

1
2 IN THE SUPERIOR COURT OF THE STATE OF CALIFORNIA
3 IN AND FOR THE COUNTY OF SAN FRANCISCO

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5 ELIEZER WILLIAMS, a minor, by)
Sweetie Williams, his guardian ad)
6 litem, et al.,)

7 Plaintiffs,)

8 vs.) No. 312236

9 STATE OF CALIFORNIA; DELAINE)
EASTIN, State Superintendent of)
10 Public Instruction; STATE)
DEPARTMENT OF EDUCATION; STATE)
11 BOARD OF EDUCATION,)

12 Defendants.)

13
14
15 DEPOSITION OF
16 DR. GLEN EARTHMAN

17
18 Volume II
19 (Pages 153 through 298)
20 January 14, 2003

21
22 REPORTED BY: JOHNNA PIPER CSR 11268 JOB 3-327514
23
24
25

I N D E X

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DEPARTMENT OF EDUCATION; STATE)
10 BOARD OF EDUCATION,)

11)
Defendants.)

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BE IT REMEMBERED that, pursuant to notice and on Tuesday, January 14, 2003, commencing at 9:38 a.m. at O'Melveny & Myers LLP, 275 Battery Street, San Francisco, California, before me, JOHNNA PIPER, a Certified Shorthand Reporter, personally appeared
DR. GLEN EARTHMAN

called as a witness by the Defendant state of California, who, having been first duly sworn, was examined and testified as follows:

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1 STATE OF CALIFORNIA, DEPARTMENT OF JUSTICE,
2 OFFICE OF THE ATTORNEY GENERAL HEW, 1300 I Street,
3 Sacramento, California 95814, represented by SUZANNE
4 GIORGI, Attorney at Law, appeared as counsel on behalf
5 of the Defendant, State of California.

6 OLSON, HAGEL & FISHBURN LLP, Plaza Towers,
7 555 Capitol Mall, Suite 1425, Sacramento, California
8 95814-4602, represented by N. EUGENE HILL, Attorney at
9 Law, appeared as counsel on behalf of the Defendant,
10 California School Board Association.

11 ACLU FOUNDATION OF SOUTHERN CALIFORNIA, 1616
12 Beverly Boulevard, Los Angeles, California 90026-5752,
13 represented by PETER ELIASBERG, Attorney at Law,
14 appeared as counsel on behalf of the Plaintiffs.

15 MORRISON & FOERSTER LLP, 555 West Fifth
16 Street, Los Angeles, California 90013-1024,
17 represented by BITA RAHEBI, Attorney at Law, appeared
18 as counsel on behalf of the Plaintiffs.

19 PILLSBURY WINTHROP LLP 50 Fremont Street,
20 San Francisco, California 94105-2228, represented by
21 CAROLINE N. MITCHELL and KRISTIN M. LEFEVRE, Attorneys
22 at Law, appeared as counsel on behalf of the
23 Defendants, Las Angeles Unified School District.

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EXAMINATION BY MS. GIORGI

MS. GIORGI: Q. Good morning, Dr. Earthman, day two.

A. Good morning.

Q. As you may recall, you are still under oath.

A. Yes.

MS. GIORGI: Thank you. I would like to hand you Earthman Exhibit 10.

(Whereupon, Defendants' Exhibit 10 was marked for identification.)

MS. GIORGI: Q. Do you recognize this document?

A. Yes.

Q. And what is this?

A. This is a copy of an article that we wrote, Carolyn Cash, Denny Van Berkum, and I wrote and was published in the Journal of School Business Management.

Q. And this article represents a study you conducted, correct?

A. Yes.

MR. ELIASBERG: Objection. Vague as to "Represent." Make sure you don't cut off Suzanne's questions and my objections. It makes it impossible for the court reporter to take everything down.

"Complete questions can be found in appendix."

Is there an appendix to this journal?

A. No.

Q. What does "Complete questions can be found in appendix" refer to?

A. This table was prepared for a presentation and it did include a copy of the document or the instrument that was used. The editors did not include it in this.

Q. That presentation that you just identified, is that the same presentation you previously -- is that the same 1995 presentation?

A. It is.

Q. If I were to obtain your documentation of the 1995 presentation, would it have that appendix with it?

A. It should have.

MS. GIORGI: Counsel, I request that you produce the 1995 presentation with the attached appendix.

MR. ELIASBERG: All right. Please confirm that in a letter, but I also want to make clear that that would not fall within the terms of the discovery order, but if you serve proper discovery, I'll be happy to produce it. If you just do it informally in a

MS. GIORGI: Q. Do you have any other documents that would summarize more thoroughly your research of the North Dakota schools?

A. On this study?

Q. That's right, this study.

A. The results of this study was presented at a conference Council on Educational Facility Planners International.

Q. Do you have a copy of that document?

A. I have a copy at home.

Q. Do you know approximately what date that was? What year?

A. I'm trying to think. It would be 1995, fall, if my memory serves me correctly.

Q. And is that document that you prepared for that done, for instance, more thorough than this journal article?

MR. ELIASBERG: Objection. Vague as to "Thorough."

THE WITNESS: The presentation was the same as this journal article.

MS. GIORGI: Q. I would like you to refer back to table ten. That is on page 35 of Earthman Exhibit 10. There is an asterisk -- I shouldn't say an asterisk -- a note underneath table ten that states,

letter, I'll be happy to produce it.

MS. GIORGI: Thank you.

Q. Also referring on table ten, what does this table ten represent?

A. It is comparison of mean scores between substandard and above-standard buildings, academic scores.

Q. And this is a comparison with 29, what would you call this, building conditions?

A. Or components.

Q. Components.

A. Yes.

Q. And the mean scores, those are the children's academic test scores, correct?

A. Correct.

Q. The first item is building age. The second column, it has an "N" with 11 under it. What does that stand for?

A. That was the number of facilities.

Q. The next category says, "Substandard." What does that mean?

A. I'm sorry. I didn't hear you.

Q. The next column is substandard. What does that mean?

A. It means substandard buildings. It is an

1 achievement score of students in substandard buildings.
 2 Q. Okay. Then the next column has an "N." Is
 3 that for, again, the number of facilities?
 4 A. Yes.
 5 Q. And does that relate to the above-standard
 6 column?
 7 A. Mean score, right.
 8 Q. And the above-standard refers to the
 9 buildings that were in the top 25th percentile?
 10 A. Yes.
 11 Q. What is the relationship on building age
 12 between substandard buildings and above-standard
 13 buildings?
 14 A. The achievement of students in substandard
 15 buildings where the building age was used as a
 16 comparison were higher than those in the above-standard
 17 building -- the students in the above-standard
 18 buildings.
 19 Q. This is contrary to the findings of the
 20 reports or the studies that you identified in your
 21 report, correct?
 22 MR. ELIASBERG: Objection. Misstates his
 23 testimony.
 24 THE WITNESS: I don't understand the
 25 question.

1 MS. GIORGI: Q. In paragraphs 28 through 29
 2 of your report, that is Exhibit 1, those studies
 3 referred to in those paragraphs came out with a
 4 different result than you did in your research,
 5 correct?
 6 A. Correct.
 7 Q. And why did you omit the discussion of your
 8 research in your report on this category of building
 9 age?
 10 A. What was written here is based upon a
 11 cumulation of research studies and evidence that show a
 12 relationship between age and building.
 13 Q. Is not your research on the building age or
 14 I should say the age of the building?
 15 A. That is one of many factors, but it is not
 16 the prime factor.
 17 Q. And what makes something a prime factor?
 18 A. The studies that referring to in this
 19 paragraph or the ones by Plumley and Phillips and
 20 McGuffey that use age of the building as one of the
 21 main variables. In this type of study, the composite
 22 score is a condition of the building, not necessarily
 23 the age of the building. Age of the building is one
 24 item out of 29.
 25 Q. But in table ten, you have isolated the

1 building age and found essentially a reverse
 2 correlation, correct?
 3 A. I haven't isolated, no.
 4 Q. In your appendix, which we don't have, does
 5 it identify specific questions as to building age?
 6 A. There is a question asking for the age of
 7 the building, yes.
 8 Q. So you obtain data regarding the building
 9 age?
 10 A. Yes.
 11 Q. And building age was then therefore a
 12 variable, correct?
 13 A. Not a separate variable, no.
 14 Q. Going down to item five in table ten, what
 15 were the results of your study concerning
 16 air-conditioning between substandard schools and
 17 above-standard schools?
 18 A. On this particular item, there were 69
 19 schools reporting. The mean score, student score, was
 20 805 and the air-conditioned buildings there were five
 21 buildings. The mean score was 798.
 22 Q. In your study, did you find that
 23 air-conditioning had a positive influence on student
 24 achievement?
 25 MR. ELIASBERG: Objection. Vague as to "His

1 study."
 2 THE WITNESS: Could you repeat the question,
 3 please?
 4 MS. GIORGI: Q. In your North Dakota study,
 5 did you find air-conditioning as a positive influence
 6 on students' achievement?
 7 A. The methodology we used was to try to
 8 identify total scores so that the score that each of
 9 these components had, if it is a yes or no, is
 10 converted into a numerical figure. The total score,
 11 then, of the school was used for comparison purposes
 12 and based upon that, we made some comparison and came
 13 out with some results. There were three analyses; one
 14 for the total, all 29 items, a score in total; one on
 15 items relating to structural matters such as the roof
 16 and so forth; and the third was on cosmetics such as
 17 coloring, paint.
 18 Q. Did air-conditioning have a positive
 19 influence on student achievement?
 20 A. This was not broken out as a separate
 21 statistical analysis.
 22 Q. Was there higher mean achievement score in
 23 the above-standard schools under the category of
 24 air-conditioning as compared to the substandard
 25 schools?

1 A. According to the table, no.
 2 Q. So the substandard schools had a higher
 3 achievement score under the category of
 4 air-conditioning?
 5 A. Yes.
 6 Q. Then if we go down to column No. 14 or item
 7 No. 14, it says noise. Could you explain to me your
 8 findings on this matter?
 9 A. Two schools were reported as having
 10 excessive noise. The mean achievement level of
 11 students in those schools was 809 and in the
 12 above-standard schools, there were, I think, 86 with a
 13 mean score of 804.
 14 Q. Did the substandard schools have a higher
 15 achievement mean or a higher mean of achievement scores
 16 than the above-standard on the item of noise?
 17 A. Yes.
 18 Q. In your report, Earthman Exhibit 1, you did
 19 not discuss your North Dakota study in your discussions
 20 concerning air-conditioning or noise. Why was that?
 21 A. The discussion was centered on the three
 22 comparisons that were made between the total components
 23 of the instrument. In other words, we talked about
 24 substandard and standard -- above-standard buildings in
 25 the total scores in relationship to achievement.

1 Q. Did you choose not to discuss your studies
 2 because they had adverse conclusions than the studies
 3 you did rely upon in the section of air-conditioning
 4 and noise?
 5 A. No.
 6 Q. In your study, did you identify any
 7 limitations to your study?
 8 MR. ELIASBERG: Objection. Vague and
 9 ambiguous. Which study are you referring to?
 10 MS. GIORGI: Your North Dakota study.
 11 MR. ELIASBERG: I'm sorry. I thought you
 12 used study to refer to this. I just want to be clear
 13 that it is the North Dakota study.
 14 MS. GIORGI: Q. The North Dakota study,
 15 that is the only study you've conducted, correct?
 16 A. Yes. We didn't discuss the limitations.
 17 Q. Would it be applicable to put a limitation
 18 on your research as to the potential bias of the survey
 19 responders?
 20 MR. ELIASBERG: Objection. Ambiguous.
 21 MS. GIORGI: Q. Did you have principals
 22 respond to your survey?
 23 A. Yes.
 24 Q. And is there a potential for their bias in
 25 responding to a survey?

1 A. It may be a potential, but we tried to
 2 eliminate that by actually appraising five percent of
 3 the schools ourselves. Now, I didn't, but one of the
 4 team members did. And when we compared the results of
 5 their evaluation with that of the principals, there is
 6 a high correlation between the two.
 7 Q. On those surveys, did you get all of the
 8 surveys that you sent out back?
 9 A. We had a return rate of 60 percent.
 10 Q. Is there also a limitation on your study
 11 because of the potential variables that were
 12 unidentified that could affect student achievement?
 13 A. I would not say so.
 14 MS. GIORGI: I have one more document and
 15 that would be Earthman Exhibit 11.
 16
 17 (Whereupon, Defendants' Exhibit 11 was marked
 18 for identification.)
 19 MS. GIORGI: Q. Dr. Earthman, do you
 20 recognize this document?
 21 A. Yes.
 22 Q. What is this document?
 23 A. It is my curriculum vitae.
 24 Q. And this was, I believe, attached to your
 25 expert report, correct?

1 A. Yes.
 2 MS. GIORGI: Thank you.
 3 MR. ELIASBERG: Can we just take a minute or
 4 two since it is a natural breaking time.
 5 MR. HILL: Sure.
 6 (Recess taken.)
 7 EXAMINATION BY MR. HILL
 8 MR. HILL: Dr. Earthman, let me introduce
 9 myself. I'm Eugene Hill and I'm with the law firm of
 10 Olson, Hagel & Fishburn in Sacramento and we represent
 11 the California School Board Association who is an
 12 intervener in this action. The admonitions that were
 13 given to you on the first day of your deposition would
 14 equally apply to the discussion we're going to have and
 15 I hope if there is any problem with my questions, that
 16 you will let me know that. We want the record to
 17 clearly reflect your testimony and if there is any
 18 ambiguity in what I say or any uncertainty in my
 19 references, please let me know that.
 20 As with yesterday, if I -- if my questions
 21 call for a recollection, we want your best recollection
 22 as to those circumstances. We're not trying to
 23 embarrass you or put you in the position where somehow
 24 there is a got you here. We just want to get the best
 25 information we can from you as to the things that we're

1 talking about, so if you have any hesitation at all
2 about it or uncertainty, just let us know. It is not
3 designed -- our discussion is not designed to trick you
4 or try to manipulate you. We want your testimony here.

5 THE WITNESS: Thank you.

6 MR. HILL: Q. I would like to refer to
7 Exhibit 1, which is your -- which is the report you
8 submitted in this case. Looking at the copy report I
9 have, it has no submission date on it. Is there a date
10 that this -- that reflects the date that this opinion
11 relates to or this report relates to?

12 A. You mean when I sent it to Mr. Eliasberg?

13 Q. Well, I'm trying to sort out from your point
14 of view, what is the date that this report refers to,
15 either a submittal date or whatever it is, I would like
16 you to give me a date that you believe would reflect
17 the finality of this report.

18 A. To my best understanding or recollection, it
19 would be sometime in the summer of last year. I
20 couldn't give you the exact date that I sent it.

21 Q. Summer of last year meaning the 2002 --

22 A. Yes.

23 Q. So summer meaning?

24 A. June, July.

25 Q. And do you have records available to you

1 MR. HILL: Q. So at that point, it is a
2 final, complete product and what we see now before us
3 is the very product that was sent in the summer of
4 2002?

5 A. Yes.

6 Q. When were you first contacted about the
7 possibility of your providing a report or an opinion --
8 strike that, a report to the Plaintiffs in this case?

9 MR. ELIASBERG: Asked and answered.

10 MR. HILL: Go ahead.

11 THE WITNESS: I would -- let's see, I would
12 say it would be somewhere maybe early 2000.

13 MR. HILL: Q. Can you be more precise with
14 the month in 2000?

15 A. I cannot, no.

16 Q. When you say, "Early," would that be like
17 January through March or something?

18 A. Something around that date, yes.

19 Q. Okay. Now, at -- the report talks about the
20 effects of poor conditions of facilities on student
21 academic achievement; is that correct?

