said, this is the wrong printout. Do you
2 remember that? And you stopped me and said, we'll get
3 to that later. I know. We'll get to that later, or
4 something like that.

5 Q Well --

6 MR. VIRJEE: She explained it to me at lunch time.

7 MR. LONDEN: Okay.

8 MR. VIRJEE: So I apologize.

9 BY MR. LONDEN:

10 Q What I said we'd get to later -- and that's
11 what we just got to, and that is that they may be wrong
12 but they're the same as the -- they match --

13 A They match.

14 MR. VIRJEE: They match with the appendices.

15 BY MR. LONDEN:

16 Q -- the appendix for tables.

17 A What made you think they were wrong?

18 Q I didn't know whether they were wrong or not.

19 A Oh, I see.

20 Q What I wanted to get to was whether they
21 matched.

22 A Yeah, okay.

23 Q And now that I know they match, I understand
24 the explanation.

25 It appears that the report was prepared with

1 me, I won't put anybody through anything unnecessary
2 based on --

3 MR. VIRJEE: Sure.

4 MR. LONDEN: -- the correction of that omission so
5 far. So we'll see what it shows us when we can correct
6 it.

7 I will assume that the final data files still
8 exist and can be presented, but if that's not right,
9 then we'll deal with that too.

10 MR. VIRJEE: Okay.

11 BY MR. LONDEN:

12 Q Now, to confirm what I believe to be obvious,
13 if we go through the appendices and match the numbers in
14 the charts in the appendices to the numbers in the
15 produced SPSS output printouts, if the numbers match in
16 the charts that are presented in the appendix, then we
17 know we have the matching output chart, right?

18 A Yes.

19 Q And that will be true also -- so that I don't
20 have to ask this about a later production -- and believe
21 me, I'm not trying to ask anything about it if I don't
22 have to.

23 But that will also be true of the replacement
24 appendices that your counsel will provide if you choose
25 to, right?

1 appendices based on a miss-communication as to what
2 output reports to use to create the appendices?

3 A Could have been my error.

4 Q Is that correct?

5 A I could have forgotten to save the final
6 regression equation. I just don't know at this point.
7 I have to go -- I have to dig.

8 Q Well, we can only work with what we've got.
9 And I'm prepared to go ahead with what we've got, and if
10 you're going to rely on something we don't have, we'll
11 have to deal with that.

12 MR. VIRJEE: Yeah. We -- her report, as it is
13 presented, relies on -- and I didn't know that until
14 this point. Otherwise, we would have raised it before
15 and fixed it.

16 But her report, as presented and as we intend
17 to rely on it, relies on the tables that you have, but
18 clearly relies on appendices and backup regression
19 analyses that you don't have. And I accept and
20 understand that, and appreciate the dilemma that
21 creates. I didn't know it; she didn't realize it until
22 we got here today.

23 MR. LONDEN: Okay.

24 MR. VIRJEE: And I apologize for that.

25 MR. LONDEN: Well, we are where we are, and believe

1 A Yes.

2 MR. LONDEN: We would like to have both the final
3 appendices and the output printouts.

4 MR. VIRJEE: Absolutely. It makes sense since
5 those are the ones she relied on to do her report and
6 you're entitled to everything that she relied on to do
7 her report. And again, I apologize for that. We didn't
8 know it before we got here today.

9 MR. LONDEN: I will not go through and -- I don't
10 think I need to spend time to go through and
11 authenticate the State's production of these output
12 charts, particularly in light of the fact that these are
13 not the final ones, right?

14 MR. VIRJEE: I agree.

15 MR. LONDEN: All right.

16 MR. VIRJEE: If at some point you think you need to
17 do that, we'll cooperate with you, you know, by doing it
18 in some other form, so as to not waste time. I think
19 it's pretty clear they've been authenticated.

20 BY MR. LONDEN:

21 Q Now, taking this Appendix 4, first page, is
22 there anything about it that suggests there's any other
23 difference or omission in the final analysis that you
24 performed other than the omission from the one that has
25 been produced so far of the percentage of minorities as

1 a variable?

2 A As far as I know, the only error I've noticed
3 is that the percent minority is missing from these
4 equations.

5 Q Now, I was asking for about whether you
6 presented appendices reflecting every regression
7 analysis that you did, and you said every final one.
8 And then we got into this discussion.

9 Were there any analyses of dependent
10 variables -- for different dependent variables than
11 those that appear as dependent variables in the existing
12 appendices?

13 A I don't recall any.

14 Q Okay. So we know that there were a set of
15 analyses done that did not include minority percentage,
16 then a final version of the same analyses, adding the
17 minority percentage?

18 A Correct.

19 Q Correct so far?

20 Were there other variations that you used in
21 the course of doing analyses of the same dependent
22 variable?

23 A I don't recall any.

24 Q So as far as you recall, there were a set of
25 analyses done using the sets of variables that appear in

1 Q Right.

2 The next variable is the percentage of English
3 learners.

4 Where did that come from? Demographics?

5 A Demographics.

6 Q On the Department of Education Web site?

7 A Yes.

8 Q Now, that's a different Web site location than
9 the STAR location; is that right?

10 A Yes.

11 MR. VIRJEE: You mean within the CDE Web site?

12 MR. LONDEN: Yeah.

13 Q So was it necessary for you or someone working
14 with you to assemble a common database that included
15 both percentage of English learners and STAR 2001
16 reading scores?

17 A Yes.

18 Q How'd you do that?

19 A I merged on the CD code, which is a long number
20 that the State assigns to schools.

21 Actually, I think the variable's CDS scores.

22 Q The data set that you provided your counsel,
23 that data set includes the minority percentage data as
24 well as the other variables? Is that your understanding?

25 A Yes.

1 the appendices and a different set, the final set, that
2 added to those analyses consideration of percentage of
3 minority?

4 A That's my recollection.

5 Q And that's the extent of the changes in the
6 sets of variables that you used in your analyses?

7 A That's what I recall.

8 Q Okay. Now, I know that there will be
9 replacement appendices, but so that I don't make it
10 necessary at this point to come back, I'd like to ask
11 some questions that are intended just to let me make
12 sure I understand the analytical method. So I know the
13 numbers will change. But could you take a look, please,
14 at Appendix 2, first page.

15 A (Witness reviews documents.)

16 Q The first variable is all students reading NCE
17 01.

18 What's that? What was the source for that data?

19 A You mean where did I get it from?

20 Q Where'd you get it?

21 A The STAR data site, Web site.

22 Q And the particular value used for each school
23 was the average reading score on the 2001 STAR for all
24 students in the school?

25 A That's what the State gives you.

1 Q The average percentage English learners in
2 schools included in this set of 2,775 schools was
3 24.958, right?

4 A Yes.

5 Q The number next to it, under "Standard
6 Deviation," is 22 and a fraction.

7 What does that tell us?

8 A Well, two-thirds of the cases will be between
9 plus or minus one standard deviation. In other words,
10 plus or minus 22. 95 percent of the cases will be
11 within two standard deviations, plus or minus 44. And
12 99 percent of the cases will be within three standard
13 deviations. So it --

14 Q For this particular variable, the standard
15 deviation is large in relation to the mean, right?

16 A I'm not sure I'm ready to say it's large, but
17 it's 22.

18 Q Well, it's 22 out of 24.

19 A Yeah.

20 Q 22 compared to 24.

21 Does that tell you anything?

22 A There's a lot of variation on this.

23 Q The next variable, the percentage of bilingual
24 education 2000-2001, what's the source of that?

25 A Demographics.

1 Q The second variable and the third variable, are
 2 those independent variables, not in the labeling sense
 3 but in the sense of co-variance?
 4 A (No audible response)
 5 Q The percentage of English language learners and
 6 the percentage of bilingual education -- I'm sorry, let
 7 me back up.
 8 What does the percentage of bilingual education
 9 2000-2001 tell us?
 10 A The percentage of students in a -- the
 11 percentage of English learners in a school who are
 12 enrolled in bilingual education.
 13 Q That answers my question.
 14 So the second and third are not independent
 15 variables at all, in the sense of being -- well, I'll
 16 end the question there and see what your answer is. Is
 17 that right?
 18 A They are independent variables.
 19 Q In what sense?
 20 A They are the variables I used to predict my
 21 dependent variables. You know, the correlations are
 22 not -- the inter-correlations are not so high that you
 23 would get worried.
 24 Q But it is true that everybody who's reflected
 25 in the third category as in bilingual education is also

1 within the category English language learners?
 2 A That's true.
 3 Wait a minute. No, that's actually not true.
 4 But certainly, you would expect most of them.
 5 Q Then what is the percentage bilingual ed
 6 2000-2001?
 7 A Oh, I'm sorry. Let me back up. I was thinking
 8 about bilingual education in the generic sense. For
 9 this variable, this particular variable, I believe it is
 10 true that everybody in bilingual education is an English
 11 learner.
 12 Q Yeah, I was asking about this variable
 13 specifically.
 14 A Yeah, I know. I got off there for a second,
 15 I'm sorry. I was thinking, in the generic sense, there
 16 are these programs in which not everyone in the program
 17 is an English learner.
 18 Q So you are in this analysis -- the third
 19 variable is a subset of the second variable, or a
 20 subset, a portion of the second variable --
 21 A Yes.
 22 Q -- right?
 23 The next variable, percentage free or reduced
 24 lunch, what's the source of that? Demographics?
 25 A Yes.

1 Q And the same data merge that you told us about
 2 based on the CDS?
 3 A Yes.
 4 Q All of the combination of data from different
 5 sources that you did was based on the CDS code; is that
 6 right?
 7 A Yes.
 8 Q Now, we see percentage minority.
 9 That's the value that was missing in the other
 10 chart?
 11 A Yes.
 12 Q I wonder if you can take a minute and look at
 13 this chart and look at Table 1. It seems to me that
 14 this may be the final chart for Table 1. And I'd like
 15 to ask you whether you can tell that.
 16 A (Witness reviews documents.)
 17 No, it isn't. Table 1 is predicting the number
 18 of teachers with emergency credentials from various
 19 characteristics. But this -- but Appendix 2 -- so
 20 Appendix 2 is really relating to Table 2, I believe.
 21 Let me check.
 22 Q Yeah, please do. And with that correction, let
 23 me know whether Appendix 2 looks like the final analysis
 24 or not.
 25 A (Witness reviews documents.)

1 MR. VIRJEE: Looks like Table 2 and Appendix 2 are
 2 labeled the same.
 3 THE WITNESS: Yes. Appendix 2 is the final
 4 equation. So is Appendix 3. And Appendix 4 is not.
 5 BY MR. LONDEN:
 6 Q How could you tell that?
 7 A Well, because percent minority is not in
 8 Appendix 4.
 9 Q And it is in the others?
 10 A Yes.
 11 Q In Appendix 2, minority 2000-2001 is from the
 12 demographics site, right?
 13 A Yes.
 14 Q Percentage of EL who are Spanish speakers, is
 15 that from the same site?
 16 A Yes. That particular variable comes from a
 17 different file than the percentage minority. It is from
 18 demographics, though.
 19 Q And merged using CDS code?
 20 A Yes.
 21 Q School enrollment, where does that come from,
 22 generally?
 23 A Demographics.
 24 Q Elementary school is one or zero, depending on
 25 whether the school is elementary or middle or high?

1 A Yes. I count it as elementary versus
2 secondary.
3 Q So if a school was listed as a middle school,
4 what was its score?
5 A Second -- zero.
6 Q The last variable, percentage of teachers
7 holding emergency credentials, what was the source of
8 that?
9 A I got that from the demographics Web site also.
10 Q Is there any meaning that you attach to the
11 relationship between the mean for that variable and the
12 size of the standard deviation?
13 A No.
14 Q In the same page, under "Coefficients," taking
15 the -- looking at the variable "Reading achievement
16 2000" and looking at the coefficients for that variable,
17 what, if anything, do those coefficients tell you?
18 A Reading in 2000 is highly correlated with
19 reading in 2001.
20 Q What does the beta of .95 tell you?
21 A That they are very highly correlated. 1.0 is
22 perfect correlation.
23 Q And when you take these -- the variables on
24 this table, other than percentage of teachers holding
25 emergency credentials -- never mind. It's clear.

1 Look at Page 3 of Appendix 2, please. The
2 first variable is language, all students language NC 01.
3 What's the source of that?
4 A The STAR data file.
5 Q Am I right in understanding that where the
6 title of a variable is the same from one chart to
7 another, then the source data is the same except for
8 differences in the list of schools that may be caused by
9 the presence or absence of all the data for a school?
10 A Yes.
11 Q Okay. So I'm not going to ask you for every
12 chart, every variable after I've asked you once.
13 Look at Page 6 of Appendix 2, entitled "Poor
14 Students Reading Achievement."
15 What was the source of the data in the first
16 variable, for the first variable, poor students reading
17 NCE?
18 A The STAR data file.
19 Q How do you define poor students for this -- or
20 how is that variable defined?
21 A I can't recall. It's going to be one of two
22 things, and I've forgotten which one it is. It would be
23 either students eligible for free or reduced lunch --
24 which I -- my memory is it's that one. But another
25 possibility is students eligible for CalWORKS, because

1 the demographic data file actually has both. They
2 probably used free or reduced lunch rather than welfare,
3 but I would have to go back and check it.
4 Q I'd like to just compare for a moment the first
5 page of Appendix 2 and the sixth page of Appendix 2,
6 with regard to the number of schools that were on the
7 respective lists.
8 The first page, all students reading, had 7,275
9 schools for which data was available for all the
10 variables, right?
11 A Right.
12 Q The difference between that analysis and the
13 analysis on Page 6 is that on Page 6 you were looking at
14 poor students' reading scores and on Page 1 you're
15 looking at all students' reading, right?
16 A Correct.
17 Q And the fact that there are 6,221 schools on
18 the poor schools list means that for approximately a
19 thousand school records on the -- that were included in
20 the Appendix 2, Page 1 analysis, there was not data with
21 which to determine the poor students variable?
22 A I think you misspoke in the beginning. You
23 said poor schools.
24 Q If I did I meant to say poor students in the
25 school.

1 A Right.
2 The State does not report achievement data if
3 there are fewer than ten students in a group. So that
4 is probably the source of the reduction in cases.
5 Q So is it reasonable to expect that the schools
6 that are included in the first page chart and not
7 included in the Page 6 chart -- that is, poor students'
8 reading achievement -- are predominantly schools with
9 fewer than ten students who would qualify as poor?
10 MR. VIRJEE: Objection. Calls for speculation,
11 lacks foundation.
12 THE WITNESS: That's not the -- that's not how I
13 would say it.
14 BY MR. LONDEN:
15 Q How would you say it?
16 A I would say it that it is schools with fewer
17 than ten poor students who took the test.
18 Q I understand your correction.
19 And does that introduce any caveats into your
20 thinking about the analysis of the comparison between
21 these two analyses?
22 A I've presented a lot of different analyses
23 here, and I think that is what I intended to do.
24 Q Okay. The schools excluded from the list that
25 totals 6,221 schools, is there any reason to be

1 concerned about a potential bias on the analytical
2 results as the result of the process that results in the
3 selection of schools from all schools in California?

4 A If this were the only analysis I had done, I
5 might think about what the possible -- what caveats I
6 would have to add into this.

7 Q On that same page, Page 6 of Appendix 2, in the
8 coefficients, the elementary school 2000-2001 variable,
9 that is whether you were in elementary school or
10 secondary school, has an unstandardized coefficient of
11 2.831. Page 6.

12 A Page 6, okay.

13 Q What does that tell us?

14 A If you're in an elementary school, you'll have
15 a reading score that's almost three points higher than
16 if you're not in an elementary school.

17 Q Students do worse over time, again?

18 A Secondary students have lower achievement, on
19 average, slightly lower, than elementary school students.

20 Q And what you're comparing are normalized scores
21 in elementary school to normalized scores in the
22 secondary school?

23 A These aren't normalized. These are
24 unstandardized.

25 Q I --

1 A Well, some of it is mine.

2 Q Did you make the selection -- back up.

3 Did you go to the information on the State's
4 Web sites and look through and make a judgment about
5 whether each variable that was available did or did not
6 have a probable effect on achievement?

7 A No.

8 Q Okay. How did it work, the selection process
9 of variables?

10 A First I merged all these different data files
11 that I thought had interesting data in them.

12 Q And for that purpose, how did you determine
13 what was interesting or not?

14 A Well, this began with my study of the
15 implementation of Prop 227. So I was really thinking of
16 variables that I could explain, that were interesting,
17 that would make some sense in explaining the percentage
18 of kids who were in bilingual education, that would be
19 good control variables for predicting the effect of
20 bilingual education on achievement.

21 And you know, I've been doing this kind of
22 research for a long time, and I just selected the
23 variables I thought were interesting. I mean, that I
24 thought would affect achievement. As well as would be
25 good predictors of demographic characteristics.

1 A Oh, wait. Are we going back to the original
2 data?

3 Q Yeah.

4 A Sorry.

5 Q The original data is zero to 100 normed scores,
6 right?

7 What I'm getting at, in a real world sense, is,
8 is there a meaningful comparison being drawn here
9 between scores for elementary schools and scores for
10 secondary schools? And if so, why?

11 A I put into this equation the variables that are
12 known to affect achievement.

13 Q Okay.

14 A And that are available on the CDE Web site.

15 Q When you say that are known to affect
16 achievement, what do you mean by that?

17 A There's research that shows that this
18 affects -- these variables affect achievement.

19 Q Did you put in all of the variables in the CDE
20 Web site that coincide with what research suggests
21 affects achievement?

22 A I think I did. Or I tried to.

23 Q And when you say that -- when you referred to
24 research that shows an effect on achievement, what
25 research is that?

1 Q And your objective in assembling the data was
2 to include every variable among the reported variables
3 that you thought in and of itself has an impact on
4 achievement based on research that you've either done or
5 read in the past?

6 A Yeah, and that I thought had some generalized
7 ability across schools. I think that's pretty much it.

8 Q And one thing you did not do there is, if you
9 had two available variables, both of them -- each of
10 them on its own explains achievement, you did not say, I
11 better exclude one of them because of the relationship
12 between the two of them? Is that true?