22 A. Yes.

23 Q. When you were contacted in early 2000, did
24 you have an opinion at that time as to whether the poor
25 condition of school facilities has an impact on student

1 that would tell us the exact date that it was submitted
2 to Mr. Eliasberg?

3 A. The only thing that I would have would be
4 perhaps an e-mail saying that I'm sending this to you.

5 Q. Was it mailed?

6 A. Yes.

7 Q. Was it also stored on your hard drive on
8 your computer?

9 A. It is.

10 Q. Presently it is located on the hard drive of
11 your computer?

12 A. Yes.

13 Q. And where is the computer located?

14 A. In my home.

15 Q. In your home. Okay. And do you have --
16 when you sent it in the summer of 2002, has it been
17 revised or modified since you sent it in the summer of
18 2002?

19 MR. ELIASBERG: Objection to the extent he
20 said it was to the best of his recollection, it was in
21 the summer.

22 MR. HILL: I'm just paraphrasing his
23 testimony. If he has a more precise date, I would be
24 happy to have it.

25 THE WITNESS: No, not to my recollection.

1 academic achievement?

2 A. Yes.

3 Q. And what was your opinion?

4 A. Based upon the previous studies that both I
5 have been involved with and others have done, I think
6 that there is a sizable corpus of research that would
7 tell me that there is -- that buildings do have an
8 influence upon the learning of students.

9 Q. Putting aside for the moment the sizable
10 corpus of studies and looking to your personal
11 professional opinion, in early 2000, when you were
12 first contacted, did you at that time have an opinion
13 as to whether the poor condition of school facilities
14 had an impact on student academic achievement?

15 MR. ELIASBERG: Objection. Compound and
16 ambiguous.

17 THE WITNESS: At the time I was contacted, I
18 had my opinions about the research that had been done
19 on the effect buildings have on students' learning.

20 MR. HILL: Q. In early 2001, at the time
21 you were contacted, did you convey that opinion to the
22 attorneys who contacted you?

23 A. Not specifically.

24 Q. Now, between early 2000 and the summer of
25 last year when you submitted your report, I would like

1 you to describe for me what steps you took to prepare
2 the report.
3 MR. ELIASBERG: Objection. Asked and
4 answered.
5 THE WITNESS: The activities that I did to
6 prepare this report, I had previously done some review
7 of research and I pulled that together. I made
8 searches in all of the major sources of information,
9 data, the national clearinghouses, dissertation
10 abstracts, and the Council of Educational Facility
11 Planners International also has a data bank. So all of
12 those data banks were investigated and perused to find
13 research studies that would apply to the assignment.
14 MR. HILL: Could you mark this as Exhibit
15 Earthman 12.
16
17 (Whereupon, Defendants' Exhibit 12 was marked
18 for identification.)
19 MR. HILL: And then could you do this
20 Earthman 13.
21
22 (Whereupon, Defendants' Exhibit 13 was marked
23 for identification.)
24 MR. HILL: Q. Now, Dr. Earthman -- and by
25 the way, this refers to you as Professor Earthman. Do

1 testimony."
2 Q. Does it identify the question you are asked
3 to respond to?
4 A. No.
5 Q. Now, I'll refer to Exhibit 13. Does that --
6 do you have a recollection of that letter?
7 A. Yes.
8 Q. And what does that represent?
9 A. That is a -- the letter from Morrison &
10 Foerster asking me to provide expert assistance in the
11 preparation of the Williams case and my signature to
12 agree to that.
13 Q. And so this is the same -- Exhibit 12 and 13
14 are exactly the same except for your signature on the
15 bottom?
16 A. Yes.
17 Q. And that is your signature?
18 A. Yes.
19 Q. And what is the date on that letter?
20 A. January 16th.
21 Q. Okay. It is a little hard to read, but that
22 is a 1-16 on the bottom?
23 A. Yes.
24 Q. Okay. Now, at what point did the question
25 that you were being asked to respond to become firm?

1 you prefer to be called Dr. or Professor?
2 A. Either one.
3 Q. Dr. Earthman, Exhibit 12 is dated January
4 11th, 2002. Do you recognize that document?
5 A. Yes, I do.
6 Q. What is it, please?
7 A. It is a letter from the firm of Morrison &
8 Foerster asking me to serve as an expert witness in the
9 Williams case.
10 Q. Now, this is dated January 11, 2002 and you
11 said that you had been contacted as early as early in
12 the year 2000, which would be two years before that.
13 Is that --
14 A. Yes.
15 Q. Is that -- this doesn't -- the date on this
16 letter doesn't change that memory?
17 A. No.
18 Q. Now, the question that you were asked to
19 respond to, is it stated in this letter?
20 A. Yes.
21 Q. Where is that?
22 A. It is in the second paragraph.
23 Q. And would you read it, please?
24 A. "Your services may include preparation of an
25 expert report, expert deposition and/or trial

1 MR. ELIASBERG: Objection. Assumes facts.
2 MR. HILL: I'll withdraw it.
3 Q. Did the question that you were asked to
4 respond to ever become firm?
5 A. Yes.
6 Q. And when was that?
7 A. It was early on in the discussions that Mr.
8 Eliasberg and I had regarding the report and I would
9 say shortly after our initial contact, it was
10 identified.
11 Q. Was it identified in writing?
12 A. No.
13 Q. So your testimony is that prior to writing
14 the report, the submittal of the report, the question
15 you were asked to respond to was never set forth in
16 writing and provided to you?
17 A. No, not to my knowledge.
18 Q. How was that question developed?
19 A. Over a course of conversations with Mr.
20 Eliasberg.
21 Q. And were any of those conversations written
22 conversations?
23 MR. ELIASBERG: Objection. Ambiguous.
24 THE WITNESS: There may have been some
25 e-mails.

1 MR. HILL: Q. Some e-mail?
 2 A. Yes.
 3 Q. And do you have -- do you store your e-mail
 4 correspondence on your computer?
 5 A. Some.
 6 Q. Would the correspondence between you and Mr.
 7 Eliasberg that took place before the report was
 8 finalized be contained on your computer at this time?
 9 MR. ELIASBERG: Objection. Assumes facts.
 10 THE WITNESS: I couldn't answer because I
 11 don't know for sure.
 12 MR. HILL: Q. The letter, both Exhibit 13
 13 and 12, I'm going to refer to 13 now, says that "You
 14 may seek compensation for your services at a daily rate
 15 of \$600 and we will reimburse you for your
 16 out-of-pocket expenses."
 17 Have you sought compensation from Morrison &
 18 Foerster for your expenses?
 19 A. Point of clarification, for the preparation
 20 of this report?
 21 Q. Well, I'm just reading the paragraph.
 22 A. Yes.
 23 Q. And the paragraph says, "We understand you
 24 may seek compensation for your services at the daily
 25 rate of \$600 and we'll reimburse you for your

1 Q. Okay. Is it your expectation that at some
 2 point, you will bill Morrison & Foerster for your
 3 services at \$600 per day?
 4 A. In talking with Mr. Eliasberg, I was
 5 informed that if I were to testify, that I would be
 6 paid at this rate for testifying or depositions.
 7 Q. Are you going -- are you billing Morrison &
 8 Foerster for your time in this deposition at \$600 a
 9 day?
 10 A. Just for the days that I am in deposition.
 11 Q. Now, in going back to the time between your
 12 first contact with this report and its final submittal,
 13 have you prepared more than one draft of the report?
 14 A. Yes.
 15 Q. How many drafts did this report take before
 16 it was finalized?
 17 A. All I can do is hazard a guess, but I would
 18 say maybe a half dozen or dozen. Something like that.
 19 Q. Would each of those drafts presently be on
 20 your -- stored on your computer?
 21 A. No.
 22 Q. Did you use a computer to prepare the
 23 report?
 24 A. Yes.
 25 Q. What has happened to the drafts?

1 out-of-pocket expenses."
 2 My question is have you billed Morrison &
 3 Foerster for your services?
 4 A. No.
 5 Q. You have not?
 6 A. No.
 7 Q. Have you billed them for the preparation of
 8 the report which is Exhibit 1?
 9 A. No.
 10 Q. So none of your time and expenses -- you
 11 have not been compensated for any of your time and
 12 expenses from Morrison & Foerster?
 13 A. No.
 14 Q. Have you been compensated for your services
 15 by anyone else?
 16 A. No. No.
 17 Q. And have you been compensated for the work
 18 you put in in preparing Exhibit 1 by anyone else?
 19 A. No.
 20 Q. Have you calculated the amount of time that
 21 you've spent preparing the report, Exhibit 1?
 22 A. Not really. Not really.
 23 Q. You haven't kept a time log or anything?
 24 A. No, because there is considerable time put
 25 in.

1 A. They have been deleted.
 2 Q. All of them?
 3 A. Yes.
 4 Q. So there is no record of the drafts from the
 5 time you started until you have a final report? Were
 6 hard copies made of the drafts?
 7 A. Yes.
 8 Q. And do you have copies of those hard copies?
 9 A. No. They were destroyed.
 10 Q. Who destroyed them?
 11 A. I did.
 12 Q. Did any of those hard copy drafts, were they
 13 mailed or sent to anyone for their comment to you?
 14 A. I mailed them all to Mr. Eliasberg.
 15 Q. Each of them?
 16 A. Each one, yes.
 17 Q. In succession as they progressed?
 18 A. Yes; right.
 19 Q. And did you receive comments back from Mr.
 20 Eliasberg?
 21 A. I received some questions, clarification
 22 questions.
 23 Q. Did you receive recommended text?
 24 A. No.
 25 Q. Is each of the words that are in Exhibit 1

1 your words?

2 A. Exactly; yes.

3 MR. HILL: I have some documents I would
4 like to have marked.

5
6 (Whereupon, Defendants' Exhibit 14 was marked
7 for identification.)

8 MR. HILL: This is 15.

9
10 (Whereupon, Defendants' Exhibit 15 was marked
11 for identification.)

12 MR. HILL: This is 16.

13
14 (Whereupon, Defendants' Exhibit 16 was marked
15 for identification.)

16 MR. HILL: 17.

17
18 (Whereupon, Defendants' Exhibit 17 was marked
19 for identification.)

20 MR. HILL: 18.

21
22 (Whereupon, Defendants' Exhibit 18 was marked
23 for identification.)

24 MR. HILL: 19.
25

1 Q. Are these the attorneys that you were
2 dealing with?

3 A. Yes.

4 Q. Now, it says, "I have" -- "After receiving
5 the publications." What publications are you referring
6 to?

7 A. I don't recall the precise publications, but
8 it was the case of them being inaccurate and I wanted
9 to make certain that I had the publication -- correct
10 publication as a matter of trying to clarify and I --

11 Q. Were these publications that were sent to
12 you by either counsel?

13 A. No. No. These are -- would be publications
14 I got off of the clearinghouse.

15 Q. So when you say that your sources were not
16 accurate, what does that mean?

17 A. I'm dredging up my memory, but one of them,
18 and I think it was McGuffey, had cited a researcher and
19 had a certain date and I found a reference to that
20 someplace else with different dates, so I wanted to go
21 back to the original source.

22 Q. The next-to-the-last line, "I wanted to let
23 you know why I had not returned the document as yet."

24 What document is that referring to?

25 A. That would be the report that I eventually

1 (Whereupon, Defendants' Exhibit 19 was marked
2 for identification.)

3 MS. GIORGI: Q. Dr. Earthman, would you
4 refer to Exhibit 14, please.

5 A. Yes.

6 Q. Have you seen this before?

7 A. Yes.

8 Q. Would you describe what it represents?

9 A. It is an e-mail to Mr. Eliasberg and Lori
10 Schechter and I brought him up to date on status of the
11 report and some concerns I had regarding two sources.

12 Q. Now, there are some names on here that I'm
13 not familiar with and maybe you can help us out
14 identifying them. Who is Patricia Stich Regan?

15 A. I don't know.

16 Q. And who is Megan Auchincloss?

17 A. I don't know.

18 Q. And it is addressed by you to Peter and
19 Lori; is that correct?

20 A. Yes.

21 Q. Who is Peter?

22 A. Peter Eliasberg.

23 Q. And who is Lori?

24 A. Schechter, she is with the Northern
25 California ACLU.

1 turned in.

2 Q. So this was sent on March 11th, 2002. So as
3 of that date, there was a draft report that was
4 completed?

5 A. Yes.

6 Q. And you had sent it to Mr. Eliasberg in a
7 draft stage?

8 A. Yes.

9 Q. Okay. Now, did you get a response back from
10 either Mr. Eliasberg or the person here that is known
11 as Lori to this memorandum?

12 A. On all cases, when I submitted something to
13 Mr. Eliasberg, I got feedback from him. I have never
14 prepared an expert report and I had to be informed what
15 constituted an expert report and so there was a back
16 and forth conversation between Mr. Eliasberg and I as
17 to what constituted an acceptable expert's report for a
18 court of law.

19 Q. Look at Exhibit 15, if you would. This is
20 from John Moynihan. Who is John Moynihan?

21 A. He is with -- I believe he is with Morrison
22 & Foerster.

23 Q. Is that a -- is that one of the attorneys
24 that you dealt with or is he an attorney or do you
25 know?

1 A. I think he is, yes. And he did review the
2 document and raise some questions for clarification
3 purposes.
4 Q. I'm going to read you -- there is a short
5 memo. I'm going to read you the one sentence.
6 "Attached is the draft of your expert report
7 as modified pursuant to your discussions with Peter."
8 Who did the modifications?
9 A. I told Mr. Eliasberg what modifications
10 should be made and I believe Mr. Moynihan actually did
11 it in the document and sent it back.
12 Q. So the exact words that were put into the
13 report are the words of Mr. Moynihan?
14 A. No.
15 MR. ELIASBERG: Objection. Misstates prior
16 testimony.
17 THE WITNESS: No.
18 MR. HILL: Q. How did it evolve? Tell me
19 what happened.
20 A. I told Mr. Eliasberg how I wanted it revised
21 and I think Mr. Moynihan entered it into my document
22 that was on the internet.
23 Q. And you did that after conversations with
24 Mr. Eliasberg?
25 A. Yes.