13 A Well, now what are we talking about?
14 Downloading data?

15 Q Well, in assembling the sets of variables that
16 you used for the respective regression analyses.

17 A I looked at the inter-correlations.

18 Q And how did you do that?

19 A I just examined the Pearson correlation.

20 Q So going back to Exhibit 3, on the first page,
21 correlations table, under the headings, the first set of
22 rows are labeled "Pearson correlation."

23 Did you do some runs of regression analyses
24 that generated Pearson correlations that led you to
25 change the variable set for any of the regression

1 analyses you did from the first variable set -- or the
2 variable set for the first run?

3 A No. My basic approach was to try and figure
4 out what are the variables that predict achievement, and
5 then to put them into the equation.

6 Q When you said you looked at the Pearson
7 correlations, what did you look for?

8 A It was -- you know, it's just of interest to
9 see how they're correlated with each other.

10 Q And hypothetically, were there a set of Pearson
11 correlation scores that would tell you that one ought
12 not to use the two variables that are reflected by that
13 correlation score?

14 A In this particular equation, it's not a
15 problem.

16 Q Hypothetically, what would it look like if it
17 were a problem?

18 MR. VIRJEE: Objection. Incomplete hypothetical,
19 calls for speculation, lacks foundation.

20 BY MR. LONDEN:

21 Q In looking for a Pearson correlation, I take it
22 there might be a situation where you see something that
23 tells you these two variables ought not both to be used?

24 A It depends on what you're trying to do. I
25 mean, it really depends on your theoretical model and

1 file. And the numbers should be 48,136,783.

2 Q And that is the entry for ADA used on the row
3 "United States"?

4 A Right.

5 Q So every column to the left of that column is
6 populated by data from www.census.gov/govs, et cetera,
7 as listed at the top of the chart?

8 A Yes.

9 Q And what's the source of the "ADA used" column?

10 A I couldn't -- I had to calculate what ADA they
11 used, because they didn't list it. So I divided total
12 expenditures by per pupil to come up with an ADA.

13 Q Did the Census Bureau site have a per pupil
14 number?

15 A Yes.

16 Q And were total expenditures the -- oh, I see.

17 Per pupil dollars is the dollar just to the
18 left?

19 A Right. Correct.

20 Q And as presented in the Web site, that was the
21 same dollars as are listed in the columns to the left of
22 it, but per student?

23 MR. VIRJEE: I think that was vague and ambiguous.
24 I don't understand that question.

25 BY MR. LONDEN:

1 your theory. If you've got two variables that are
2 highly correlated with each other and you're interested
3 in explaining the relative importance of one or the
4 other, it would be foolish to put them in the same
5 equation, because they're knocking each other out.

6 If, however, they're merely control variables
7 and you're actually interested in another variable, then
8 it makes sense to put them in, because you don't really
9 care if they knock each other out. Because you're not
10 interested in the variables as individuals anyway.

11 MR. LONDEN: Okay. Let's take a break.

12 (Brief recess taken.)

13 BY MR. LONDEN:

14 Q Look at Appendix 5, please.

15 Were all of the data that were used to input
16 into this chart available at the site that's listed
17 there in the subheading?

18 A No, because -- oh, yeah. Yeah, actually, they
19 were. Well, now, wait a minute. Yes, I'm pretty sure
20 everything here except for the final column.

21 By the way, that first line has cross hatches
22 because that means it's too --

23 Q Too big?

24 A And I didn't notice it. It didn't show up in
25 the Excel file, but it was produced when I created a pdf

1 Q Well, the column heading is "Per pupil
2 dollars," right?

3 A Yes.

4 Q And is it your understanding that the dollars
5 being divided by the number of -- the total number of
6 pupils per state to generate for California the number
7 7,369 are the same dollars as you have allocated in the
8 columns that are to the left of the per pupil spending?

9 A The per pupil expenditures comes from another
10 table, I believe. And this is supposed to say -- have
11 two table numbers in the heading. I wonder if I've got
12 it in the figure, the chart. But there was another
13 table in that report which had per pupil expenditures.

14 Q And do you know whether the aggregate per pupil
15 expenditures used to calculate the "PP\$" numbers in this
16 column was the same aggregate that's reflected in the
17 expenditures columns in your chart?

18 A Well, I think you misspoke. So I'll just
19 revise what you said.

20 Q Give me your best understanding.

21 A Okay. The total -- the per pupil expenditures
22 are a function of total expenditures, divided by some
23 ADA.

24 Q And you have derived the ADA from a per pupil
25 dollar figure which came from a different chart than the

1 dollar figures -- the other dollar figures on this
 2 chart, right?
 3 A It didn't come from a different chart, ADA.
 4 Q No, I'm -- it's the -- the ADA you derived, you
 5 calculated.
 6 A Right.
 7 Q And you calculated it by taking the per pupil
 8 dollars and the total dollars?
 9 A Taking total dollars and dividing by per pupil
 10 dollars.
 11 Q Okay. And the per pupil dollar data, where did
 12 that come from?
 13 MR. VIRJEE: Objection. Asked and answered.
 14 THE WITNESS: Another table in this report. I do
 15 not believe it's in Table 6. I would have to check for
 16 sure, but I think it's in another table.
 17 BY MR. LONDEN:
 18 Q It came from another table in the
 19 www.census.gov?
 20 A Yes.
 21 Q Okay. And were there any other calculations
 22 done -- that you did to generate the numbers in this
 23 Appendix 5?
 24 A Yes. I recalculated California total. So what
 25 originally appeared in this table was 43,847,165.

1 Q Read it again, please?
 2 A 43,847,165.
 3 Q That was the census figure? 43,847,165 --
 4 A Yes.
 5 Q -- was the census figure?
 6 A For total expenditures.
 7 Q On what basis did you recalculate it?
 8 A Well, I took some documents that were given to
 9 me that showed the -- I believe it was the State
 10 auditors or the State budget -- State controllers, I
 11 think, State controller's estimate of the total
 12 expenditures for that year, which included the lottery
 13 money.
 14 Q Was there something -- some source that told
 15 you that the 43,847,165 number in the census data
 16 excluded lottery money?
 17 A Yes. It's actually been a well-known fact in
 18 California that the reported expenditures exclude the
 19 lottery money and also other sources of money. For
 20 reasons that aren't clear to me or anyone else,
 21 California consistently underreports how much it spends
 22 on education.
 23 Q Okay. I'll come back to that.
 24 Just to explain where the numbers come from on
 25 this chart, are all of the numbers under -- across from

1 California -- that is, the numbers for California on
 2 Appendix 5 -- from a source different than
 3 www.census.gov?
 4 A Would you repeat that, please?
 5 Q Yeah.
 6 In this row for California on Appendix 5 --
 7 I'll put it the other way.
 8 Are any of those numbers from the Census Bureau
 9 site?
 10 A They all are, with the exception of the first
 11 column. I'm pretty sure. I'm pretty sure they all are,
 12 with the exception of the first column and per pupil
 13 expenditures, and then, of course, the ADA is
 14 calculated.
 15 Q So would you expect that if we add up the
 16 columns from salaries and wages, rightward, through all
 17 other functions, that it'll add up to 43,847,165?
 18 A That's what I expect.
 19 Q Okay. And why did you use the controller's
 20 number rather than the Census Bureau's number?
 21 A Well, because it struck me -- I mean, this is
 22 something that people have been discussing about
 23 California, that the money that the State spends on
 24 education ought to include all the money it spends on
 25 education.

1 Q And what's missing?
 2 A The lottery money. I mean, that's the major
 3 component. And that's a fairly substantial amount. And
 4 so I read the Izumi report --
 5 Q Lance Izumi?
 6 A Lance Izumi, in which he talks about the fact
 7 that the State consistently underreports how much it
 8 spends on education. And then I got the controller's
 9 estimate of what the lottery money is, and calculated
 10 what the true figure should be.
 11 Q In changing the figure 43,847,165 to
 12 46,392,200, did you add the lottery amount to
 13 43,847,165?
 14 A I didn't just simply add it, because a point
 15 that Lance Izumi makes is that it doesn't all go to K-12
 16 education. And so I took the percentage that he
 17 calculated went to K-12 education and used that.
 18 Q Can we go to another source and find the figure
 19 46,392,200?
 20 A No.
 21 Q So that figure is the result of a calculation
 22 you did, adding a percentage of the lottery amount
 23 reflecting "K" through 12 expenditures as you prorate
 24 the total lottery amount added to 43,847,165?
 25 A I think so.

1 (Plaintiff's Exhibit 4 was marked for
2 identification by the court reporter.)
3 BY MR. LONDEN:
4 Q Before you, marked as Exhibit 4 to your
5 deposition record, is a document bearing production
6 number 0060 through 62.
7 Do you recognize this?
8 A Yes.
9 Q The first page is a message from Lance Izumi to
10 you?
11 A Yes.
12 Q And it says, "Here are the budget figures. The
13 per pupil spending figure used most often divides Prop
14 98 funding by average daily attendance. Prop 98
15 funding, as you can see, does not include State lottery
16 funds. In 2001-2002 Prop 98" -- is the next word
17 "spending"?
18 MR. VIRJEE: Objection. Calls for speculation.
19 BY MR. LONDEN:
20 Q I'm asking if you can read it.
21 A It's "spending."
22 Q -- "per pupil was 6,683 and total spending per
23 pupil was 9,068."
24 Have I read that the same way you do?
25 A Yes.

1 Q Do you know what Prop 98 was?
2 A No.
3 Q Do you know whether Prop 98 funding, aside from
4 the lottery, is all State funding, or a subset?
5 A I think of it as simply the official funding
6 statistics that are reported.
7 Q And is this document, the final two pages --
8 are these the attachment that Mr. Izumi sent you?
9 A Yes. I think he sent me -- this is a much less
10 clear version than I have. I'm just trying to figure
11 out what -- what the difference is between Figure 1 on
12 the last page and --
13 Q Well, one is -- I think they're different
14 years, but I only suggest that to see if that helps you --
15 A Oh, yes, it is. You're right. The headings
16 are so hard to read. You're right, that's what it is.
17 Q Did you consult the full documents from which
18 these were excerpted --
19 A No.
20 Q -- these pages?
21 A No.
22 Q Did you make use of these pages as a source of
23 data?
24 A Yes.
25 Q What use did you make of these pages?

1 A I replicated the analysis he had done for -- I
2 believe it was 2000-2001. Might have been 1999-2000.
3 And I then -- yeah, I think it probably was an earlier
4 year. And then I used the same procedure to calculate
5 per pupil expenditures. Or total expenditures.
6 Q When you say you replicated the amounts as he
7 had done, what analysis are you talking about?
8 A In the report he did.
9 Q Which report is that?
10 A I wonder if I have it cited in my paper. I
11 think I do.
12 Q I think you do.
13 A (Witness reviews documents.)
14 Yeah, on Page 19, Footnote 23. "A short primer
15 on per pupil expenditures."
16 Q Did you use the same formula as is set forth in
17 that primer to generate the number that you added to the
18 census figure of 43,847,165?
19 A Yes.
20 Q And their paper did not contain a figure for
21 the year 2001; is that right?
22 A Correct.
23 Q So you had to calculate 2001 rather than
24 relying on something that was included in their paper?
25 A Correct.

1 Q And where did you find the underlying data to
2 use in their formula?
3 A From here. They explain what they did and they
4 explained that they didn't use all of the other funds,
5 because some of it goes to post-secondary. And so I
6 used that percentage to calculate what I needed to add
7 to the 2000-2001 budget.
8 Q You just said "from here."
9 You were -- for our record, you were pointing
10 to the pages attached to the fax cover sheet in Exhibit
11 4?
12 A Maybe. I don't know. Let's -- why don't you
13 ask the question again and I'll give the answer, and
14 then I can tell you what I was pointing to.
15 Q I asked you where you found the data to use in
16 the formula that was -- that you found in Mr. Izumi's
17 short primer on per pupil expenditures.
18 A I found it in the Legislative Analyst's Office
19 budget summary that he faxed to me.
20 (Plaintiff's Exhibit 5 was marked for
21 identification by the court reporter.)
22 BY MR. LONDEN:
23 Q Now, we've marked as Exhibit 5 a copy of a
24 document entitled "Education LAO 2002-2003 analysis,"
25 and my question for you is whether you find the last

1 page of Mr. Izumi's fax to you within Exhibit 5.
 2 MR. VIRJEE: I guess the documents speak for
 3 themselves, what's in each document.
 4 THE WITNESS: (Reviews documents.)
 5 MR. VIRJEE: You actually want her to compare the
 6 two?
 7 MR. LONDEN: Yeah.
 8 MR. VIRJEE: Again, the documents speak for
 9 themselves. I don't think there's any need for the
 10 witness to do that.
 11 THE WITNESS: Looks the same.
 12 BY MR. LONDEN:
 13 Q And you have not seen Exhibit 5 before today?
 14 A No.
 15 (Plaintiff's Exhibit 6 was marked for
 16 identification by the court reporter.)
 17 MR. LONDEN: Exhibit 6 is the LAO analysis for
 18 2002-2003.
 19 MR. VIRJEE: I see 3-4.
 20 MR. LONDEN: 3-4? You're right. I marked the
 21 wrong one and I'm grateful for your correction.
 22 I'll start again. Exhibit 6 is the LAO
 23 analysis for 2003-2004.
 24 Q And if you'll look at Figure 1 of that
 25 analysis, it presents the same -- Figure 1 and Figure 2

1 present the same data as the second page of Mr. Izumi's
 2 fax to you, right?
 3 MR. VIRJEE: Again, you're asking her to compare
 4 the two?
 5 MR. LONDEN: Right.
 6 MR. VIRJEE: I object. The documents speak for
 7 themselves. There's no need for the witness to compare
 8 them.
 9 THE WITNESS: It actually isn't. I mean, what do
 10 you mean by the same?
 11 BY MR. LONDEN:
 12 Q I mean -- I'm just trying to find the source of
 13 the page -- of the document Mr. Izumi -- the page
 14 Mr. Izumi sent you.
 15 Does this appear to be the --
 16 A If I go back one page.
 17 MR. VIRJEE: Just asking to look at the two pages
 18 and see if they look the same to you.
 19 Same objection.
 20 THE WITNESS: (Reviews documents.)
 21 Yes.
 22 MR. VIRJEE: I'll note for the record that the
 23 exhibit that has been provided as Exhibit 4 is virtually
 24 illegible, and I'm sure that's not a fault of Counsel,
 25 with respect to the text surrounding it and hard to read

1 otherwise. So it's not possible to show that they are
 2 the same pages.
 3 BY MR. LONDEN:
 4 Q Can you find on either Exhibit 5 or Exhibit 6
 5 the data that you used to calculate the amount you added
 6 to total spending on Appendix 5?
 7 A There's no specific amount, no.
 8 Q Then I was not asking my question clearly.
 9 We understand that you used the same formula as
 10 in the primer.
 11 A Correct.
 12 Q Applied to data that you obtained from
 13 Mr. Izumi's fax, which, as Mr. Virjee says, is not
 14 clear. I have supplied you with pages that are clear,
 15 and I want to ask you if you can tell, if you're able to
 16 tell me, what were the data that you used in your
 17 application of the formula from Mr. Izumi's primer?
 18 A Well, I didn't have a chance to go over this
 19 yesterday, but my recollection is I took the other
 20 funds, the subtotals for other funds, and took the
 21 percentage devoted to K-12 that he believed was correct
 22 and added it to Prop 98.
 23 Q And the numbers that you took were for what
 24 time period?
 25 A 2000-2001.

1 Q Okay. Do education revenues and -- the term
 2 "education revenues" compared to the term "education
 3 expenditures," do those mean the same thing to you?
 4 MR. VIRJEE: Objection. Incomplete hypothetical,
 5 calls for speculation, lacks foundation as to the
 6 context.
 7 THE WITNESS: They're not exactly the same.
 8 BY MR. LONDEN:
 9 Q What's the difference?
 10 A Well, revenues are the money you get in, and
 11 expenditures are the money you spend.
 12 Q Which category is State lottery funds in?
 13 MR. VIRJEE: Objection. Assumes facts not in
 14 evidence, assumes that they are one or the other. Vague
 15 as to context.
 16 BY MR. LONDEN:
 17 Q One, the other or neither.
 18 Where are State lottery funds, as between
 19 revenues or expenditures, or neither of the above?
 20 MR. VIRJEE: Again, incomplete hypothetical as to
 21 in what context, as to whether you're counting them
 22 coming in or counting them being spent.
 23 THE WITNESS: They can be in both categories.
 24 BY MR. LONDEN:
 25 Q I'm interested in every basis you have for

1 saying that money derived from State lottery funds was
2 omitted from the census data for California that were
3 included in the Web site before you made your
4 correction.

5 A Well, I calculated -- I looked back at that --
6 I did a number of steps, although I can't, to tell you
7 the truth, remember all of them. But I did a number of
8 steps to verify that this did not include the lottery
9 funds, and a number of checks that I would have to go
10 over to reconstruct.

11 But I think the most important is that everyone
12 told me that the official statistics that are reported
13 to the census do not include the lottery funds. They
14 don't include these other funds.

15 Q Who else besides Mr. Izumi told you that?

16 A The attorneys in this case that I talked to.

17 Q That was Mr. Salvaty?

18 A No, actually, it was someone else. Vanessa
19 Koury, K-h-o-u-r-y.

20 Q Did you ask her to verify that fact, or ask
21 someone to verify that fact?

22 A She volunteered it. She said it was a matter
23 of discussion and a well-known fact and -- I discussed
24 it with, actually, a number of people, including -- I'm
25 just trying to think. Some of it may have been e-mails

1 A Well, I don't remember exactly, but I tried to
2 figure out how the per pupil was derived, what it would
3 be with the lottery funds, what it would be without the
4 lottery funds, and whether or not the amount pretty much
5 matched up to what was in this, or was close to it. And
6 you know, I came to the conclusion that, in fact, people
7 were right, that the lottery funds are not in here. And
8 other funds. I mean, it's not just the lottery funds,
9 although they're a big component.