1 Q. And you gave Mr. Moynihan the words you
2 wanted put in there?
3 A. Yes.
4 Q. And they were put in by Mr. Moynihan?
5 A. Yes.
6 Q. And those words were selected by you after
7 your discussions with Mr. Eliasberg?
8 A. Yes.
9 Q. Did you receive the -- I notice on the
10 bottom of this, there is a little Word -- it looks like
11 a little Word notation that says, "Final Earthman
12 expert report D." Do you know what that would
13 represent?
14 A. I think it represents some kind of notation
15 purposes in Mr. Eliasberg's office.
16 Q. Would that be perhaps the download
17 transmittal of the report?
18 A. I would assume that.
19 Q. So this document not only sends you this
20 sentence, but it also sends you back the revised
21 report; is that correct?
22 A. Yes.
23 Q. Okay.
24 A. As an attachment.
25 Q. Yes. And so you downloaded that on your

1 computer, is that what you did?
2 A. Yes.
3 Q. Okay. Now, that version, does it exist
4 today, this is, as of May 16th?
5 MR. ELIASBERG: Objection. Ambiguous.
6 Calls for speculation.
7 MR. HILL: Q. I'm asking as a matter of
8 fact if it exists today.
9 MR. ELIASBERG: Objection. Ambiguous.
10 Calls for speculation.
11 THE WITNESS: Doesn't exist to my knowledge.
12 MR. HILL: Q. Now, going on to Exhibit 16,
13 this is a -- has a name in the upper corner of the
14 memo, Rachel Noguera. Can you identify Rachel Noguera?
15 A. No, I don't know her.
16 MR. ELIASBERG: Eugene, if it would make it
17 easier, the top line is -- those are internal Morrison
18 & Foerster things. It is the bottom that reflects the
19 sending back and forth.
20 MR. HILL: So the name on the top doesn't
21 mean anything?
22 MR. ELIASBERG: It was eventually sent
23 through, but he never saw -- he never spoke with Rachel
24 Noguera. Basically what happened is some e-mails would
25 go to Morrison & Forester and then they would process

1 them for their production. You are welcome to ask them
2 questions.
3 MR. HILL: For purposes of our discussion
4 here, on Exhibits 14 through 19, these are documents
5 that originated in Morrison & Foerster or were sent to
6 Morrison & Foerster and the name in the upper part of
7 the line would represent that?
8 MR. ELIASBERG: Printed at Morrison &
9 Foerster in many cases, although they are not all the
10 same. It was e-mail that I then forwarded to Morrison
11 & Foerster because they took charge of the whole
12 production, so I forwarded, then, correspondence
13 between us and then the printing usually reflects the
14 fact that maybe Rachel Noguera was the one who received
15 the e-mail that she then printed out.
16 MR. HILL: So for purposes of our discussion
17 here, I need not go through the routine of establishing
18 that this is being handled through the attorneys who
19 represent the Plaintiffs in this action that are
20 involved in this process?
21 MR. ELIASBERG: You are welcome to ask the
22 question, but -- you know, the basic process is it went
23 -- to the extent there was some correspondence between
24 the two of us, I would then forward that on to Morrison
25 & Foerster because they were going to be the ones who

1 did the production and that is why some of these top
 2 lines reflect names at Morrison & Foerster that he
 3 didn't deal with.
 4 MR. HILL: So just to clarify, I don't want
 5 you to testify here, but I want to see if I can
 6 understand to avoid having to go through the questions
 7 with the witness. Using Exhibit 16 as an example, it
 8 says, "From Peter Eliasberg." It says -- it lists an
 9 e-mail address at ACLU and yet the name on the top is a
 10 Morrison & Foerster name.
 11 MR. ELIASBERG: That's right. The bottom
 12 part reflects an e-mail that I sent to Professor
 13 Earthman. I then also forwarded a copy of what I sent
 14 to Professor Earthman to Megan Auchincloss. I believe
 15 Megan Auchincloss's secretary or legal assistant is
 16 Rachel Noguera, so those names at the top reflect
 17 people who got it as part of the production process,
 18 not as part of the process of correspondence between
 19 Dr. Earthman and me.
 20 MR. HILL: Okay. Thank you very much.
 21 MR. ELIASBERG: Just wanted to --
 22 MR. HILL: You know, when we get through
 23 with this series, I'll have a comment to make about
 24 that, but we'll deal with that when we get to it.
 25 Q. Dr. Earthman, looking at Exhibit 16, this is

1 from Peter Eliasberg to you and it says, "Here is the
 2 version with the formatting and other edits you
 3 requested. Let me know if it is okay. Peter."
 4 Now, did this follow the process that we
 5 talked about with regard to Exhibit 15, you were
 6 receiving an edited version of the report from Mr.
 7 Eliasberg?
 8 MR. ELIASBERG: Objection. Compound.
 9 THE WITNESS: This memo says that he is
 10 sending me back the copy of the expert report,
 11 including my revisions and edits.
 12 MR. HILL: Q. And it uses a term,
 13 "Formatting." What does that term represent? Let me
 14 rephrase that.
 15 It uses the term "Formatting." What do you
 16 understand that to represent?
 17 A. That is the paragraphing of the document and
 18 how they should be numbered.
 19 Q. I'm going to state a proposition to you and
 20 tell me if you agree with this proposition. You sent
 21 an e-mail version of the report to Peter Eliasberg.
 22 You and Peter Eliasberg had conversation.
 23 A. Yes.
 24 Q. The report was revised at Mr. Eliasberg's
 25 end and sent back to you with those revisions for you

1 to look at.
 2 MR. ELIASBERG: Objection. Compound.
 3 MR. HILL: Q. Would you agree with that
 4 proposition as a scenario which occurred?
 5 A. Maybe I can answer it this way: That I
 6 would send a revision or a copy of the report to Mr.
 7 Eliasberg. There might be some questions raised. We
 8 would talk on the phone and I will say, "Change this to
 9 read this," and so and he would actually do the -- or
 10 someone would actually do the entering of my words into
 11 the report and return it to me.
 12 Q. All right. Now, look at Exhibit 17, if you
 13 would. Again, is this an e-mail memo to Peter
 14 Eliasberg from you?
 15 A. Yes.
 16 Q. And did it transmit a draft of the report?
 17 A. Yes.
 18 Q. I notice the notation in the upper -- in the
 19 middle level left hand with the "W" on it. That looks
 20 like it might be the Word symbol for a download
 21 document. Is that what you understand it to be?
 22 A. Yes.
 23 Q. And it says, "Final Earthman report, expert
 24 report."
 25 A. Yes.

1 Q. So this is dated June 13th, 2002. At that
 2 point, were you sending Mr. Eliasberg the --
 3 downloading to him the final version of the report?
 4 The subject does say, "Final report."
 5 A. Yes, I was sending him a copy of the final
 6 report.
 7 Q. Yes. Now, when you -- I would like you to
 8 look at the final report, which is Exhibit 1, and it
 9 says I -- this document says, "I have made all of the
 10 corrections and suggestions."
 11 Now, you then received proposed corrections
 12 from Mr. Eliasberg and made those on this document?
 13 MR. ELIASBERG: Objection. Compound.
 14 THE WITNESS: The -- this was sent June
 15 13th.
 16 MR. HILL: Yes.
 17 THE WITNESS: And then after we had talked
 18 on the telephone, Mr. Eliasberg sent the e-mail of the
 19 14th saying, "Here it is back with your additions and
 20 with some formatting."
 21 The numeration of the paragraphs became a
 22 problem because I was -- my computer sometimes failed
 23 to make the proper paragraph.
 24 MR. HILL: Q. All right. Would you look at
 25 page 10 of the final report. Would you identify those

1 portions of page 10 that you were referring to in
 2 Exhibit 17.
 3 MR. ELIASBERG: Objection. Assumes facts.
 4 THE WITNESS: Page 10 of this copy is not
 5 the page 10 of this. In other words, the Plumley
 6 report and the Rivera-Batiz are not on page 10 in this
 7 report.
 8 MR. HILL: Q. And where are they?
 9 A. They are back beginning on page 12 and 8.
 10 Q. And what part of page 12 and 8 were you
 11 asking Mr. Eliasberg to read?
 12 A. He asked a question about the statement, if
 13 my memory serves me correct, that the last sentence
 14 which reads, "They also stated that in overcrowded
 15 schools, teachers reported they had only time to cover
 16 the basic materials."
 17 I had not put in the teachers and it was
 18 ambiguous as to who they were.
 19 Q. So he asked you to put that in?
 20 A. Who are they.
 21 Q. He asked you to put that in?
 22 A. No, he didn't.
 23 Q. How did it get there?
 24 A. He asked, "Who do you mean by 'they'?" So I
 25 said the teachers and I inserted teachers.

1 Q. Now, is that the -- there are two page
 2 references made here. That is true as to both of the
 3 pages?
 4 A. Yes, on page 8 --
 5 Q. Okay.
 6 A. -- of this report.
 7 Q. Of this report?
 8 A. Yes.
 9 Q. And that would have been comparable of page
 10 what --
 11 A. Probably page 10.
 12 Q. And what changes were made to that?
 13 A. Regarding Plumley, his findings and let me
 14 read it. I had originally written it in an ambiguous
 15 manner so you could not tell what the percentages stood
 16 for. In this sentence, there are two things we're
 17 talking about, subtests and the composite score. The
 18 composite score is the total score of an examination of
 19 a test and the subscores are parts of that and I had
 20 not made that clear and he asked what did I mean by
 21 that.
 22 Q. Now, would you look at exhibit, I think
 23 Exhibit 3. I think you testified about Exhibit 3
 24 earlier. That is the lighting discussion that you had
 25 and look at Exhibit 18. Exhibit 18, again, has the

1 subject revised report and it says, "A copy" -- "A copy
 2 of revised report with lighting eliminated."
 3 So between June 14 and August 5th, the
 4 report was revised again and the discussion of lighting
 5 eliminated; is that correct?
 6 A. Yes; that is correct.
 7 Q. Now, I know you testified earlier that the
 8 lighting was eliminated because you had a problem with
 9 the reports that describe lighting. I think you were
 10 not satisfied with them is the way I'm characterizing
 11 it. Is that a fair characterization of what you said?
 12 A. I think what I was saying is that the
 13 studies on lighting, they are good studies, but they
 14 did not deal directly with achievement. They dealt
 15 with biological events such as blood testing or blood
 16 pressure and so forth and I thought that it did not
 17 really add to the report when we're trying to talk
 18 about the effect building has upon achievement.
 19 Q. Yet your report does include lighting as an
 20 element of building that affects student achievement.
 21 MR. ELIASBERG: There is no question
 22 pending.
 23 MR. HILL: The question comes.
 24 Q. Do you agree?
 25 A. Do I --

1 Q. Do you agree that your report does include
 2 lighting as a building element that affects student
 3 achievement?
 4 MR. ELIASBERG: Are you talking about his
 5 report, Exhibit 1?
 6 MR. HILL: His report, Exhibit 1.
 7 THE WITNESS: It does not deal with research
 8 specifically for -- that looks at the relationship
 9 between lighting and student achievement. However,
 10 there are several studies that -- in the instrument
 11 that they used to appraise a building contain
 12 statements regarding lighting.
 13 MR. HILL: Q. And do you discuss those
 14 instruments in your report?
 15 A. Only as a total instrument, not as separate
 16 items.
 17 Q. Now, looking at your report on this Exhibit
 18 1 --
 19 A. Okay.
 20 Q. -- on page 3, paragraph 12, it says, "I have
 21 been asked by the Plaintiffs in the Williams case to
 22 provide my opinion as to whether the condition of
 23 school facilities has an effect on student academic
 24 achievement."
 25 Have you -- on the date that you submitted

1 that report, did you have an opinion as to whether the
 2 conditions of school facilities has an effect on
 3 student academic achievement?
 4 A. Yes.
 5 Q. And what is that opinion?
 6 A. After reviewing all of the research that I
 7 did for this report, I find that the weight of evidence
 8 is sufficient to say that buildings have an influence
 9 upon student learning, either positively or negatively.
 10 Q. Is that what is stated in paragraph 13?
 11 A. In essence, yes.
 12 Q. But not precisely?
 13 A. No.
 14 Q. Now, in paragraphs A, B, C, D, and E, you
 15 refer to and describe various studies that have
 16 occurred. Earlier when you were testifying, you were
 17 going over some studies that you considered and other
 18 studies that you rejected and in your description of
 19 those, some studies were -- and I'm going to use the
 20 term "Rejected" and if it is the wrong term, you
 21 correct it for me, please -- rejected because they were
 22 mere summaries of reports or just -- is that a fair
 23 statement, that a report which is merely a summary of
 24 other reports was not part of what you considered in
 25 forming your opinion?

1 MR. ELIASBERG: Objection. Compound.
 2 Totally misstates the witness's prior testimony.
 3 MR. HILL: If it does, I would like to hear
 4 from him how he viewed those reports.
 5 THE WITNESS: There were several
 6 compilations of research, review of research,
 7 Weinstein, McGuffey and Lemasters. And they use
 8 research reports and in many cases, I went to those
 9 documents for sources, but I didn't think that it
 10 was -- would add to the discussion to include reviews,
 11 although I do mention that McGuffey identified these
 12 studies in his review.
 13 MR. HILL: Q. Each of the pages that follow
 14 page 4, beginning with your Roman two and on through
 15 the page 15, reviews prior reports that have been
 16 published and you provide -- strike that.
 17 Each of those pages I referred to review
 18 prior reports; is that not correct?
 19 A. Yes.
 20 Q. None of those pages contain any original
 21 research by you that forms the opinion that is set out
 22 in paragraph C?
 23 MR. ELIASBERG: Objection. Argumentative
 24 and misstates the contents of the report.
 25 THE WITNESS: I wouldn't agree with that

1 statement.
 2 MR. HILL: Q. What original research did
 3 you do to respond to the question that you were asked
 4 to respond to by the Plaintiffs in this case?
 5 A. I believe the North Dakota study would be an
 6 example.
 7 Q. That research was done when?
 8 A. Best of my memory, 1995, '96.
 9 Q. And this report was prepared when?
 10 A. Year 2002.
 11 Q. Are you saying, then, that this -- that the
 12 North Dakota study was prepared by you to assist you in
 13 responding to the question propounded to you by the
 14 Plaintiffs?
 15 A. No, I couldn't say that.
 16 Q. What original research did you do to assist
 17 you in responding to the question propounded by the
 18 Plaintiffs?
 19 MR. ELIASBERG: Objection. Vague as to
 20 time.
 21 THE WITNESS: I think there might be a
 22 difference in meaning. To do research means to
 23 complete a study, but -- and in that case, if the --
 24 limited to that definition, then I would say North
 25 Dakota study qualifies that. If you mean that what

1 kind of research did I do to find sources for this
 2 report, then I would say that I went to the sources of
 3 where I could find research that would be applicable to
 4 the question at hand.
 5 MR. HILL: Q. So you relied on existing
 6 studies in forming your opinion that is set forth in
 7 paragraph 13?
 8 A. Not entirely.
 9 Q. Well, that is what I'm trying to get at.
 10 What, other than existing studies, did you rely on in
 11 forming that opinion?
 12 A. I misunderstood you.
 13 Q. All right.
 14 A. I relied on previous research.
 15 Q. So no new research was done to assist you in
 16 developing your opinion as set forth in paragraph 13?
 17 A. No new research was completed by me.
 18 Q. Now, you talked earlier about -- I'll
 19 withdraw that.
 20 MR. ELIASBERG: We've been going for about
 21 an hour.
 22 MR. HILL: Sure. We can take a break.
 23 MR. ELIASBERG: Okay.
 24 (Recess taken.)
 25 MR. HILL: Q. Dr. Earthman, during the

1 break, did you have conversations with Mr. Eliasberg
2 about your testimony?

3 A. Yes.

4 Q. Could you tell us what those conversations
5 were?

6 A. He asked me how I felt. He said he thought
7 things were going well and that was the extent of it.

8 Q. Okay. You mentioned earlier that the
9 previous draft copies of your report, which is Exhibit
10 1, were destroyed?

11 A. Yes.

12 Q. At whose -- did someone suggest to you that
13 they be destroyed?

14 A. No. Typically when I write a report, I try
15 to get rid of the previous reports so I don't get
16 confused and start working on a previous draft that I
17 have rejected or put aside. I normally -- and
18 traditionally destroy all copies, previous copies, and
19 I just keep the current copy.

20 Q. Okay. Have you attended meetings with other
21 expert witnesses in this case to talk about your
22 report?

23 A. No.

24 Q. To your knowledge, has your report been used
25 by other expert witnesses in this case in support of

1 request that we be provided all draft reports which are
2 in the possession of counsel for the Plaintiff and I
3 believe that was an obligation imposed upon you by Code
4 and not complied with.

5 MR. ELIASBERG: I believe that it is -- in
6 this case, the pretrialing scheduling order governs
7 that and the pretrialing scheduling order is very clear
8 about what our obligations are with respect to drafts
9 and we complied with it.

10 MR. HILL: I think it is supplementary to
11 the other provisions of the Code. However, we make
12 that request upon you.

13 MR. ELIASBERG: Okay.

14 MR. HILL: And my sense is we would probably
15 not be able to conclude Dr. Earthman's deposition until
16 we have that information so that we can look at the
17 draft reports and sort out what changes were made and
18 why they were made.

19 I would like to go on to another subject.

20 MR. ELIASBERG: No. I would like to make it
21 clear for the record that we don't agree with that
22 characterization and we don't -- we feel we have
23 complied with the pretrial order and that would not
24 provide a basis to hold Dr. Earthman's deposition open.

25 MR. HILL: Q. Dr. Earthman, I would like

1 their conclusions?

2 A. Not to my knowledge.

3 Q. Have you read any of the other expert
4 witness reports in this case?

5 A. No.

6 Q. Have you ever met with Jeanie Oaks, Dr.
7 Jeanie Oaks?

8 A. No.

9 Q. Have you ever had a conversation with her?

10 A. No.

11 Q. Who is Rob Corley?

12 A. Let's see, he was -- I think he is with
13 Morrison & Foerster, but I did have conversations with
14 him on the phone, yes.

15 Q. And what were those conversations about?

16 A. About the final report and I'm just unclear
17 as to what they were, what the nature of the
18 conversations were. It was about probably
19 interpretations that I may have given to certain parts
20 of the report.

21 MR. HILL: Okay. Mr. Eliasberg, at this
22 point, we would request from you copies of all draft
23 reports submitted by Dr. Earthman to you. We believe
24 it is your obligation to not only retain them, but to
25 provide them to us along with the reports, so we would

1 you to look at Exhibit 9. If you look at page 22, the
2 numbered paragraph No. 1 in the left-hand margin, it
3 says, "There are five major premises that should be
4 kept in mind."

5 Do you see that?

6 A. Yes.

7 MR. ELIASBERG: It is not on page 22.

8 THE WITNESS: It is on 23.

9 MR. HILL: I'm sorry. You must have a
10 different copy of the report than I do, a different
11 version.

12 Q. Anyway, you see the five numbered
13 paragraphs?

14 A. Yes.

15 Q. Looking at paragraph one, it begins, "School
16 buildings may account for as much."

17 And you are using the term "may" in that
18 paragraph meaning what?

19 A. That school buildings can account for as
20 much as -- or as little as five percent of variance in
21 student scores or it may go up to 17.

22 Q. So the term "may" refers to the variance in
23 the -- from five to 17?

24 A. Right.

25 Q. It doesn't go to the question as to whether

1 school buildings affect student achievement in every
2 case?

3 A. No.

4 Q. Is it your testimony that they affect
5 student achievement in every case?

6 A. Yes, it is my opinion they do and that is
7 based upon the research studies that I've identified.

8 Q. And you talked earlier about those being
9 correlative studies?

10 A. Right.

11 Q. And I think you characterized that you could
12 not apply a correlative study beyond the facts of the
13 study?

14 MR. ELIASBERG: Objection. Mischaracterizes
15 witness's prior testimony.

16 MR. HILL: Let's hear what he said, then.

17 Q. What is your testimony?

18 MR. ELIASBERG: I will have time to make my
19 objection and you can ask your question and he can have
20 his answer.

21 THE WITNESS: Correlation studies do not
22 show generalization to other places, yet there have
23 been, in these particular types of studies, comparison
24 of school building condition to student achievement in
25 three different states, in two major cities, twice in

1 A. Yes.

2 Q. And one of the functions that is performed
3 by the person conducting the study is to control the
4 socioeconomic status so that it becomes essentially a
5 nonvariable; is that correct?

6 A. Yes.

7 MR. ELIASBERG: Objection. Vague.

8 MR. HILL: Q. Are you -- the studies that
9 you've referred to, socioeconomic status is controlled
10 by some data that is gathered in what you call an
11 instrument; is that correct?

12 MR. ELIASBERG: Objection. Misstates his
13 prior testimony.

14 THE WITNESS: Not exactly. The
15 socioeconomic status of children of a school, of a
16 population in a school is usually determined by the
17 percent of students that are engaged in a free and
18 reduced lunch program or the percentage of students who
19 are not in a program, one of the two.

20 MR. HILL: Q. So the control is
21 participation in the student lunch program?

22 A. Yes.

23 Q. Are you aware of any studies validating the
24 use of the school lunch program as a means to control
25 socioeconomic status or SES, as you referred to it?

1 Washington D.C. and in my professional judgment, that
2 is sufficient evidence to tell me if I were to come to
3 California or to Montana or Colorado or some other
4 place and replicate a study like we did in Virginia or
5 North Dakota, I would find exactly the same results.

6 MS. MITCHELL: Objection. Move to strike.
7 Speculation. Lacks foundation.

8 MR. HILL: Q. The school -- the studies
9 that you refer to in your report, it is your view,
10 then, that those studies are sufficient to support the
11 conclusion you just stated a moment ago?

12 A. Yes.

13 Q. And no research -- no new research within
14 each -- as to each school is needed in order to apply
15 that research to that school?

16 MS. MITCHELL: Calls for speculation.

17 MR. ELIASBERG: Yes, calls for speculation
18 and ambiguous.

19 MR. HILL: I'll withdraw it.

20 Q. When you -- when studies are performed, you
21 used an acronym SES to describe socioeconomic status?

22 A. Yes.

23 Q. And I think you identified a variety -- a
24 list of items that would be included within
25 socioeconomic status; is that correct?

1 MR. ELIASBERG: Objection.

2 THE WITNESS: No.

3 MR. HILL: Q. The studies also use group
4 test scores, usually achievement type tests, to define
5 student achievement; is that correct?

6 A. Yes.

7 Q. Are you aware that there are persons who
8 believe that group achievement tests do not measure
9 school achievement in students accurately?

10 A. I'm aware of people who are researchers who
11 have said that the standardized achievement scores do
12 not measure everything that is taught in the public
13 schools.

14 Q. Is there -- when you've used the term
15 "Instrument" as defining an activity that is undertaken
16 by a researcher, what is that term meant to define?

17 A. An instrument is probably, in most cases,
18 some form of -- in the case of these studies, it is an
19 instrument to help the researcher appraise a school
20 building so that you have questions that can be asked
21 about the condition of a building to determine the
22 status of the building. In other studies, it can be a
23 set of questions that a researcher uses in a perception
24 study.

25 Q. The terms have been used in your report and

1 in the studies that you refer to as above-standard to
 2 define a condition of buildings; is that correct?
 3 A. True; yes.
 4 Q. And the terms have been used to describe
 5 buildings as below standard; is that correct?
 6 A. Yes.
 7 Q. In the use of those terms, what is standard?
 8 A. The only way I can answer that is to explain
 9 how the three divisions came about. In Carol Cash's
 10 original study, we told her to divide them up into the
 11 bottom quartile and the top quartile and the middle
 12 quartile. And she said, "Well, what shall I call them?
 13 Shall I call them below standard, standard, and
 14 above-standard?"
 15 At the time, that seemed reasonable, but on
 16 reflection, why, there is no such thing as
 17 above-standard building. There is a standard building
 18 and there is a below standard building. Now,
 19 unfortunately, in trying to replicate studies, we don't
 20 want to change the categorization, so we have been
 21 saddled with that, but an above-standard building
 22 refers to a building that contained all of the elements
 23 that would be needed for a child to have a successful
 24 physical environment to support education.
 25 Q. And those elements vary from school to

1 school?
 2 A. Not really.
 3 Q. So a school in rural California would have
 4 the same elements as a school in an urban city in
 5 California?
 6 MR. ELIASBERG: Objection. Ambiguous.
 7 Assumes facts. Improper hypothetical.
 8 MS. MITCHELL: Lacks foundation.
 9 THE WITNESS: I don't think I can answer
 10 that precisely.
 11 MR. HILL: Q. All right. Can you -- when
 12 you define what is a necessary element for a school,
 13 where does your researcher go to determine that?
 14 A. In the case of the instrument that Carol
 15 Cash originally developed, she and I developed it, we
 16 went back to research studies, previous research
 17 studies, to see if this building component had some
 18 research that could support the statement that, yes,
 19 there is a relationship between student achievement
 20 and, say, air-conditioning or lighting or something
 21 else. So each of the items -- and even age, each of
 22 the items in that instrument refer back to previous
 23 research that has been done and has some statement to
 24 the effect that we found a relationship between that
 25 building component and student achievement.

1 Q. If you look to a particular building
 2 component, what determines the level of standard for
 3 that building component?
 4 MR. ELIASBERG: Objection. Calls for
 5 speculation. Lacks foundation. Ambiguous.
 6 THE WITNESS: There is not a standard. The
 7 instrument asks a question: Is there air-conditioning
 8 in the classrooms or not. And the principal can most
 9 certainly answer that, so it is not an equality.
 10 MR. HILL: Q. So it doesn't --
 11 MR. ELIASBERG: Can you let him finish his
 12 answer?
 13 MR. HILL: I'm sorry. I thought he finished
 14 it. Go ahead.
 15 MR. ELIASBERG: I wasn't sure. I thought
 16 you cut him off.
 17 MR. HILL: Go ahead. If you have more to
 18 say, say it.
 19 THE WITNESS: No.
 20 MR. ELIASBERG: Pardon me, then.
 21 MR. HILL: Q. So the presence and absence
 22 of air-conditioning is included in the instrument
 23 whether or not the weather conditions surrounding the
 24 school require air-conditioning?
 25 MR. ELIASBERG: Objection. Assumes facts.

1 Improper hypothetical.
 2 THE WITNESS: The term "air-conditioning"
 3 really refers to proper heating, air-conditioning, and
 4 ventilation, so it is the control -- really the
 5 statement should be control of the thermal environment.
 6 MR. HILL: Okay.
 7 THE WITNESS: But given that schools in
 8 Minnesota in the winter still need to have some
 9 positive ventilation to eliminate odors and the heat
 10 buildup, so you need to have control of the
 11 environment.
 12 MR. HILL: Q. So some of the studies that
 13 you refer to use the term "air-conditioning." However,
 14 is that term then used not as cooling, but in the
 15 broader sense?
 16 MS. MITCHELL: Lacks foundation.
 17 THE WITNESS: Most of the studies do, yes.
 18 MR. HILL: Q. Do what?
 19 A. Refer to it as control of the thermal
 20 environment.
 21 Q. Okay. Now, are you -- you also talked
 22 yesterday about teacher surveys. How is a -- can you
 23 compare the instrument that is used for a teacher
 24 survey with the instrument that is used for determining
 25 building standard? Is there a correlation between the

1 two?

2 MR. ELIASBERG: Objection. Compound.

3 THE WITNESS: There has not been studies to
4 that effect.

5 MR. HILL: Q. Are you familiar with a poll
6 conducted by Lou Harris?

7 A. Lou Harris?

8 Q. Yes.

9 A. I think that that organization conducts
10 many, so I have to say I'm not familiar with what you
11 are talking about.

12 MR. HILL: Could I have this marked as the
13 next exhibit.

14
15 (Whereupon, Defendants' Exhibit 20 was marked
16 for identification.)

17 MR. HILL: Q. That -- have you seen Exhibit
18 20 before?

19 A. Yes.

20 Q. It is what?

21 A. It is a memo from Leecia Welch concerning
22 Lou Harris survey of teachers.

23 Q. And it says, does it not, "Here is a copy
24 of"?

25 A. Yes.

1 Q. Was it -- were you paid to prepare the
2 paper?

3 A. No.

4 Q. Was -- you described the organization as one
5 that -- European Investment Bank is one that loans
6 money for construction of schools; is that a correct
7 characterization of it?

8 MR. ELIASBERG: Objection. Misstates.

9 THE WITNESS: Yes, for schools and to
10 maintain schools.

11 MR. HILL: Q. And to maintain schools?

12 A. Yes.

13 Q. In other countries?

14 A. Yes, that is my understanding.

15 Q. Is it an organization that you had other
16 contacts with? Is this the only contact you had with
17 this organization?

18 A. Yes.

19 Q. You discussed in testimony yesterday what
20 I'll characterize as qualifications to the information
21 that is contained in this report and I'm going to
22 summarize them that way. When I summarize them that
23 way, you understand what I'm referring to?

24 A. Yes.

25 Q. You don't have those same qualifications in

1 Q. And did you receive those copies?

2 A. Yes.

3 Q. And did that information -- was it used in
4 formulating your opinion in this case?

5 A. No.

6 Q. It was not?

7 A. No.

8 Q. And do you still have the copies that were
9 forwarded to you?

10 A. No.

11 Q. Did you communicate with anyone connected
12 with the case about those -- that information?

13 A. I don't recall that I did. I'm trying to
14 recall that. I did look at the survey and I thought
15 that it was not germane to what I was preparing. It
16 was of interest, but --

17 Q. But not germane?

18 A. Germane, right.

19 Q. The Exhibit No. 9 represents -- well, let me
20 go back. Exhibit No. 9, was it a paper submitted to
21 the organization that is listed?

22 A. Yes.

23 Q. Was that an oral -- was there an oral
24 presentation associated with that?

25 A. Yes.

1 the report that you provided here as Exhibit 1 and --

2 MR. ELIASBERG: Mischaracterizes the
3 contents of the documents.

4 MR. HILL: I can go through and get them all
5 out here, if you want, but I think --

6 Q. Dr. Earthman, do you understand when I say,
7 "Qualifications that are set forth in Exhibit 9," do
8 you have in mind your testimony yesterday that
9 described those? You went through them with Counsel or
10 shall I go through them again?

11 A. I would like a refresher, please.

12 Q. All right. Looking to page 20 of the
13 report, now, again, my pages may be different than
14 yours. This is the paragraph that says, "There are
15 limitations to research."

16 MR. ELIASBERG: That is the initial
17 sentence? It is not on page 20.

18 THE WITNESS: 21.

19 MR. HILL: Q. "There are limitations to
20 research in the" -- and so on.

21 And down on the bottom of page 21 or I guess
22 it would be 22, probably, on your copy, "A confounding
23 dimension to these studies."

24 A. Yes, I have that.

25 Q. That kind of a statement that limits the

1 application of information contained in a report is not
2 set forth in Exhibit 1, is it?

3 A. No, not these statements.

4 Q. In Exhibit 1, is there a discussion in that
5 report of any study that is -- that qualifies your
6 opinion?

7 MR. ELIASBERG: Objection. Vague and
8 ambiguous.

9 MR. HILL: I'll restate it.

10 THE WITNESS: Okay.

11 MR. HILL: Q. In Exhibit 1, is there, in
12 your discussion of reports -- let me strike that. I'll
13 start over again.

14 In Exhibit 1, the reports that you selected
15 to place in that discussion, are there any reports that
16 suggest that school buildings play only a qualifying
17 role in student learning?

18 MR. ELIASBERG: Objection. Vague and
19 ambiguous.

20 THE WITNESS: I hesitate to try and answer
21 that because I don't understand it, really. I'm sorry.

22 MR. HILL: Q. Okay. In your -- well, let
23 me -- I'll just withdraw it.

24 You are an emeritus professor?

25 A. Yes, sir.

1 found, to extend the findings, and I chose North Dakota
2 because it -- the students, the high school students
3 there typically score very high on the SAT examination
4 and, in fact, the year before we did the work, they
5 were compared in U.S. News and World Report as being
6 just -- the third below Korea and Japan, I think, in
7 scores. I thought it was an ideal place to try a
8 study, plus it was the -- the population was rather
9 homogeneous.

10 Q. Did you receive a grant to perform that
11 study?

12 A. No.

13 Q. Is it -- are any of the studies that you
14 refer to in your report funded studies by a grant?

15 A. Not to my knowledge. None that I've been
16 associated with.

17 Q. Are any -- is any of your work in connection
18 with the Williams case funded by a grant?

19 A. No.

20 MR. HILL: I think I'm about at the end
21 here.

22 MS. MITCHELL: Okay.

23 MR. ELIASBERG: I understand. I'm not
24 holding you to a number. Do you have any sense of how
25 long? Should we break for lunch now?