10 Q What else is missing?

11 A The -- I don't -- you know, I may have just
12 used the lottery funds. I don't recall. I really have
13 to go back and reconstruct that. It's something that I
14 did a lot of detailed checking of, and I just can't
15 remember exactly how I did it.

16 Q Did you document the calculation of the number
17 46,392,200?

18 A If I didn't, I will have to reconstruct it.

19 Q Do you recall?

20 A I hope I did. I just don't recall. I mean, I
21 did a lot of checks exactly -- sometimes I don't save my
22 checks. You know, I think I'm going to remember it. I
23 can always reconstruct it.

24 Q And does anything more specific come to mind
25 now about what checks you did?

1 and faxes, but -- it was pretty much general agreement.

2 I mean, there seems to be no controversy about
3 the fact that the lottery -- that these other sources of
4 funds are not included in the official statistics. And
5 I did a number of checks to see if that made sense, and
6 it seemed to be correct.

7 Q You have mentioned -- you've named Mr. Izumi
8 and Vanessa Koury.

9 Can you name anyone else that you either spoke
10 to or corresponded, by e-mail or otherwise, who
11 agreed -- who told you that lottery funds or other funds
12 were omitted from statistics in a way that should be
13 corrected for?

14 A I think Paul Salvaty also said the same thing.

15 Q Anyone else?

16 A You know, I can't remember specific names, but
17 the general consensus is -- I mean, there's no one --
18 there was actually no one who said anything else but
19 that.

20 Q Did you talk to anyone else about this subject?

21 A I don't know.

22 Q And you said you did some checks.

23 What checks did you do?

24 A Math.

25 Q What math?

1 A No. I would have to go back.

2 Q Okay.

3 A But it was a fair amount of checking.

4 Q When you say you'd have to go back, where would
5 you go?

6 A I'd go to my Excel files and start to -- and go
7 to the original data source and start to look at how I
8 might have gotten these numbers.

9 Q Are you talking about going back and looking at
10 documents that exist now as a way of checking?

11 A If they exist. If they don't, I'll have to
12 reconstruct them.

13 Q Okay. In Appendix 5, other than the
14 calculation of the ADA and the calculations regarding
15 California that you've told us about, are there any
16 other calculated values?

17 A No.

18 Q Or any other values you calculated.

19 A Yes. No, there are not, and yes, I
20 understand.

21 Q Okay. Look, please, at Appendix 6 to your
22 report. The source listed for this appendix is the
23 National Association of State Budget Officers, State
24 Expenditure Report 2001, and there's a Web site for a
25 download listed.

1 Is the data in this chart just directly
2 downloaded from that site, as opposed to calculated or
3 combined in any way?
4 A I think so.
5 Q For California, do you know what's included in
6 the -- what categories of funding are included under
7 State funds for each of the three periods that are
8 presented?
9 A No.
10 Q Do you know what -- well, for California, are
11 the numbers that are presented "K" through 12 numbers,
12 as opposed to a larger or smaller category?
13 A I don't know.
14 Well, wait a minute. Let's back up. This is
15 the total State budget. Total includes everything.
16 Q I'm sorry.
17 And best you recall, it's either a download or
18 a selection; that is, where selected data elements were
19 downloaded and formatted into a chart, as opposed to a
20 calculation?
21 A I believe that to be the case, but my research
22 assistant downloaded, I believe, the whole report, and I
23 believe you can find the whole report on the Web site.
24 Q That's my question. Thanks.
25 Appendix 7. What's presented in Appendix 7?

1 A This is Education Week's annual assessment of
2 the quality of education in the various states.
3 Q Does this present results?
4 MR. VIRJEE: You're asking whether Appendix 7
5 presents results?
6 BY MR. LONDEN:
7 Q Yes, does Appendix 7 present the results or
8 assessments or outcomes of the Education Week?
9 A No.
10 Q What's the source of this chart?
11 A Education Week's online data source. I got it
12 from the Web.
13 Q And is this just a download?
14 A Yes.
15 Q Could you turn to the first page of the text of
16 your report.
17 A Yes.
18 Q In the fourth line, your report refers to
19 educational equity court cases.
20 What category of court cases do you have in
21 mind when you use that term?
22 A Pretty much all the cases I've been involved
23 in. I can't think of any case that wasn't in the
24 educational equity courthouse.
25 Q So the CFE case in New York would be within

1 that category?
2 A Yes.
3 Q And desegregation cases, as you use that term
4 here?
5 A Yes.
6 Q In the next-to-the-last sentence --
7 MR. VIRJEE: Next-to-the-last sentence in the first
8 paragraph?
9 MR. LONDEN: In the first paragraph.
10 Q I see the phrase "analyses of the CDE data
11 files that I have been conducting since 1998."
12 Is the analyses that that refers to the same
13 effort you told us about before lunch to merge and make
14 use of CDE data?
15 A I told you a lot of things before lunch.
16 Q Okay. Then let me ask it this way.
17 What analysis of the CDE data files have you
18 been conducting since 1998?
19 MR. VIRJEE: You're asking -- you want her to
20 repeat it? Other than what she's testified to? I'm not
21 being facetious, I just want to know. You asked her
22 what she was referring to there.
23 MR. LONDEN: Her last answer indicated that the
24 cross reference to what she was talking about earlier
25 wasn't clear. So I just asked the question.

1 THE WITNESS: I've been analyzing CDE data in order
2 to figure out how many kids were in bilingual education,
3 what predicts bilingual education in a school, what the
4 achievement outcomes of it are, what the patterns are.
5 BY MR. LONDEN:
6 Q Okay. In the next paragraph there is a
7 statement, "The California constitution does not require
8 an efficient public education." And I'll stop there.
9 The sentence goes on.
10 In that sentence what did you mean by "an
11 efficient public education"?
12 A Well, I meant in the sense that the plaintiffs
13 seem to be using it, which is that the State Government
14 be perfect, that it -- in a colloquial sense of the
15 word, efficient, that it do things -- does things in a
16 timely, effective manner, spending less money than in an
17 alternative and achieving greater benefit than in an
18 alternative.
19 Q And your understanding is that the plaintiffs
20 are complaining about the failure to achieve that
21 objective?
22 A Apparently.
23 Q Where do you get that understanding?
24 A From the briefs and from the expert reports.
25 Q You refer to the Serrano against Priest

1 decision in 1976 in this paragraph.
 2 A Yes.
 3 Q Have you reviewed that decision in the course
 4 of your work on this engagement?
 5 A I've reviewed parts of it. I once read the
 6 whole thing.
 7 Q Have you made any reliance on what the Supreme
 8 Court said in the Serrano against Priest decision in
 9 1976 in doing your work on this report?
 10 MR. VIRJEE: Objection. Vague and ambiguous as to
 11 "reliance."
 12 THE WITNESS: Well, it serves as a general backdrop.
 13 BY MR. LONDEN:
 14 Q And what does that decision tell you that's
 15 relevant to your analysis in this report?
 16 A Well, I'm not sure.
 17 Q Were there any other cases that you considered
 18 as part of your thinking and work on this report?
 19 MR. VIRJEE: And by cases, you're referring to
 20 legal cases, obviously.
 21 BY MR. LONDEN:
 22 Q Yeah. And I want to exclude cases that you've
 23 worked on. You may have thought about other cases you
 24 personally have worked on. I'm not asking about that.
 25 But other than Serrano, are there judicial

1 decisions that you made reference to to help you in your
 2 analysis or understand the case?
 3 A Attorneys like to ask that question, but I've
 4 been reading court decisions for 35 years, almost 35
 5 years. In a sense, I rely on all kinds of law as a
 6 backdrop, a foundation, a kind of a way of thinking and
 7 looking at things.
 8 Q Do you understand -- I'll put it a different
 9 way.
 10 Were there cases that you went and looked at
 11 specifically to inform you about this case in addition
 12 to -- apart from the backdrop of cases you've --
 13 backdrop of knowledge of cases you've acquired over the
 14 years?
 15 A I don't recall any.
 16 Q Okay. Do you remember reading the Butt case?
 17 A I have not read the Butt case. I don't think.
 18 Q Okay.
 19 A Or to put it most accurately, I don't remember
 20 reading the Butt case.
 21 Q And you made no -- you weren't thinking of the
 22 Butt case, then, in deciding how to analyze this case,
 23 right?
 24 A I was not thinking of the Butt case.
 25 Q Okay. You did not read any deposition

1 transcripts of witnesses in this case; is that right?
 2 A That is correct.
 3 Q The first sentence of the last paragraph on the
 4 first page of your report says, "Linda Darling-Hammond
 5 and Jeannie Oakes assert that poor students are
 6 disproportionately taught by teachers with emergency
 7 credentials."
 8 Is it true or false that poor students are
 9 disproportionately taught by teachers with emergency
 10 credentials?
 11 A It's true.
 12 Q On the next page of your report, Page 2, in the
 13 second-to-last sentence of the carryover paragraph says,
 14 quote, "Only 24 percent of teachers are emergency
 15 credentialed," unquote.
 16 What's the source of that percentage?
 17 A I believe it's my data file.
 18 Q Do you know what year that describes?
 19 A It would be the most recent year for which I
 20 have data.
 21 Q And what year would that be?
 22 A I believe it's 2000-2001.
 23 Q Is that data that you downloaded from the
 24 demographics site within CDE?
 25 A Yes.

1 Q Within the CDE Web site?
 2 A Yes.
 3 Q And that's 24 percent of teachers in all
 4 schools, all public schools in California, "K" through
 5 12, who are emergency credentialed? I've messed the
 6 question up.
 7 Your statement, "24 percent of teachers are
 8 emergency credentialed," that's the percentage of
 9 emergency-credentialed teachers in all "K" through 12
 10 public schools in 2000-2001, according to your database?
 11 A Yes. I believe so.
 12 Q The next sentence says, "More than 30 percent
 13 of California schools have no teachers with emergency
 14 credentials and about two-thirds have ten percent or
 15 less." I end my quote there.
 16 Is that a statement that's based on data from
 17 the same source in your data file?
 18 A Yes.
 19 Q Can we look at Table 1, please.
 20 My first question is: Can you tell me what
 21 appendices to your report either do or would, if they
 22 were the final ones, supply underlying information for
 23 the equations in this table?
 24 A I didn't do an appendix when I did a detailed
 25 table like this. So the appendices are only for the

1 tables where I had summaries.

2 Q Tell me what you did to create the analysis or
3 analyses that you summarize in this table.

4 A I simply ran a regression in which my dependent
5 variable was the percentage of teachers with emergency
6 credentials, and my independent variables -- in a
7 school, and my independent variables were the percentage
8 of students in the school who were poor, the percentage
9 of students in a school who were English learners,
10 whether a school was an elementary school, the
11 percentage of English learners in a school who are
12 enrolled in bilingual education, school size, and the
13 percentage of the students who are minority in the
14 school.

15 Q The data values for these -- well, back up.

16 The first seven lines on this table are the
17 variables?

18 A Yes.

19 Q The first line is the dependent variable and
20 the next six lines are the independent variables?

21 A Correct.

22 Q The values for the variables are the same
23 values used -- or reflected in the appendices for the
24 years 2000 and 2001 for the variables with the same
25 descriptions; is that right?

1 regression output reports?

2 A The -- well, R-2 really should say R-squared.

3 That's supposed to be a superscript.

4 Q I understand.

5 A The 2. That's in a slightly different place,
6 and the "N" is in a slightly different place, but the
7 rest will be in the table. And the averages are also in
8 a slightly different place. But the rest will be in a
9 table -- in the table called "Coefficients."

10 Q I stand corrected. R-2 is in the model summary
11 table and the output?

12 A Yes. It's called R-square.

13 Q So tell us what regression analysis you did to
14 generate Equation 1.

15 A I thought I just told you. But maybe I
16 didn't.

17 I looked at the -- you know, you just go to the
18 regression, and your dependent variable is percentage of
19 teachers who are emergency credentialed in a school, and
20 then your independent variable is the percentage of poor
21 students.

22 Q And for that equation you didn't run the other
23 variables listed before percentage of poor students?

24 A No.

25 Q "No" means my statement is correct?

1 A I don't think so. I don't think I have this in
2 the appendix.

3 Q I'm asking the question in a clumsy way, then.

4 The values for the -- would you look, please,
5 at the same time at Table 1 and at the first page of
6 Appendix 2.

7 The dependent variable line, percentage of
8 emergency credentials, is that the same variable as the
9 last variable listed under the descriptive statistics on
10 Appendix 2?

11 A Yes.

12 Q And similarly, if we were to look for school
13 size -- well, I can do it if we need to. I simply want
14 to know whether the source values for the variables
15 listed on Table 1 are the same data set as for the
16 variables listed in the appendix. I know the lists of
17 schools will differ because of the need to find all the
18 variables.

19 A It's the same variables.

20 Q Okay. And I take it you ran three regression
21 analyses to generate the three equations on Table 1?

22 A Yes.

23 Q And that the values that appear in the last
24 three lines, constant, "N" and R-2, are simply copied
25 from a coefficient table for each of the three

1 A Your statement is correct.

2 Q Okay. Sorry about the question.

3 So Equation 2 is a regression analysis, where
4 percentage emergency credentials is dependent and the
5 next two variables are the independent variables for the
6 run, right?

7 A Correct.

8 Q And Equation 3 runs percentage emergency
9 credentials as dependent and all the other variables
10 listed as the independent variables?

11 A Correct.

12 Q Okay. At Page 3 of your report, in the first
13 full sentence, it says, "The strength of the
14 relationship looks larger than it is in the chart on
15 Page 20 of Dr. Hakuta's report because the scale is zero
16 to 20 percent instead of zero to a hundred percent." I
17 end my quote there.

18 The strength of the relationship is a way of
19 referring to the R-squared?

20 A No, it's the slope, the line that's on that
21 chart. In that report, in Hakuta's report.

22 Q Do you know whether Dr. Hakuta's report
23 reflects a regression analysis, report of this data?

24 A Well, he does not do regression analysis, but
25 he cites a -- the Gandara study, and I believe it was a

1 regression analysis, but I can't remember exactly. I'd
2 have to check it.

3 Q Do you know whether someone who directly or
4 indirectly Mr. -- Dr. Hakuta relied on in Figure 20 did
5 a regression analysis where the values -- back up. I'm
6 sorry, let me withdraw the question.

7 What is the value that is being presented as
8 from zero to 20 percent on the chart on Page 20 of
9 Dr. Hakuta's report?

10 MR. VIRJEE: Let the record reflect that she
11 doesn't have Dr. Hakuta's report in front of her, and
12 the report and that chart speaks for itself. If you
13 want her to look at the chart and tell you what she
14 says, that would be fair, but it's not fair to ask her
15 to remember what something says when she hasn't seen it
16 today; she doesn't have it in front of her. I don't
17 know when the last time she saw it was.

18 BY MR. LONDEN:

19 Q Can you tell the answer to my question from
20 your report or your memory?

21 A I really should have it in front of me.

22 Q You're expressing a criticism here in this
23 sentence of Dr. Hakuta's reasoning, based on the chart?

24 A Well, I remember looking at the slope, and it
25 looked very strong. But it doesn't look that strong

1 sentence, referring to the R-squared values in Table 1
2 says, quote, "This shows that the percentage of poor
3 students alone (Equation 1) explains only seven out of a
4 maximum of 100 percent of the variation in
5 emergency-credentialed teachers."

6 That's a conclusion you draw from the R-squared
7 of 0.07?

8 A Yes.

9 Q In the first sentence of the next paragraph,
10 you state, "Equation 3 is a fuller model, but it
11 explains only 20 percent of the variation in the
12 percentage of emergency-credentialed teachers, and there
13 are no other variables in the state data files that add
14 anything to the equation."

15 How do you know that there are no other
16 variables in the State data files that add anything to
17 the equation?

18 A I probably looked at them and looked at the
19 array of variables and knew that there wouldn't be
20 anything that would predict it. You have to have
21 something that makes some sense. There's a lot of
22 variables in the State data file, but -- you know, I
23 mean, you look at them, and they don't seem to be at all
24 related.

25 Q In the course of coming to the conclusion that

1 when it's zero to a hundred, which is the top.

2 Q And do you remember what it was zero to a
3 hundred -- zero to 20 or zero to a hundred of? For
4 example, percentage of emergency-credentialed teachers?

5 MR. VIRJEE: Again, the document speaks for itself,
6 and it's unfair to ask the witness to testify about it
7 unless she has it in front of her or has a specific
8 recollection of the chart.

9 MR. LONDEN: Well, I don't think it's unfair to ask
10 it.

11 Q I don't insist on an answer that you don't
12 remember. So let's see if you do.

13 A Well, he could have done it either way, and I
14 really don't remember.

15 Q What do you mean by could have done it either
16 way?

17 A Well, it could be zero to 20 percent English
18 learners or zero to 20 percent emergency-credentialed
19 teacher -- or uncertified teachers. Emergency
20 credential.

21 Q Are you familiar with the linear regression
22 analysis used -- strike the question.

23 Can one properly do a linear regression
24 analysis of -- strike that too.

25 The first full paragraph on Page 3, the second

1 there are no other variables in the State data files
2 that add anything to the equation, did you run any other
3 statistical analyses besides the ones that generated
4 Table 1?

5 A I don't recall doing that, but I think that
6 there should be a word between that "add," and the word
7 should be "that would add." Because I think I was
8 basically -- my memory is that I looked at the variables
9 to see if there was anything else I could put in here
10 and decided that there wasn't anything that made any
11 sense.

12 Q So the basis for your statement that there are
13 no other variables in the State data files that would
14 add anything to the equation is your experience and
15 judgment about the variables in the State data files and
16 not another run that you did for this -- data run that
17 you did for this case?

18 A That's my memory.

19 Q And you've told us there are typos in the next
20 sentence about no -- that is, "no longer" and "not"
21 should be taken out where you told us earlier.

22 A Correct.

23 Q The following sentence says, "The other
24 variables are statistically significant but not very
25 important."

1 And what's the basis for saying they're not
2 very important?

3 A Well, it's a judgment call. In my view, the
4 effect of those variables on the dependent variable is
5 not meaningfully large.