1 Q. Is that the correct term?

2 A. Yes, sir.

3 Q. And what does the term "Emeritus" mean?
4 What does that mean at the school where you taught?

5 A. Emeritus means you are retired faculty, but
6 you have the privileges of having office space at the
7 University and some of the services of the University
8 and that you can participate in faculty matters.

9 Q. The North Dakota study that you conducted,
10 were you able to utilize students as -- to help you
11 perform that study?

12 A. No.

13 Q. Who actually performed the work of the
14 study?

15 A. The work of the study was divided up between
16 the three of us. Denny Van Berkum up in North Dakota
17 State University had certain responsibilities. Carol
18 Cash had certain responsibilities and I took certain
19 responsibilities.

20 Q. Was that study initiated by anyone
21 associated with the State of North Dakota?

22 A. No.

23 Q. What prompted the study?

24 A. I prompted the study. I started the study
25 mainly because I wanted to replicate what Carol had

1 MS. MITCHELL: Yes, I think it would make
2 more sense to break for lunch now. It is going to take
3 me more than 15 minutes.

4 Off the record.

5 (Recess taken.)

6 EXAMINATION BY MS. MITCHELL

7 MS. MITCHELL: Q. Dr. Earthman, my name is
8 Caroline Mitchell. I'm an attorney at Pillsbury
9 Winthrop which is a law firm representing the Los
10 Angeles Unified School District in this proceeding.
11 I'm going to ask you questions this afternoon and
12 you've heard the admonitions and the same admonitions
13 apply when I ask you questions.

14 If I ask you a question and you don't
15 understand it, I need you to tell me you don't
16 understand it. Otherwise, I'll assume you understood
17 the question. Is that clear to you?

18 A. Yes.

19 Q. Okay. Did you speak with anyone or
20 communicate in any way with anyone over the break about
21 this litigation, the lunch break?

22 A. Over the lunch break, I talked to the two
23 attorneys here.

24 Q. Okay.

25 A. We -- they asked me how I felt about the

1 proceedings and they said they felt they were
2 comfortable with the proceedings and that is just about
3 all we talked about in terms about what is happening
4 here.

5 Q. When you say, "Just about all," do you mean
6 that is all you talked about relating to this
7 deposition or this proceeding?

8 A. Yes. Yes.

9 Q. Okay. And have you ever had a conversation
10 or a communication of any kind with anyone relating to
11 the likely questions that you would be asked in the
12 course of this deposition?

13 A. Mr. Eliasberg tried to inform me on what a
14 deposition is in the first place because I've never
15 been deposed and he said he couldn't guess what
16 questions would be asked of me, but that I should be
17 familiar with the report that I gave and that is it.

18 Q. Did you meet with anyone in preparation for
19 your deposition?

20 A. Only when I met with Mr. Eliasberg before we
21 came here.

22 Q. And when was that?

23 A. That was Sunday afternoon, Sunday evening,
24 yes.

25 Q. And how long did you meet?

1 A. No.

2 Q. And did anyone ever suggest anything to you
3 about what the content of the deposition would be apart
4 from the procedure?

5 A. No, just this is what might happen and that
6 I don't know of any questions -- I can't tell you what
7 questions. Just be prepared to know what was in the
8 report.

9 Q. Did anyone suggest to you particular areas
10 of the report that might be the subject of questioning?

11 A. They said that -- yes, they suggested there
12 might be one area or two areas that they might question
13 about.

14 Q. And what were those areas?

15 A. One was regarding overcrowding and the other
16 was, I think, with age of building.

17 Q. Okay. And can you relate to me everything
18 that you recall that was said regarding overcrowding?

19 A. Just that this might be an area where
20 questions could be raised and that the age of the
21 building could be a question, something about age of
22 the building could be raised.

23 Q. Did anyone say to you why they thought those
24 issues might be raised?

25 A. No. No.

1 A. Approximately an hour, two hours, maybe.

2 Q. Was there anyone else present besides Mr.
3 Eliasberg?

4 A. Yes.

5 MS. RAHEBI: Bita Rahebi.

6 MS. MITCHELL: Q. Okay. Was there anyone
7 else present, either in person, or was there anyone
8 else who was communicated with during the course of
9 that meeting?

10 A. No, there was not.

11 Q. Okay. Were you shown any documents by
12 anyone who was present at that meeting?

13 A. No.

14 Q. Beyond what you describe as Mr. Eliasberg
15 having told you during the course of that meeting, did
16 anyone else communicate any information other than what
17 you've described to us today at that meeting?

18 MR. ELIASBERG: Objection. Ambiguous.

19 THE WITNESS: In the course of a telephone
20 conversation, Mr. London also was telling me what
21 his -- what I should know about a deposition, how the
22 procedures go.

23 MS. MITCHELL: Q. Okay. And did Mr. London
24 ever suggest to you any kind of question you should
25 anticipate at this deposition?

1 Q. And that was -- all that was said was this
2 is an issue and it might be raised?

3 A. Right. Yes.

4 Q. And nothing was said about any
5 vulnerabilities on your report on any particular
6 topics?

7 MR. ELIASBERG: Objection. Assumes facts.

8 THE WITNESS: Vulnerabilities?

9 MS. MITCHELL: Q. Did anybody suggest there
10 might be an area in your report that might be
11 vulnerable to examination?

12 A. Not vulnerable. They said this might be a
13 question.

14 Q. And did you, independent of meetings with
15 anybody, review any documents besides your report in
16 preparation for your deposition?

17 A. Before I left home, I looked at a review of
18 research that I had prepared for another purpose.

19 Q. Okay. And what review was that?

20 A. That was the one that was presented to the
21 Council on Education Facility Planners.

22 Q. Okay. Are the opinions that you intend to
23 offer in this litigation set forth in the document that
24 was marked as Earthman Exhibit 1?

25 A. Yes.

1 Q. Okay. And are those the only opinions that
 2 you intend to offer in this litigation?
 3 A. I think, yes.
 4 Q. Okay. And you haven't been asked to offer
 5 any opinions in this litigation by counsel for
 6 Plaintiffs beyond those set forth in Exhibit 1; is that
 7 correct?
 8 A. That's correct.
 9 Q. And Exhibit 1 doesn't talk about any opinion
 10 that you have on the quality of facilities in
 11 California, does it?
 12 A. No, it does not.
 13 Q. And it does not talk about any opinion you
 14 have on the adequacy of school buildings in California,
 15 does it?
 16 A. No.
 17 Q. And it does not discuss whether the quality
 18 of school buildings in California is adversely
 19 affecting education of students in California, does it?
 20 A. No.
 21 Q. And in connection with the preparation of
 22 your report and your work for the Plaintiffs, you
 23 haven't been asked to undertake any studies, have you?
 24 Any studies other than reviewing reports and research?
 25 A. For this report?

1 Q. Right.
 2 A. No, I have not been.
 3 Q. And in connection with your retention in
 4 this litigation?
 5 A. That is right, I haven't been.
 6 Q. Okay. And you've never investigated any
 7 school facilities relating to the Los Angeles Unified
 8 School District, have you?
 9 A. No, I have not.
 10 Q. And you have not reviewed any research about
 11 schools in the Los Angeles Unified School District,
 12 have you?
 13 A. Just the document that is contained in the
 14 report that was put out by the California Department of
 15 Highways.
 16 Q. Okay. That is the only California report
 17 that you have looked at, right?
 18 A. Yes; that is right.
 19 Q. Okay. And you've never gathered data at the
 20 Los Angeles Unified School District?
 21 A. No, I have not.
 22 Q. And you don't have any basis, do you, for
 23 offering an opinion about the quality of the facilities
 24 of the school buildings in the Los Angeles Unified
 25 School District?

1 A. No.
 2 Q. Throughout your deposition and in your
 3 report, you talk about the fact that the quality of
 4 school buildings has an effect on the educational
 5 achievement of students; is that correct?
 6 A. Yes.
 7 Q. Okay. Do you have any -- is there any
 8 methodology set forth in your report for quantifying
 9 the relationship between the quality of the school
 10 facilities and the educational achievement of students
 11 that could be applied beyond the individual studies
 12 that reference such instruments?
 13 MR. ELIASBERG: I think I'm objecting
 14 because it is compound.
 15 MS. MITCHELL: Q. Did you understand that
 16 question?
 17 A. Yes, but I think it was -- I don't
 18 understand it enough to answer it, I should say. I
 19 think I know what you are asking, but I'm not sure.
 20 Q. Okay. Fair enough. What I'm asking you is
 21 do you have any way of applying specifically the
 22 conclusions of your report to a given school facility
 23 without doing additional study of that school facility?
 24 A. No, I do not.
 25 Q. In this case, are you offering any -- strike

1 that.
 2 You are not offering any opinion, are you,
 3 about the legal standard that is required for school
 4 facilities? That is, any legal requirements about what
 5 level of quality school facilities must have?
 6 Do you want me to try again?
 7 A. If I could raise a question.
 8 Q. Sure.
 9 A. Do you mean throughout the country?
 10 Q. Right. I'll take that back. You are not
 11 offering any opinion in this case about what level of
 12 facilities California law requires, are you?
 13 A. No, I'm not.
 14 Q. And you haven't studied that issue, have
 15 you?
 16 A. No, I have not.
 17 Q. And you are not opining about whether there
 18 is a minimum standard of facilities -- strike that.
 19 In the opinions that you are offering in
 20 this litigation, you are not opining about whether
 21 there is a minimum standard of facilities that should
 22 be applied uniformly throughout California, are you?
 23 MR. ELIASBERG: Objection.
 24 THE WITNESS: No, I'm not.
 25 MR. ELIASBERG: That is fine. I'll strike

1 the objection.

2 MS. MITCHELL: Q. Is it your view that the
3 degree to which the quality of the building will affect
4 student education is affected by other factors?

5 MR. ELIASBERG: Objection. Vague.

6 THE WITNESS: I don't know what -- yes.

7 Could you restate it, please?

8 MS. MITCHELL: Sure.

9 Q. Is the effect that the quality of a building
10 has on education constant throughout school districts?

11 MR. ELIASBERG: Objection. Calls for
12 speculation.

13 THE WITNESS: If you imply throughout the
14 country, then I would have to answer no.

15 MS. MITCHELL: Q. Okay. And in your view
16 as an expert, would it be possible to have a school
17 that was substandard from a building facility
18 perspective where students were still able to achieve
19 academically at a normal or above normal level?

20 MR. ELIASBERG: Objection. Vague and
21 ambiguous. Improper hypothetical.

22 THE WITNESS: I couldn't answer it in that
23 context, but I could offer an opinion that if you had a
24 body, select student body, a very selected, that might
25 be the possibility.

1 effect to this, both in achievement and in appreciation
2 of beauty.

3 Q. But to test your personal opinion, you would
4 need to do some sort of study, wouldn't you?

5 A. Yes.

6 Q. And have you studied -- strike that.

7 I want to go back to something we talked

8 about earlier today and that is definition of
9 substandard and above-standard school buildings as is
10 referenced repeatedly throughout your report.

11 A. Right.

12 Q. What I understood you to say is there is
13 really no such thing as an above-standard building; is
14 that correct?

15 A. There is no such thing as a category --

16 Q. Okay.

17 A. -- of an above-standard building, right.

18 Q. And when you say, "There is no such thing as
19 that category," what do you mean?

20 A. I mean that category was established simply
21 to delineate the top quartile of the buildings as
22 against those buildings in the middle two quartiles and
23 the bottom quartile. They could have used one, two,
24 and three.

25 Q. Okay. So when you are comparing what you

1 MS. MITCHELL: Q. And that would depend on
2 a number of things, like your student body, what kind
3 of parental support they got at home, what kind of
4 books they had, what kind of teachers they have, all
5 those kind of variable things, would it not?

6 MR. ELIASBERG: Objection. Calls for
7 speculation. Improper hypothetical.

8 THE WITNESS: It probably would.

9 MS. MITCHELL: Q. You said yesterday that
10 the degree of impact of building facilities on the
11 educational achievement of students is, in part,
12 difficult to fully assess because of the lack of
13 longitudinal studies. Do you remember that discussion?

14 A. Yes.

15 Q. Can you explain to me the problem that the
16 lack of longitudinal studies creates?

17 A. The only way I can answer is this way: If
18 it were possible to conduct a longitudinal study -- and
19 I'm not saying it is impossible, but just hasn't been
20 done -- if it were possible to conduct a longitudinal
21 study on the disadvantages of a substandard building, I
22 think we might know the depth of the disadvantage
23 to that child. The research that we do is really a
24 snapshot and says this year, this is what they did, but
25 my personal opinion is that there may be a cumulative

1 call in the report substandard schools with what is
2 referred to as above-standard schools, you are talking
3 about a comparison between the bottom quartile of
4 schools and the top quartile of schools; is that
5 correct?

6 A. Yes.

7 Q. And we've talked about what controls are
8 made to address other factors that could play a role in
9 those comparisons and you mentioned that there is an
10 adjustment for the free lunch program; is that right?

11 A. Yes.

12 Q. And do any of those studies adjust for the
13 quality of the principal or the quality of the
14 superintendent?

15 MR. ELIASBERG: Objection. Compound.

16 THE WITNESS: No.

17 MS. MITCHELL: Q. And do they adjust for
18 the length of tenure of the teachers?

19 A. No.

20 Q. And do they attempt to measure the
21 effectiveness of the teachers?

22 A. The effectiveness of teachers?

23 Q. Right. And to compare the effectiveness of
24 the teachers in the bottom quartile schools with the
25 top quartile schools?

1 A. In some studies, they have used the average
2 years of experience of a teaching staff in a school as
3 a measure to control.

4 Q. Okay. And in some, they haven't?

5 A. That is true.

6 Q. Is that fair to say?

7 A. That is true.

8 Q. And that is something that could affect the
9 outcome of a study if you are comparing the bottom
10 quartile of school facilities with the top quartile,
11 couldn't it?

12 MR. ELIASBERG: Objection. Lacks
13 foundation. Calls for speculation.

14 THE WITNESS: That is why they use the
15 average years of experience as a factor to control.

16 MS. MITCHELL: Q. And isn't it possible
17 that if you fail to control for the quality of the
18 principal or the quality of the superintendent, that if
19 you look at the above-standard school and the principal
20 is or the superintendent is making sure that the
21 schools are well-maintained, isn't it possible that
22 they are also making sure that the other programs in
23 the school are of a better quality than the principals
24 in the lower quartile schools might be doing?

25 MR. ELIASBERG: Objection. Improper

1 forth on page 2 and 3 that references your reports
2 while we've been sitting here today?

3 A. I've read it, yes.

4 Q. Okay. And do you recognize the footnote two
5 that many of the reports listed there are the same ones
6 that you relied upon in formulating your opinion in
7 this proceeding?

8 A. Yes.

9 Q. In the paragraph that starts on page 2 and
10 continues on to page 3, it says that one of the most
11 pressing problems with the type of research you are
12 doing is separating building conditions from other
13 factors that could potentially affect student outcomes.
14 You agree, don't you, that is one of the problems that
15 doing the type of research you try to do has to try to
16 overcome?

17 A. Yes, you try and overcome these.

18 Q. And that is a difficult thing to do, isn't
19 it?

20 A. Research is difficult, but there are
21 measures that you can use to help you control.

22 Q. But is there any way to be certain you
23 control for all the potential factors?

24 MR. ELIASBERG: Objection. Vague.

25 THE WITNESS: In social science research, no

1 hypothetical. Calls for speculation.

2 THE WITNESS: I couldn't answer that
3 question.

4 MS. MITCHELL: Q. Are you aware of that
5 kind of criticism being made of your report -- of your
6 studies?

7 A. No.

8 MS. MITCHELL: I'm going to mark as the next
9 exhibit a document entitled, "School Capital Funding
10 Tennessee International Context." That is dated August
11 2002.