6 Q But are you talking about a statistical test
7 that gives you a numeric indication of importance?

8 A No.

9 May we have a bathroom break?

10 Q Sure. You can always have a break, with the
11 exception of a pending question.

12 (Brief recess taken.)

13 BY MR. LONDEN:

14 Q In doing the work that enabled you to put Table
15 1 together, am I right that you obtained from the SPSS
16 program three or maybe more than three output reports at
17 some point?

18 A Probably not. It's probably one output.

19 Q Is there more than one regression run that was
20 done?

21 A There were two regression runs. The first run
22 would have put percent poor in in one step, and then the
23 second step would include percent English learner. And
24 then there would be a separate equation -- there was a
25 separate equation -- this is my memory, anyway -- of the

1 the assumption is that was produced to us, right?

2 A Yes.

3 Q And if, in checking on the final versions of
4 the regressions that you did to generate Table 1, you
5 find that anything that you used in generating Table 1
6 has not been produced, our understanding is that you'll
7 make that available to the State's counsel to produce.

8 A Yes.

9 Q Figure 1, would you look at Figure 1 to your
10 report, please.

11 How was this prepared?

12 A It was in an Excel file, and then I simply
13 solved the equation for these values, zero and a
14 hundred.

15 Q What was in the Excel file?

16 A I copied the output of the -- the summary
17 output, the coefficients table, to an Excel file, solved
18 the equation, which consists of taking the constant,
19 multiplying each coefficient times some value, and then
20 summing the constant and the multiplied value. And in
21 the first set of charts, I solved for zero and a hundred
22 percent English learners, holding the percent poor
23 constant at the mean, which was 48.4.

24 Wait a minute. Excuse me. I misspoke. The
25 first set of bars is simply the percent poor. That's

1 full model. And I believe that's how I did it.

2 Q So for the method used in generating Equations
3 1 and 2 -- by method I mean the method that's reflected
4 by the entry in the chart "Variables Entered/Removed,"
5 was the method enter or step-wise?

6 A No, it's enter.

7 Q How do you generate Equation 1 and Equation 2
8 in the same regression?

9 A One line says, slash, enter, percent poor, and
10 then the next line says, slash, enter percent English
11 learners. So you'll get an output with just the percent
12 poor in it and then you'll get an output with -- and
13 then the next step will be percent poor and percent
14 English learners.

15 Q Okay. Do you know whether you made a copy,
16 either electronic or paper, of the output of the
17 regression that generated Equation 1 and Equation 2?

18 A I don't remember, but I -- that was my intent.

19 Q And if you did, you gave it to counsel to
20 produce to us?

21 A Correct.

22 Q And same thing for the regression that
23 generated Equation 3?

24 A Correct.

25 Q Your intent was to produce it to counsel, and

1 that single variable equation. Solving it for zero and
2 a hundred. The second set of bars, the ones in the
3 middle, is solved for zero and a hundred percent English
4 learners, holding the percent poor constant at the mean,
5 which is 48.4. And then the third set of bars is solved
6 for zero and a hundred percent minority students,
7 holding all the other variables constant at the mean.

8 Q And the six-variable equation, is that a
9 reference to the same six variables in Equation 3 on
10 Table 1?

11 A Yes.

12 Q The reference to the typical school with --
13 typical school of 30 teachers, what do you do to create
14 the typical school with specific reference to the 30
15 teachers?

16 A (No audible response)

17 Q Or put more simply, where does the 30 come from
18 in 30 teachers?

19 A It's the median number of teachers in the
20 schools.

21 Q In all schools in California?

22 A I believe so.

23 Q Or in the 8,430 schools in these runs?

24 A Well, I think it's all schools.

25 Q All right. And when you say you solved for,

1 you generated the expected number of teachers with
 2 emergency credentials, using the regression line
 3 generated by the -- or at least in the case of the last
 4 two blocks on the right of the chart, the third
 5 regression of six variables?
 6 A That's a mouthful of a sentence.
 7 Q It is.
 8 Well, you said you solved for the zero
 9 percentage and a hundred percent poor student cases, I
 10 thought. Is that right?
 11 A Could you repeat that, please?
 12 Q Tell me what you mean when you say you solved
 13 for the percentage of English learners.
 14 A The way you solve an equation is you take the
 15 constant -- that's the first value you're going to add.
 16 Q Right.
 17 A To that you add the coefficient, keeping the
 18 sign, for each one of these variables, deciding what
 19 value you want to put in there, and in my case -- in
 20 this particular situation, I -- well, let's go to the
 21 six-variable equation.
 22 I used the mean for elementary school, percent
 23 poor, percent English learners, school size and percent
 24 bilingual in multiplying the coefficient times the
 25 value. And I varied percent minority. In one column it

1 emergency-credentialed teachers and if you had none of
 2 your students poor, then you didn't have any. Or at
 3 least one could infer that. I mean, it was a little --
 4 it wasn't that specific, I didn't think. But I thought
 5 that this put it into context, so you know what this
 6 means for the average school.
 7 Q But without doing regression analysis and
 8 solving, we can go look at the tables and tell how many
 9 emergency-credentialed teachers there are in any school
 10 in California, right?
 11 A Yes.
 12 Q So we can go and look at the correlation, in
 13 fact, between percentage, whether it's free lunch or
 14 CalWORKS, and emergency-credentialed teacher, school by
 15 school, right?
 16 A This is free or reduced lunch, this particular
 17 figure.
 18 Q Okay. So we can go and look school by school
 19 at emergency credentials, percentage or absolute number,
 20 school by school, and the free or reduced lunch for the
 21 same schools?
 22 A Yes.
 23 Q What does this analysis tell us that the
 24 school-by-school actual data analysis doesn't tell us?
 25 A Well, there are 9500 schools. Have you ever

1 was zero; in another column it was a hundred.
 2 Q I understand.
 3 And what does the analysis in Figure 1 tell us?
 4 A Well, it tells us that if you have no poor
 5 students, you'll have two emergency credentials in a
 6 typical -- two teachers with emergency credentials in
 7 the typical school. And if all of your students are
 8 poor, you'll have four teachers on emergency credentials
 9 in the typical school.
 10 Q And the same for English learners and the same
 11 for percentage minority?
 12 A Yes.
 13 Q Same form of analysis.
 14 And that's a way of saying that this
 15 information fails to present evidence that the
 16 percentage of poor students is the reason for the
 17 percentage of emergency-credentialed teachers? Is that
 18 the inference -- an inference to be drawn?
 19 A Well, it simply puts it in context.
 20 Q And why does that matter in analyzing this
 21 case? Why does the context that this gives us matter?
 22 A I thought when I was reading the --
 23 Dr. Hakuta's report and also Dr. Oakes' report, that the
 24 impression was being conveyed that if you had all your
 25 students poor and you had just a ton of

1 looked at those numbers? It's like a pinball machine.
 2 This kind of straightens it out.
 3 Q Why does it matter to straighten it out? Are
 4 you saying that the issue is whether the percentage of
 5 poor students explains the emergency credentialed or
 6 causes it or -- is that the question you're looking at?
 7 A No. Well, yes, actually, I did look at that.
 8 Yes and no, but that's not what Figure 1 is saying.
 9 Table 1 gives you the equation.
 10 Q And Figure 1 gives calculated typical values,
 11 but the actual values are available on a
 12 school-by-school basis?
 13 A (No audible response)
 14 Q What's the information about the context that
 15 you get from doing the typical values?
 16 MR. VIRJEE: Objection. Asked and answered.
 17 MR. LONDEN: It may be.
 18 THE WITNESS: There are 9500 schools. Yes, it is
 19 true, one can just look at 9500 -- 9,500 schools, but
 20 you get to the bottom and what do you know?
 21 BY MR. LONDEN:
 22 Q Well, to the extent the case is about
 23 addressing schools that, within the terms of this
 24 analysis, would be atypical -- this is not generating a
 25 question that I think will be useful. I think I

1 understand what you did.
 2 On Page 3 you have a sentence, "To put it
 3 another way, we do not know much about why some schools
 4 have more emergency-credentialed teachers and others
 5 have less from these equations." Which according --
 6 these equations, according to your experience and
 7 judgment, reflect the impact of the variables for which
 8 the State keeps data?
 9 A Yes.
 10 Q So the statement I've just quoted is a
 11 statement about the explanations and inferences that can
 12 be drawn from regression analysis of that data, right?
 13 A Correct.
 14 Q And is there something else -- some other basis
 15 for your statement that we do not know much about why
 16 some schools have more emergency-credentialed teachers
 17 and others have less from these equations?
 18 MR. VIRJEE: Other than the next sentence? I mean,
 19 her report does go on.
 20 BY MR. LONDEN:
 21 Q Well, the next -- is the next sentence
 22 another -- does that present another basis for that?
 23 A Let's get back to the question. What was the
 24 original question?
 25 Q As I understand it, the evidence upon which you

1 base the statement I quoted, which starts, "To put it
 2 another way," is the regression analysis -- the results
 3 of the regression analysis of the variables in Equation
 4 3, right?
 5 A Yes.
 6 Q And when you say, "We do not know much about
 7 why some schools have more emergency credentials and
 8 others have less from these equations," you're talking
 9 about conclusions that can be derived through regression
 10 analysis of those data and not about other sources of
 11 information about why some schools have more emergency
 12 credentials and others have less, true?
 13 A The statement reflects the data that I have
 14 analyzed on the State data file, the data that's
 15 available.
 16 Q And that statement is not passing judgment on
 17 other sources of information about why schools have more
 18 emergency credentials and others have less; is that
 19 true?
 20 MR. VIRJEE: Objection. Vague and ambiguous as to
 21 "other sources." Also, incomplete hypothetical.
 22 THE WITNESS: I second that.
 23 BY MR. LONDEN:
 24 Q Are you able to answer my question?
 25 A I can't even remember what it was.