12
13 (Whereupon, Defendants' Exhibit 21 was marked
14 for identification.)

15 MS. MITCHELL: Q. Dr. Earthman, you should
16 take all the time you want to to look at this report.
17 I'm going to ask you questions about the background
18 section that is on pages 2 and 3 and specifically,
19 you'll see that you are referenced in footnote two on
20 page 2 and there is a discussion of the studies that
21 you have done and I'll be referencing that discussion.

22 Dr. Earthman, have you seen this document,
23 Exhibit 21, School Capital Funding before?

24 A. No.

25 Q. And were you able to review the material set

1 one is able to control everything.

2 MS. MITCHELL: Q. So there could be factors
3 that you have not controlled for that would affect the
4 outcome of your research?

5 A. There possibly could be some.

6 Q. For example, if there were cultural biases
7 in tests and you were trying to compare the bottom
8 quartile of schools with the top quartile of schools,
9 could part of the difference be explained by cultural
10 biases in the testing mechanism itself that you are
11 using as the comparison point?

12 MR. ELIASBERG: Objection. Improper and
13 incomplete hypothetical.

14 THE WITNESS: The use of achievement test
15 scores is a very common way of assessing student
16 achievement. It is, in fact, the only measure that we
17 have to measure student achievement. They are
18 uniformed. They are mandated, for the most part, by
19 the states and they also cover the material that the
20 state pays the local school division to offer.

21 MS. MITCHELL: Q. And because they are the
22 only measure that you rely on in making these
23 comparisons, if there were a flaw in those tests and
24 they were not reliable, wouldn't that throw into
25 question your studies?

1 MR. ELIASBERG: Objection. Compound and
 2 assumes facts.
 3 THE WITNESS: I wouldn't believe that.
 4 MS. MITCHELL: Q. Okay. I'm asking you, as
 5 I'm entitled to in these kinds of depositions, to
 6 assume for a moment that there is some type of flaw in
 7 the standardized text, that, for example, there is
 8 provable cultural bias. Let's just assume that for the
 9 moment. If that were the case, would that throw into
 10 doubt the conclusion of your studies that use those
 11 achievement tests as the mechanism of comparison?
 12 A. Not in my opinion, because the cultural bias
 13 would be uniform and then that would affect all the
 14 cases that you are examining.
 15 Q. Okay. So you think that the cultural bias
 16 would affect the student population in the top quartile
 17 of schools the same way it would affect the population
 18 in the bottom quartile of quality of building schools;
 19 is that right? You would have to assume that?
 20 A. Yes.
 21 Q. And if that assumption were not correct,
 22 then your studies would be called into question?
 23 A. I wouldn't accept that statement, no.
 24 Q. So then if cultural bias -- let's go one
 25 step further in the hypothetical. We're assuming that

1 cultural bias impacts the top quartile differently than
 2 the bottom quartile in the school facilities and we're
 3 assuming that the achievement tests are subject to that
 4 cultural bias. Why is it you believe that your studies
 5 at that juncture wouldn't be called into question?
 6 MR. ELIASBERG: Objection. Misstates his
 7 prior testimony.
 8 THE WITNESS: That would be hard for me to
 9 answer because of the conditions that you have put on
 10 the question. Could you clarify it?
 11 MS. MITCHELL: Q. Okay. I'm saying I want
 12 you to assume there is cultural bias inherent in the
 13 tests and I want you to assume that that cultural bias
 14 affects the top quartile of schools differently than
 15 the bottom quartile of schools. If you make those two
 16 assumptions and you assume that those things are true
 17 and you take that as a given, would that at all affect
 18 the reliabilities of the studies that you rely on in
 19 your report?
 20 A. I can't really agree to the -- even the
 21 assumptions because I don't think that it necessarily
 22 affects one segment of the population more so than the
 23 other.
 24 Q. Okay. But I'm not asking you to opine about
 25 that.

1 A. Okay.
 2 Q. And I'm not going to hold you to your
 3 opinion, unless I can prove both there is a cultural
 4 bias in the testing mechanism and that that affects the
 5 tests themselves, but if you make those two
 6 assumptions, what I'm asking you is would it throw into
 7 question the results of the studies that you rely on in
 8 your report?
 9 MR. ELIASBERG: Objection. Ambiguous.
 10 THE WITNESS: That may happen. That may
 11 happen.
 12 MS. MITCHELL: Q. Okay. Going back to
 13 Exhibit 21, the next statement is "The strong
 14 administrative leadership will often lead to better
 15 maintenance of existing facilities."
 16 Now, you have experience teaching in school
 17 about this issue, don't you?
 18 A. Yes. Yes.
 19 Q. Do you disagree with the statement that
 20 strong administrative leadership will often lead to
 21 better maintenance of existing facilities?
 22 A. Yes.
 23 Q. And why do you disagree with that?
 24 A. I'm sorry. I misunderstood the question.
 25 Q. Okay. Do you agree with that statement,

1 "That strong administrative leadership will often lead
 2 to better maintenance of existing facilities"?
 3 A. I consider that a theoretical statement.
 4 That has not been proven.
 5 Q. In your personal experience in teaching, do
 6 you believe that the administrative leadership has any
 7 impact on the maintenance of existing facilities?
 8 A. Yes.
 9 Q. And what is your opinion?
 10 A. I believe that it can have a positive or
 11 negative effect on it.
 12 Q. If it is strong leadership, would you
 13 believe it would have a negative effect on the
 14 maintenance of existing facilities?
 15 A. No, I think it would be a positive.
 16 Q. Okay. Is it your experience that when you
 17 have strong administrative leadership, it often affects
 18 a number of programs in the school and not just the
 19 quality of the facilities?
 20 MR. ELIASBERG: Objection. Calls for
 21 speculation.
 22 THE WITNESS: All you can do is draw on
 23 experience.
 24 MS. MITCHELL: Right.
 25 THE WITNESS: That might be the case.

1 MS. MITCHELL: Q. And you've been a
2 principal; is that correct?
3 A. Yes, I have.
4 Q. Have you been a superintendent?
5 A. No, I've been an associate superintendent.
6 Q. Okay. So you understand how schools are
7 administrated?
8 A. Yes.
9 Q. And would it come as a surprise to you if
10 you found out that strong administration often
11 influences a number of programs within the schools and
12 not just the building facilities?
13 MR. ELIASBERG: Objection. Compound.
14 THE WITNESS: The leadership can affect all
15 aspects of the school.
16 MS. MITCHELL: Okay.
17 THE WITNESS: But I think there are some
18 other things that affect that, too, and that is the
19 financial ability of the school system.
20 MS. MITCHELL: Q. Okay. And then the next
21 sentence says that "High levels of parental and
22 community involvement can promote both good facility
23 conditions and student achievement."
24 Do you see that? It is the first full
25 sentence on page 3.

1 A. Uh-huh.
2 Q. Do you have any reason to disagree with that
3 statement?
4 A. I consider it a generalized statement that
5 is -- probably doesn't really explain the reality of
6 the school system, regardless of where they are.
7 Q. And is it your view that high levels of
8 parental and community involvement don't promote good
9 facilities?
10 A. No, I did not say that. No.
11 Q. Okay. So you are not taking the position
12 that this statement is wrong, are you?
13 A. No, I think it is an overgeneralization.
14 Q. Okay. Is it a statement that, in your
15 experience, could be true in a given school district?
16 A. Might be, yes.
17 Q. And for the studies that you've relied upon
18 that compare the top quartile of school building
19 facilities to the bottom quartile, have they controlled
20 for the amount of parental or community involvement
21 other than controlling for the school lunch factor?
22 A. The ones that I've directed have not.
23 However, there have been other studies that have.
24 Q. That you rely upon in your report?
25 A. Yes, I include in the report.

1 Q. Okay. Which would those be?
2 A. Maureen Berner in Washington D.C.
3 specifically.
4 Q. And any other ones that you can think of?
5 A. Not at the present, no.
6 Q. And the next sentence says, "In both of
7 these examples, the factors influencing higher test
8 scores are not the facility conditions themselves, but
9 the underlying cause of those facility conditions."
10 In your view, is it possible that when you
11 are looking at schools in the top quartile, the reason
12 that they are performing better could be attributable
13 not directly to the condition of the facilities, but to
14 the factors that cause the facilities to be in better
15 condition than schools in the bottom quartile?
16 A. The conditions of the facilities may result
17 from the action or inaction of school authorities and
18 the ability of the school system. The conditions
19 themselves are the ones that influence the children,
20 not the predecessors.
21 Q. Okay. So would it -- do you reject the
22 potential, the criticism that is set forth in this
23 report on page 2 and page 3?
24 A. Concerning which?
25 Q. Concerning the possibility that it is the

1 quality of the administration that affects both the
2 facilities and the achievement of learning, the
3 achievement of the students, rather than the facilities
4 having -- being the primary influencing factor?
5 MR. ELIASBERG: Misstates what is in this
6 exhibit.
7 THE WITNESS: I wouldn't accept this, but I
8 would explain it differently.
9 MS. MITCHELL: Q. Okay. Go ahead and
10 explain it.
11 A. I feel that, as I said before, the actions
12 of the school administration, school authorities, and
13 the ability of the school system has a direct bearing
14 upon the conditions that the school is in, good or bad.
15 That decision doesn't affect student achievement. The
16 actual conditions of the building affect the student
17 achievement.
18 Q. Okay. I think I understand what you are
19 saying. I guess my question is a little bit different.
20 A. Okay.
21 Q. You are saying that the quality of the
22 administration may affect the quality of the school
23 facilities?
24 A. Yes.
25 Q. And the question that I'm asking is will you

1 allow for the possibility that in addition to affecting
2 the quality of the facilities, the quality of the
3 administration is affecting other things like the
4 quality of the teachers, the quality of the curriculum,
5 the quality of the supplies available to the students
6 such that those other factors may be influencing the
7 outcome of the comparison?

8 A. I could agree with you until the last
9 sentence and then I don't agree with you.

10 Q. Okay. Could you explain why not?

11 A. In several of the studies, controls were --
12 well, in fact, most of them -- certain controls that
13 were administered for the quality of the teaching
14 staff. In two states, the teaching staff was uniform
15 in that the state licensed all teachers. They mandate
16 the type of program, preparation they should have, and
17 they have strict financial restraints upon employing
18 nonlicensed teachers. In another group of studies, the
19 researchers used the average years of experience as a
20 control for the quality of the teaching staff.

21 Q. Okay. Let's take your first example where
22 there is state-mandated requirements and they've gone
23 through certain certification. Isn't it true that that
24 really only establishes a base that all the teachers
25 will have that minimal qualification, but there may be

1 ten years later and you could have a good teacher where
2 the students absorb the material and had been teaching
3 for a relatively short amount of time; isn't that
4 correct?

5 A. Yes.

6 Q. And the quality of the administration could
7 influence the quality of the teachers apart from the
8 kinds of controls that were used in the studies that
9 you've referenced; isn't that correct?

10 A. Yes.

11 Q. Okay. And if that were correct, then isn't
12 it possible that the quality of the administration
13 could affect the quality of the education just as it
14 affected the quality of the facilities in the top tier
15 of schools and the lack of similar administration in
16 the bottom tiers of schools could explain the
17 difference in the scores?

18 MR. ELIASBERG: Objection. Compound and
19 ambiguous.

20 THE WITNESS: Regarding the influence of
21 administration, we conducted a study to determine if
22 there was a responsibility between superintendent,
23 school board members, and principals and the condition
24 of the building. And we did find there was a
25 relationship between the two. However, the principals

1 some teachers who are above that qualification, who
2 have advanced degrees, who have masters, who have
3 doctoral degrees, and if you have those kinds of
4 teachers in one school district being hired by one
5 superintendent or one principal, that that could
6 result, even where you've had that kind of control, in
7 a differentiation between the teaching staffs?

8 MR. ELIASBERG: Objection. Lacks
9 foundation.

10 THE WITNESS: That could be a possibility.

11 MS. MITCHELL: Q. And just because everyone
12 has to meet certain minimal qualification standards
13 doesn't guarantee they all possess the same teaching
14 quality, does it?

15 MR. ELIASBERG: Objection. Lacks
16 foundation.

17 THE WITNESS: No, but it is a measure of
18 control for experience and effectiveness.

19 MS. MITCHELL: Q. But it is not a complete
20 control; is that fair to say?

21 A. I think so, yes.

22 Q. Just like the amount of years in service
23 isn't necessarily a complete control for the quality of
24 the teacher. If you have a bad teacher who has been
25 working for a year, they could still be a bad teacher

1 were more knowledgeable about the condition of the
2 buildings than either superintendents or school board
3 members. And, of course, school board members are the
4 decision makers. And in that same study, they
5 uniformly gave a higher assessment on the quality of
6 the buildings than the principals did. Based upon
7 that, I think that there might be some other factors
8 involved in this that -- and maybe the day-by-day
9 operation of the school system might not be as
10 important to the facility conditions as maybe this
11 person might imply, but we did find that difference
12 that principals were much more knowledgeable about the
13 conditions and that the school board thought they were
14 in good condition.

15 MS. MITCHELL: Q. And so you could have --
16 let's posit two different school districts. If the
17 school boards think in both cases that the school is in
18 fine condition and you could have a principal in one
19 district who knew that that was not true and let it
20 slide or you could have a principal in another district
21 who was attentive to the maintenance issues and
22 maintained the facilities; isn't that correct?

23 A. Yes.

24 Q. And so the difference in the principals
25 could play a role in the difference in the quality of

1 the facilities; isn't that correct?

2 A. With my experience and knowledge about
3 public schools, I know that principals are not decision
4 makers regarding the condition that their school is in.
5 They don't have the resources to apply. They can just
6 request something be done, but it is up to the board,
7 then, to make the decisions.

8 Q. But, for example, if the boiler is not
9 working or if the air-conditioning is out, it is the
10 principal who has to call someone and say, "Come fix
11 it," right?

12 MR. ELIASBERG: Objection. Calls for
13 speculation.

14 THE WITNESS: The principal has to ask for
15 that to be fixed, but the principal has very little
16 power to say, "We need to have air-conditioning in the
17 building," and I think there is a difference between
18 maintenance and capital improvement or spending.

19 MS. GIORGI: Q. Okay. And do your studies
20 draw a distinction between maintenance and capital
21 expenditures that need to be made?

22 A. No.

23 Q. And maintenance portion could be more
24 dependent on the particular school officials than the
25 capital expenditure in your view; isn't that correct?

1 Do you see that?

2 A. No. Where are you? In the first paragraph?

3 Q. I'm at the paragraph on the top of page 3.

4 A. Yes.

5 Q. And it starts out at the margin. "Thus."

6 A. Yes; uh-huh.

7 Q. Do you see that sentence that begins on page
8 3 of Exhibit 21 with "Thus, when students in quality
9 facilities perform well"?

10 A. Uh-huh; I think.

11 Q. When you've -- for the studies that you've
12 relied upon that compare schools in the first top
13 quartile with schools in the bottom quartile, do those
14 control for classroom supplies?

15 A. For supplies?

16 Q. (Ms. Mitchell nods.)

17 A. No.

18 Q. And do they control for curriculum?

19 A. On some of the studies, they -- especially
20 Virginia and North Dakota studies, the curriculum is
21 uniform. What the state mandates is uniform throughout
22 all the school systems, so that is a constant.

23 Q. And those are mandatory minimum criteria
24 that have to be covered by the teacher?

25 A. Yes.

1 A. It can be, yes.

2 MR. ELIASBERG: Can we take -- is this a
3 good time?

4 MS. MITCHELL: Sure. No, that is fine. We
5 can take a break.

6 (Recess taken.)

7 MS. MITCHELL: Q. Dr. Earthman, did you
8 have any discussions about your deposition or this
9 litigation during the break?

10 A. Mr. Eliasberg asked how I thought things
11 were going and I said I thought they were going all
12 right and I asked him if he did and he said he thought
13 they were going all right and that was it.

14 Q. Okay. There was no other discussion of any
15 type during the break relating to this deposition or
16 the litigation?

17 A. No.

18 Q. Did you have any conversation with anyone
19 else during the break?

20 A. No.

21 Q. One of the sentences on page 3 says that
22 "When students in quality facilities perform well,
23 their performance may be attributable to higher quality
24 teachers or more classroom supplies, not the
25 facilities."

1 Q. And did you control for whether either
2 school was offering material in addition to those
3 minimum criteria that were required?

4 A. No.

5 Q. In your mind, is it possible that when you
6 find that quality facilities perform well, that the
7 students in the top quartile -- strike that.

8 In your view, is it possible that when your
9 studies find that schools in the top quartile perform
10 better than schools in the bottom quartile, that part
11 of that performance could be attributable to things
12 like classroom supplies or an enriched curriculum?

13 A. There is that possibility.

14 Q. If you go on to the next section in this
15 report, teacher satisfaction?

16 A. Uh-huh.

17 Q. It says, "Some researchers theorize that the
18 condition of school facilities can influence teacher
19 satisfaction," and then it says, "OEA," which I think
20 is a reference to the Office of Education
21 Accountability Staff, "Found in rigorous statistical
22 work that examines this relationship."

23 Would you agree that you are not aware of
24 any rigorous statistical work that examines the
25 relationship between the condition of school facilities

1 and teacher satisfaction?

2 A. I would take that as an overstatement.

3 Q. Okay. What work are you aware of that would
4 constitute a rigorous statistical work examining the
5 relationship between school facilities and teacher
6 satisfaction?

7 A. Most of the studies that I am familiar with
8 are ethnographic studies and they employ just as
9 rigorous a statistical analysis as a correlation study
10 or a regression analysis or others.

11 Q. And is the problem with the ethnographic
12 studies that rather than measuring objective data, they
13 measure subjective data?

14 A. Yes.

15 MR. ELIASBERG: Objection. Assumes facts.

16 THE WITNESS: Yes, it does.

17 MS. MITCHELL: Q. And that would be the
18 major distinction you would draw as opposed to the
19 discussion here of the statistical work; is that right?

20 A. Yes.

21 Q. One of the other topics that you touch on in
22 your report is overcrowding and I think that yesterday
23 you offered a definition of overcrowding and just so we
24 can start our discussion at the same place, could you
25 repeat that definition?

1 A. An overcrowded facility is one that has more
2 students in it than it was designed to hold.

3 Q. And in the suggestion of overcrowding in
4 your report, did you review any research that assessed
5 the impact of remediation efforts on the effect of
6 overcrowding?

7 MR. ELIASBERG: Objection. Vague and
8 ambiguous.

9 THE WITNESS: I don't know what remediation
10 efforts to alleviate overcrowding means.

11 MS. MITCHELL: Q. If a school that needed
12 to service more students than the capacity for the
13 building allowed switch to a staggered schedule so
14 that, although it was servicing the total number of
15 students, it was servicing them at different times,
16 would you consider that school to be overcrowded within
17 your definition?

18 A. Yes.

19 Q. Have you studied whether staggering students
20 so that you don't have at a single time more students
21 in the building than at capacity was designed for, but
22 over the course of the year, you are servicing more
23 students than the capacity for the building is
24 specified to be, have you studied what impact that has
25 on the quality of education?

1 A. No.

2 Q. Okay. And does your report discuss any
3 studies that have examined the staggering of schedules
4 to address overcrowding?

5 A. No.

6 Q. Have you offered any opinion that would
7 relate to overcrowding where, for example, temporary
8 classrooms are used to alleviate overcrowding?

9 A. No.

10 Q. Okay. And do any of the studies in your
11 report address a factual situation where temporary
12 classrooms are being used to alleviate overcrowding?

13 A. No.

14 Q. And are you aware of any other types of
15 remediation efforts that are used to address
16 overcrowding by schools?

17 A. I think some school systems have initiated
18 year-round programs or similar programs like that.

19 Q. Okay. And did you study what impact that
20 kind of remediation effort would have on the quality of
21 education?

22 A. No.

23 Q. Okay. So does your opinion about
24 overcrowding reach schools where the types of
25 remediation efforts we've been discussing have been

1 implemented?

2 A. I'm sorry. Would you repeat that again?

3 Q. Yes. When you opine that overcrowding of
4 facilities has a negative impact on the educational
5 achievement of students, does that opinion cover
6 schools that have attempted to make -- take remedial
7 efforts such as staggering the student schedules?

8 A. No.

9 Q. Or schools that have attempted to take
10 remedial measures such as using temporary classrooms?

11 A. No.

12 Q. In the course of your work, I think you've
13 talked about temperature being very significant in the
14 classroom and you've talked about the Lanham study and
15 where did that take place?

16 A. Are you talking about Lanham study?

17 Q. Yes.

18 A. His population was the elementary schools of
19 Virginia.

20 Q. Okay. And did his study assess whether or
21 not the same results -- strike that.

22 Did he assess whether the fact that the
23 students had grown up in a Virginia climate or were
24 adapted to a Virginia climate had any impact on their
25 functioning in the classroom at certain temperatures?

1 MR. ELIASBERG: Objection. Compound and
2 assumes facts.

3 THE WITNESS: I find it difficult to answer
4 that because where students live and attendance of
5 schools, I guess I don't understand the relationship.

6 MS. MITCHELL: Q. Okay. Did he study
7 whether the fact -- well, you live in Virginia, don't
8 you?

9 A. Yes.

10 Q. And sometimes it gets pretty hot and humid
11 there, doesn't it?

12 A. Yes; right.

13 Q. And did he study whether the difference
14 between the outdoor climate and the indoor climate at
15 the school had any impact on what temperatures the
16 students work best at?

17 A. No, he did not.

18 Q. Okay. Have there been any studies, to your
19 knowledge, that assess whether the results of the
20 temperature studies would be the same in a different
21 climate?

22 MR. ELIASBERG: Objection. Ambiguous.

23 THE WITNESS: Not to my knowledge.

24 MS. MITCHELL: Q. Yesterday you explained
25 that there are controls for what you called SES,

1 be deficient before there is an impact on the education
2 quality for the students?

3 MR. ELIASBERG: Objection. Compound and
4 misstates prior testimony.

5 THE WITNESS: That has not been the nature
6 of our research.

7 MS. MITCHELL: Q. So have you determined
8 if, for example, the only thing is missing is close
9 proximity to a library, whether that affects the
10 educational achievement of the students?

11 A. All of the items on the building assessments
12 instrument were derived from previous studies which
13 said there was some effect. Now, the studies that
14 we've -- that I've been associated with and those that
15 I've read use the building condition as a sum total of
16 the various conditions. They have air-conditioning or
17 thermal control, they don't. They have good roofs,
18 they don't and so on. And the sum total of that
19 response is then the measure of this particular school,
20 so the individual items themselves are not tested.

21 Now, as a caution to explain -- not a
22 caution, but as an attempt to explain Lanham's study,
23 he did a multiple regression to see what had the most
24 influence and naturally he came out and said SES has
25 the most influence upon students, but second was the

1 socioeconomic status, I believe.

2 A. Yes.

3 Q. And do the controls in the studies that you
4 relied upon account in any way for cultural bias?

5 A. Not as a separate control, no.

6 Q. Okay. And what controls there that, in your
7 view, might account for cultural bias, even though it
8 is not a separate control?

9 A. Some studies have used the percent of
10 minority students in a school as a control measure.

11 Q. Okay. And is there anything else?

12 A. Not to my knowledge.

13 Q. And for those -- are any of those the
14 studies that you are relying upon in the report that
15 you are submitting in connection with this case?

16 A. Not to my knowledge, no.

17 Q. You talked about a variety of factors that
18 exist in a school that affect the quality of the
19 student education that relate to the facility itself.
20 I think you mentioned the size, the configuration,
21 whether or not there is thermal control, whether there
22 are adequate auxiliary facilities, libraries, those
23 kinds of things.

24 A. Yes.

25 Q. Have you studied how many of those need to

1 item on air-conditioning, but it was not a separate
2 variable that he looked at to test.

3 Q. And do you know if Lanham's study was
4 replicated anywhere else?

5 A. It has not been, no.

6 Q. So you don't know whether in another test,
7 then, air-conditioning would still come up as the
8 second most important factor?

9 MR. ELIASBERG: Objection. Calls for
10 speculation.

11 THE WITNESS: I would suspect it would, but
12 I have no second study to offer, yes.

13 MS. MITCHELL: Q. So the interplay of the
14 different physical plan studies and the impact that the
15 interplay of one or more of those defects in physical
16 plan really hasn't been studied apart from the Lanham
17 study. Is that what you are saying?

18 A. The studies that look at the total condition
19 of the school, I could say no, they have not. But then
20 there have been other studies that have looked at
21 specifics such as air-conditioning and lighting and so
22 forth.

23 Q. Okay. But in terms of whether you need two
24 deficient factors or three deficient factors or which
25 factors they are, before you have a negative effect on

1 the outcome of a student's education or a student's
2 achievement, that has not been studied in detail. Is
3 that what you are saying?

4 A. That is true. That is true.

5 Q. Okay. You talked about some studies that
6 touched on acoustics. I think there was one study
7 where the California studies where the schools were
8 near highways.

9 A. Yes.

10 Q. That's correct?

11 A. Yes.

12 Q. And do you know, did that study control to
13 see where the students lived and whether they were
14 living near highways such that noise was interfering
15 with their sleep or their ability to do their homework
16 or anything like that?

17 MR. ELIASBERG: Objection. Assumes facts.
18 Improper hypothetical.

19 THE WITNESS: My reading of the study is
20 that they selected schools that were near the highways
21 and schools that were away from the highways, so they
22 would have a noisy school and a quiet school. That
23 would then lead me to believe that they were
24 neighborhood schools that drew from those, so that they
25 did, in fact, live in the immediate attendance area of

1 A. I need to refresh my memory on that. If I
2 talked about classroom size, it slipped my mind.

3 Q. Okay. I'll see if I can find that and we
4 can figure out whether you were talking about the
5 number of students.

6 A. Please.

7 Q. Do you use that term for both, classroom
8 size?

9 MR. ELIASBERG: Objection. Ambiguous.

10 THE WITNESS: Both?

11 MS. MITCHELL: Q. When you normally talk
12 about -- we'll back up a step.

13 Have you talked about classroom size before
14 yesterday?

15 A. Not to my knowledge.

16 Q. Okay. You never remember talking about
17 classroom size?

18 MR. ELIASBERG: Are you talking about in
19 this deposition or ever in his life?

20 MS. MITCHELL: No. I'm just trying to find
21 out just generally if he has talked about classroom
22 size.

23 THE WITNESS: My memory fails me because I
24 don't remember.

25 MS. MITCHELL: Q. Ever?

1 the school.

2 MS. MITCHELL: Q. So the increased noise
3 could have been having an impact on other aspects of
4 the student's lives other than their academic
5 performance; isn't that correct? Is that what you are
6 saying?

7 A. I don't know that, but they live in the
8 surrounding area that the school is located.

9 Q. Okay. And so they didn't control, for
10 example, for whether they were getting enough sleep,
11 right, the students?

12 A. I don't believe so.

13 Q. Right. So they didn't isolate the school
14 experience as the only experience that might be
15 affected by the noise; is that correct?

16 A. That is my reading of it.

17 Q. Okay. I just need a point of clarification
18 on some of the testimony you've given. Sometimes you
19 talk about controlling for classroom size and because
20 of the nature of your testimony, it is sometimes
21 confusing as to whether you are referring to the
22 physical size of the classroom or whether you are
23 talking about the number of students in the classroom.
24 When you talk about controlling for classroom size,
25 what are you talking about?

1 A. In this deposition?

2 Q. No, I'm not talking about the deposition.
3 I'm just asking you if you talk about controlling for
4 classroom size as a general matter in your work.

5 A. Oh, I'm sorry. No.

6 Q. Okay. I'm going to ask you to go back and
7 look at Exhibit 8.

8 A. 8?

9 Q. Right. If you look at page 635 of Exhibit
10 8, the one where the production number ends in 635, I
11 was a little confused by your testimony yesterday. At
12 one point, you said that spending money on the physical
13 facilities would achieve greater results than spending
14 the money on textbooks or teachers and then you came
15 back and you clarified your answer. Do you remember
16 that?

17 A. Yes.

18 Q. And you said if you had a full complement of
19 teachers and textbooks, then you were better off
20 spending money on physical plan?

21 A. Yes.

22 Q. So are you saying that in this report, when
23 you report this sentence that says, "Spending funds to
24 improve the built environment will produce greater
25 results than funds spent on materials, textbooks, and

1 even teachers," that you were assuming that the
2 materials, textbooks, and teachers were all adequate
3 and it was only the physical environment that was not
4 adequate and that is what you meant?

5 A. Yes. Yes.

6 Q. Okay. So if all of them are not up to
7 snuff, that is, that there is problems with the
8 building. There is problems with the complement of
9 teachers. There's problems with the textbooks, then
10 you would no longer contend this sentence is true?

11 MR. ELIASBERG: Objection. Lacks
12 foundation.

13 THE WITNESS: I would probably say something
14 like this: There is a difficult choice to have to make
15 between spending the money on adequate staff, adequate
16 textbooks, materials, and adequate building. It is a
17 very difficult choice and I think each situation would
18 have to govern the decision that the administrator
19 makes. In making this statement, I see the research --
20 results of the research that has been done and in some
21 cases, achievement -- the difference between
22 achievement in poor schools and better schools or
23 standard schools, five, ten, 17 percent and even Berner
24 said that schools moved from poor to excellent and
25 there is a ten percent improvement in scores and that

1 the summary of your opinions. You say in paragraph 13
2 that school facility conditions do affect student
3 academic achievement. And do you have -- it is my
4 understanding you don't have an opinion that quantifies
5 exactly how much school facility conditions effect
6 student achievement and that that would depend on a
7 number of variables; is that correct?

8 MR. ELIASBERG: Objection. Compound.

9 THE WITNESS: I think this conclusion says
10 that school facilities do affect student achievement.
11 There may be other things that affect it also, but we
12 at least have identified an effect and that I think is
13 extremely important.

14 MS. MITCHELL: Q. I understand that. And
15 what I'm asking you is you have not quantified what
16 that effect is beyond what specific studies have found
17 in the correlation data they do regarding specific
18 schools; is that correct?

19 A. That is a correct statement, right.

20 Q. And when you talk in paragraph A and say,
21 "Researchers have found a negative impact upon student
22 performance in buildings where deficiencies in any of
23 these features exist"; is that a correct statement?

24 A. I think it is, but it must be read in the
25 context that the condition of a building is made up of

1 is a good way for a principal to improve the test
2 scores in his or her school, but that decision on the
3 supposition that you spelled out, that is something
4 that every principal or administrator would have to
5 make on his or her own.

6 MS. MITCHELL: Q. And that would depend on
7 a number of variables like the makeup of the student
8 population, what kind of support they were getting at
9 home, what kind of materials they did and didn't have
10 in the school, and all of those variables; isn't that
11 correct?

12 A. Yes; uh-huh.

13 Q. So that would be an individualized decision,
14 then, based on the circumstances that a particular
15 school faced, right?

16 A. Yes.

17 Q. I just -- you've talked on and off about
18 this. On the issue of lighting, is it correct -- is my
19 understanding correct that you are not offering any
20 opinion about lighting in the context of this
21 litigation?