1 Say it again, please?
 2 Q I'm asking you whether it's fair to say that
 3 your statement that, "We do not know much about why some
 4 schools have more emergency-credentialed teachers and
 5 others have less," doesn't say anything about sources of
 6 information other than the State data you used to
 7 generate the equation. Is that true?
 8 A I'm referring to the data that I have and the
 9 data that's available at the CDE Web site.
 10 Q Okay. On Page 4, you -- the last paragraph
 11 describes -- or makes some statements about Table 2, and
 12 I'd like you to look at Table 2.
 13 What analysis generated the numbers or "not
 14 significant" references in Table 2?
 15 MR. VIRJEE: Objection. Asked and answered.
 16 THE WITNESS: The analysis in Table 2 comes from
 17 the analysis in Appendix 2.
 18 BY MR. LONDEN:
 19 Q And what does the number 0.011 tell us?
 20 A It's the relationship -- it's the "B"
 21 coefficient for the percentage of teachers holding
 22 emergency credentials.
 23 Q Does that tell us, in effect, how much change
 24 there is to the reading scores of all students from a --
 25 well, explain to me the -- what the 0.011 is.

1 A It is the change in reading score for 2001 for
 2 all students in a school for a one-unit change in the
 3 percentage of teachers holding emergency credentials.
 4 Q Generated by the analysis where the other
 5 variables in Appendix 2 were also run?
 6 A Correct.
 7 Q On the top of Page 5, the last sentence of the
 8 first carryover paragraph, "The equations for all
 9 students explain over 90 percent of the variation in
 10 achievement and the equations for poor students and
 11 English learners explain over 70 percent of the
 12 variation in achievement."
 13 What values on Appendix 2 tell you that?
 14 A If you go to the middle of Page 1 of Appendix
 15 2, you'll see an R-square of .96. And if you go to the
 16 middle of Page 2, .93; the middle of Page 3, .948;
 17 middle of Page 4, .913; middle of Page 5, .914. Then we
 18 go to poor students, middle of Page 6, .849; middle of
 19 Page 7, .793; middle of Page 8, .802; middle of Page
 20 9, .76; middle of Page 10, .726.
 21 Then on Page 11 we start with English learners,
 22 middle of the page, .778; Page 12, middle of the
 23 page, .775; Page 13, middle of the page, .745; Page 14,
 24 middle of the page, .717; Page 15 -- whoops, there's an
 25 R-square for social studies of .558. But there aren't

1 many students that take social studies. It's only --
2 and the same thing is true of science, although that was
3 above .7.

4 Q Now, on that same run of analysis, the beta for
5 the previous year's test score -- in each case where the
6 R-square is above 90, the beta's above 90 for the
7 previous year's reading, right? 90 or above.

8 A Let's go to where you're referring, but -- I'm
9 just trying to figure out -- oh, there it is. I forgot
10 there was a variable left out.

11 Okay. What are we referring to?

12 Q Take Page 1, the -- of Appendix 2. The
13 R-square you pointed me to is .964, and the standardized
14 coefficient subheading beta for reading achievement 2000
15 is .95.

16 A Right.

17 Q I may ask a different question.

18 In your statement on Page 5 you said, "The
19 equations for all students explain over 90 percent of
20 the variation in achievement," and I'll stop there.

21 That's an equation that uses as one of the
22 variables the previous year's test score that itself is
23 the most highly correlated independent variable with the
24 dependent variable, correct?

25 A Correct.

1 Q Let's look at Table 3.

2 Your methods and data sources used in
3 preparing Table 3 are -- well, your methods in preparing
4 Table 3 were comparable to your methods in preparing
5 Table 1; is that right?

6 A Similar technique, yes.

7 Q Similar technique.

8 And the sources for the values for the
9 variables were the same sources?

10 A Yes.

11 Q On Page 8 you say, "The characteristics of the
12 school explain virtually nothing of the variation in the
13 percentage of waived teachers at a school."

14 Could you explain that, how Table 3 shows that?

15 A Well, I think I misspoke. Oh, no, Table 3 does
16 show that. Excuse me.

17 Q Very small squared numbers? Is that --

18 A Yes. And again, that "2" was supposed to be a
19 superscript.

20 Q Sure.

21 Are there appendices that present the
22 additional data that was used in the regressions that
23 generated these equations in Table 3?

24 A No.

25 Q And it was your intention to produce the copies

1 Q So it's not surprising to see that the
2 equations that include that variable explain over 90
3 percent of the variation in achievement for poor
4 students and 70 percent for English learners, correct?

5 A I don't think it's surprising.

6 Q You would expect that because the previous
7 year's test score's one of the variables, right?

8 A Yes, you would expect that.

9 Q Table 2 -- the next sentence, the first
10 sentence of the next paragraph says, "Table 2 shows that
11 there is no negative relationship between the percentage
12 of emergency-credentialed teachers in any subject area
13 for any group."

14 Could you explain how Table 2 shows that?

15 A The only coefficients here are positive. The
16 rest are not significant.

17 Q Is it fair to say that the main observation is
18 that those numbers are quite small?

19 A Yes.

20 Q And that that maybe has more meaning than to
21 say whether they're positive or negative?

22 A Probably.

23 Q We're talking about .011, as compared to a
24 percentage point, right?

25 A I agree, it's small.

1 of the regression and output printouts for these?

2 A Yes.

3 Q Okay. On Page 8, in the sentence just above
4 the one we were looking at, the last sentence of the
5 carryover paragraph, it says, "Only two percent of
6 California teachers in 2000 and 2001 had waived --

7 A I'm trying to find this.

8 Q I'm sorry, Page 8.

9 A Yeah. Oh, here it is, up at the top. Okay.

10 Q The last sentence says, "Only two percent of
11 California teachers in 2000 and 2001 had waived
12 credentials."

13 Let me stop there and ask you: Was that
14 something you obtained -- that conclusion that you
15 reached or statement that you made by looking at your
16 database?

17 A Yes.

18 Q "And more than 75 percent of all California
19 schools had no teachers at all with waived
20 credentials."

21 Did you make a query to ask for a percentage to
22 be calculated using the data from CDE the demographics
23 site?

24 A Correct.

25 Q So it's a fair inference that the two percent

1 of California teachers are located in the 25 percent of
2 schools that had some with waived credentials?

3 A Yes.

4 Q But in any event, those are reported school by
5 school.

6 MR. LONDEN: I can't finish today, even by 7:00.
7 I'm sorry, I really wish I could. It's almost 5:00, and
8 what I would like to do is work hard on eliminating
9 questions that I now could tell what the answer would be
10 based on what you've already answered. I'm pretty
11 confident we'll be done before noon tomorrow. And I'll
12 try to do it as quickly as I can. That may seem like I
13 could do it if we stayed for two or three more hours,
14 but I don't think I can do it without some work.

15 MR. VIRJEE: That's fine. There's no sense in
16 staying late if we can't finish. So I understand.

17 MR. LONDEN: If it makes a difference finish
18 earlier than noon, I'd say I'd push on a little while,
19 but I'm confident about noon.

20 MR. VIRJEE: Okay.

21 MR. LONDEN: Okay?

22 THE WITNESS: Okay.

23 MR. LONDEN: Thank you for your cooperation.

24 _***_
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4 I, the undersigned, a Certified Shorthand
5 Reporter of the State of California, do hereby certify:

6 That the foregoing proceedings were taken
7 before me at the time and place herein set forth; that
8 any witnesses in the foregoing proceedings, prior to
9 testifying, were placed under oath; that a verbatim
10 record of the proceedings was made by me using machine
11 shorthand, which was thereafter transcribed under my
12 direction; further, that the foregoing is an accurate
13 transcription thereof.

14 I further certify that I am neither financially
15 interested in the action nor a relative or employee of
16 any attorney of any of the parties.

17 IN WITNESS WHEREOF, I have this date subscribed
18 my name.

19
20
21 Dated: _____

22
23 _____
24 SHERRYL DOBSON
25 CSR No. 5713

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9 I, CHRISTINE ROSSELL, do hereby declare under
10 penalty of perjury that I have read the foregoing
11 transcript; that I have made such corrections as noted
12 herein, in ink, initialed by me, or attached hereto;
13 that my testimony as contained herein, as corrected, is
14 true and correct.

15 EXECUTED this _____ day of _____,
16 _____, at _____, _____.

19 _____
20 CHRISTINE ROSSELL
21 Volume 1
22
23
24
25