22 A. That is true.

23 Q. I want to turn back to your report for a
24 minute. If we could look at paragraph 22 on page 6 --
25 well, actually, let's see. Let's start on page 3 in

1 many different factors and that all of them really play
2 into that.

3 Q. So if there is just one deficiency in one
4 area, won't it depend on the magnitude of the
5 deficiency and whether there are deficiencies in other
6 areas as to whether there is really a negative impact
7 upon student performance?

8 MR. ELIASBERG: Objection. Calls for
9 speculation.

10 THE WITNESS: I couldn't answer that. I
11 think that has to be researched to see if it is
12 possible, yes.

13 MS. MITCHELL: Q. Okay. So you don't know,
14 as you sit here today, whether that would be true or
15 not true; is that right?

16 A. What is true?

17 Q. Okay. As you sit here today, you don't know
18 whether a single deficiency would necessarily
19 negatively impact student performance if the rest of
20 the building is in otherwise compliance with the
21 checklist that you use?

22 MR. ELIASBERG: Objection. Misstates his
23 prior testimony and incomplete hypothetical.

24 THE WITNESS: I would go back to Lanham's
25 study. He did identify that air-conditioning, thermal

1 control, was the most important, so I would say yes.
 2 MS. MITCHELL: Q. As to thermal control?
 3 A. Yes. Yes, air-conditioning or thermal
 4 control.
 5 Q. If you were just one degree outside that
 6 ideal temperature range that Lanham suggests, would you
 7 say that that would have a negative impact upon student
 8 performance?
 9 A. Lanham did not indicate any range
 10 whatsoever. It is just the presence or the absence.
 11 Q. Okay.
 12 A. But I think researchers who have dealt with
 13 that topic have said that at any one day, you may have
 14 a variance in temperatures and students might fall
 15 asleep or do things like that and might not perform as
 16 well that day. But over the school year and successive
 17 years, that plays out so that you have a controlled
 18 environment and students work best in that.
 19 Q. Okay. So it might be that if you deviated
 20 for a few days or by a single degree from the type of
 21 temperature control that would be most optimal, that it
 22 would not negatively impact?
 23 A. It is my understanding, yes.
 24 Q. So you have to cross some threshold before
 25 you get to the point where there is a negative impact;

1 isn't that right?
 2 MR. ELIASBERG: Objection. Calls for
 3 speculation.
 4 THE WITNESS: I think as far as control of
 5 the thermal environment, it is whether or not you have
 6 control of thermal environment. If you do, then if the
 7 engineer is adequate, then you'll have this range of
 8 temperature. Now, a day or a week variance may not
 9 play out in any deficiencies.
 10 MS. MITCHELL: Q. So if you were in a
 11 climate where you naturally fell within that range, but
 12 there were some hot days or some cold days, that might
 13 not be a problem?
 14 MR. ELIASBERG: Objection. Lacks
 15 foundation. Improper hypothetical.
 16 THE WITNESS: I couldn't answer that. I
 17 don't know.
 18 MS. MITCHELL: Q. Because you haven't
 19 studied that question; is that right?
 20 A. No.
 21 Q. In paragraph B, you say, "In cases where
 22 students attend school in substandard buildings, they
 23 are definitely handicapped in their academic
 24 achievement."
 25 Do you see that?

1 A. Yes.
 2 Q. Could there be any fact pattern where you
 3 would say that students who were attending a
 4 substandard building still were not handicapped in
 5 their academic achievement?
 6 MR. ELIASBERG: Objection. Improper
 7 hypothetical. Calls for speculation. Lacks
 8 foundation.
 9 THE WITNESS: No. I really can't. I think
 10 if a student is in a substandard building that that
 11 student is handicapped all the time.
 12 MS. MITCHELL: Q. So if you have your range
 13 of quartiles, you have the first quartile, the second
 14 quartile, the third quartile, and the fourth quartile,
 15 you treat the third and fourth quartiles as standard or
 16 substandard buildings?
 17 A. In the research, they have been termed
 18 standard.
 19 Q. Okay. The ones in the middle are standard?
 20 A. Yes.
 21 Q. And so you have the school that is just one
 22 below that, so, say, you have 100 schools. You have
 23 the school that is 25 or what it would be.
 24 A. Right.
 25 Q. And so is it your testimony that all the

1 students in that building are handicapped in their
 2 learning, in their educational achievement?
 3 MR. ELIASBERG: Objection. Incomplete
 4 hypothetical.
 5 THE WITNESS: That is difficult to answer
 6 and I would probably approach it in this manner: That
 7 those schools -- the students in those schools that
 8 were in the bottom quartile did less well than students
 9 in the top quartile. Now, whether or not the 25th --
 10 students in the 25th school did as less well as the
 11 ones in the first school compared to the 75th school
 12 and the 99th school, I couldn't answer that.
 13 MS. MITCHELL: Q. Okay. And when you look
 14 at that, you look at the average student performance;
 15 isn't that right?
 16 A. That is true.
 17 Q. So there might be students in that school
 18 that are in the bottom quartile who are performing as
 19 well as some of the students in the top quartile?
 20 There is just not as many of them?
 21 MR. ELIASBERG: Objection. Calls for
 22 speculation.
 23 THE WITNESS: That could be a possibility.
 24 MS. MITCHELL: Q. And if a student was
 25 performing as well as the students in the top quartile,

1 do you have any studies that show that that student is
 2 being handicapped in his or her education?
 3 A. The fact that that child is in a substandard
 4 building means that that child is being handicapped.
 5 Now, maybe that child can perform on an equal basis of
 6 a student in the upper quartile, but then the next
 7 thing you have to say is okay. If I put that student
 8 in a standard or good building, chances are that that
 9 student might even do better.
 10 Q. And you have not studied that particular --
 11 A. No.
 12 Q. So you don't know what the answer would be?
 13 A. No, that is supposition.
 14 Q. Because it might be that the student is not
 15 as sensitive to temperature variation, too, right?
 16 MR. ELIASBERG: Objection. Calls for
 17 speculation.
 18 THE WITNESS: I couldn't say that.
 19 MS. MITCHELL: Q. It is the same thing
 20 because no one has studied it, so we don't know, right?
 21 A. That's right.
 22 MS. MITCHELL: If we could take a
 23 five-minute break, that is fine with me.
 24 (Recess taken.)
 25 MS. MITCHELL: Q. Mr. Earthman, can you

1 relate any conversations you had during the break that
 2 pertain to this case in any way or any communications
 3 of any kind?
 4 A. Mr. Eliasberg asked me how I was doing and I
 5 said I was doing fine and I asked him what bridge is
 6 this.
 7 Q. Okay. I'm going to ask you to turn to your
 8 report, paragraph 19. In the first sentence of
 9 paragraph 19, you refer to efficient student
 10 performance. Do you see that?
 11 A. Yes.
 12 Q. What constitutes efficient student
 13 performance?
 14 A. That students perform at their grade level.
 15 Q. Okay. And that is what you meant when you
 16 used the word "Efficient"?
 17 A. Yes.
 18 Q. And then in paragraph 20, in the
 19 next-to-the-last line, you talk about satisfactory
 20 student performance. Do you see that?
 21 A. Yes; right.
 22 Q. What is satisfactory student performance?
 23 A. That would be grade level.
 24 Q. So there is no difference between efficient
 25 student performance and satisfactory student

1 performance?
 2 A. No.
 3 Q. And on page 6, in paragraph 24, when you
 4 talk about proper and accurate hearing is essential to
 5 student's ability to learn in the classroom, what do
 6 you mean by "Essential"?
 7 A. It is very important that every child can
 8 hear the instructions of the teacher or hear
 9 recitations. I think that students can't learn without
 10 being able to hear what is going on.
 11 Q. So you are talking about their ability to
 12 understand communications that are made in the
 13 classrooms?
 14 A. No, hear --
 15 Q. Okay.
 16 A. -- a communication.
 17 Q. Okay. To hear?
 18 A. Yes. They may not understand it.
 19 Q. But to hear to a point where they can
 20 aurally -- were they can aurally, a-u, take them in; is
 21 that right?
 22 A. Yes.
 23 Q. In this paragraph, you talk about how in
 24 1930, the Laird study concluded that students learn
 25 more when the classroom noise level is reduced to 40

1 decibels. Do you see that?
 2 A. Yes.
 3 Q. Do you know whether the amount of ambient
 4 noise that a child experiences in their life affects
 5 this number at all? That is, if they are used to
 6 having TV on and having the Walkman running and all
 7 these things that may not have been as predominant in
 8 1930, does that affect the level at which the child can
 9 concentrate?
 10 A. It might, but I'm not in a position to
 11 really say yes or no on it.
 12 Q. So you don't know whether this 40-decibel
 13 number would still be the number if the study were done
 14 today?
 15 A. I would hesitate to guess, but I do have to
 16 say that the new standard put out by the government is
 17 35 decibels.
 18 Q. Okay.
 19 A. I don't know how that plays out and I'm not
 20 in a position to discuss that any further, but I do
 21 know that they -- you know, the observations that a
 22 60-year-old study may or may not apply, but then the
 23 government said it should be -- that this is the level.
 24 Q. But you didn't participate in any way in the
 25 government formulation of that level?

1 A. No. No.
 2 Q. And you don't know whether if this test --
 3 you don't know whether that 40-decibel level is the
 4 level that is required in order for a student to learn
 5 any more, you don't know if that number still applies?
 6 A. Today?
 7 Q. Right.
 8 A. No.
 9 Q. Okay. In paragraph 29, you talk about the
 10 impact that building conditions have on certain test
 11 results as it carries over on to page 9.
 12 MR. ELIASBERG: I'm sorry. Paragraph 29?
 13 MS. MITCHELL: Yes, paragraph 29 continues
 14 from page 8. We're looking at the wrong thing. That
 15 is my fault. I'm looking at your report.
 16 THE WITNESS: Yes.
 17 MS. MITCHELL: On page 8, paragraph 29.
 18 THE WITNESS: I've got 29. It deals with
 19 age of building.
 20 MS. MITCHELL: Right.
 21 THE WITNESS: Okay.
 22 MS. MITCHELL: Q. It is paragraph 29?
 23 A. Yes.
 24 Q. On page 8?
 25 MR. ELIASBERG: I think there was confusion.

1 You said building condition as opposed to age.
 2 MS. MITCHELL: I'm sorry. Okay.
 3 Q. In paragraph 29, you talk about the impact
 4 of age of building on the student population; is that
 5 right?
 6 A. Yes.
 7 Q. And there -- the impact on the reading
 8 scores is different than the impact on the math scores.
 9 Do you see that?
 10 A. Yes.
 11 Q. Has there been any study to identify why it
 12 is there would be a difference in the impact on reading
 13 versus math based on the building conditions?
 14 A. Not that I'm aware of.
 15 Q. Okay. Do you have any explanation of why
 16 there would be more difference between the -- well, if
 17 you look at the difference between reading and math, it
 18 is greater than the differences between the buildings?
 19 A. All I can do is hypothesize and I believe
 20 that mathematics is a more concrete form of knowledge
 21 and the instruction is completely different than it is
 22 to teach reading is my understanding and this might
 23 account for it.
 24 Q. Okay. Is it possible that there are
 25 underlying things in the curriculum that account for

1 the changes as opposed to the age of the building?
 2 MR. ELIASBERG: Objection. Calls for
 3 speculation and vague.
 4 THE WITNESS: Yeah, I wouldn't -- I would
 5 say no.
 6 MS. MITCHELL: Q. It is not possible?
 7 A. I didn't think so.
 8 Q. Okay. Why is that?
 9 A. I think these studies tried to find a
 10 relationship between age and student achievement and
 11 reading material or any supplies were not taken into
 12 consideration. They assumed that they were state
 13 approved and uniform.
 14 Q. Okay. So they didn't control, then, for the
 15 reading material or the supplies?
 16 A. No.
 17 Q. Okay. And without those controls, how can
 18 you state with certainty that there might not be other
 19 components of what was going on in the schools other
 20 than the age of the building influencing the outcome in
 21 the scores?
 22 MR. ELIASBERG: Objection. Misstates his
 23 prior testimony.
 24 THE WITNESS: The material that is in the
 25 schools may have an influence upon it separate from the

1 influence that the age has and I think that this is the
 2 reason why this is an important finding, that they
 3 found that age does correlate with the difference in
 4 achievement scores. This doesn't explain all of the
 5 variance. And in this study, it does not -- it did not
 6 even attempt to isolate the SES as to the percentage of
 7 variance.
 8 MS. MITCHELL: Q. Okay. When it talks
 9 about the building accounting for 3.3 percent to 6.4
 10 percent of the variance on three of the five
 11 subtests --
 12 A. Yes.
 13 Q. -- what happened with the other two
 14 subtests?
 15 A. They were not significant at .05 level.
 16 There may have been an advantage, but he didn't report
 17 it as being significant.
 18 Q. And do you have any -- do you know what the
 19 subtests were?
 20 A. I have read them, but I can't recall them.
 21 Usually subtests are reading, vocabulary, writing
 22 expression, mathematics computation, concepts, things
 23 like that.
 24 Q. And do you have any -- did the study present
 25 any explanation for why some of those areas were

1 affected to a statistically significant level by the
 2 age of the building and others were not?
 3 A. No.
 4 Q. If you look at paragraph 32, you talk about
 5 a sizable influence upon the achievement of students.
 6 Do you see that?
 7 A. Yes.
 8 Q. What do you mean by the word "Sizable"?
 9 A. I think differences in scores, achievement
 10 scores, in the range of five to 17 percent is very
 11 sizable.
 12 Q. Okay. And when you are referring to the
 13 five to 17 percent points, did Anderson, Ayers, and
 14 O'Neill come up with numbers in that same range, five
 15 to 17 percent? Is that what you are saying?
 16 A. What I'm saying is that the five and 17
 17 percent refers to the studies previously.
 18 Q. So elsewhere referenced in your report,
 19 right?
 20 A. Yes. Now, Ayers came out with six percent.
 21 O'Neill came out with a significant relationship in
 22 building age, so it was not a difference in achievement
 23 scores. Anderson looked at 38 design variables and he
 24 found a significant relationship in 27 of them.
 25 Q. Now, you use in paragraph 32, five to 17.

1 Why is it you picked five and didn't use some of the
 2 smaller numbers that were reflected in some of the
 3 studies?
 4 A. Five was the most common. They did range,
 5 as I say up above, two to five percentile scores, but
 6 most -- well, if you refer back to the Luxemburg study
 7 or Luxemburg paper, I try to synthesize these and show
 8 a progression of scores on all three studies, the Cash,
 9 Hines, and North Dakota.
 10 Q. And is there a margin of error in these
 11 percentile points in any given study?
 12 A. No.
 13 Q. So this number two comprehensive would have
 14 to be two to 17, is that right, for the studies you
 15 rely on?
 16 A. Yes; true.
 17 Q. And those studies were correlative studies;
 18 is that right?
 19 A. Yes.
 20 Q. So they would apply to the populations in
 21 the particular schools. Each study would only be valid
 22 as to those populations in the particular schools at
 23 issue in that study?
 24 A. Yes.
 25 Q. In paragraph 33, you say, "It is very

1 difficult to measure teacher effectiveness
 2 quantifiably."
 3 Could you explain that?
 4 MR. ELIASBERG: Asked and answered.
 5 THE WITNESS: We have measures in student
 6 achievement scores that are at least finite, given all
 7 the factors. We don't have such measures to evaluate
 8 teachers. Generally the evaluation is a subjective
 9 judgment of a principal and the type of evaluation
 10 varies from school -- normally from school division to
 11 school division, so you have -- and even within a
 12 school district. So we don't have any precise way of
 13 saying this is a good teacher. That is -- you know, a
 14 poor teacher.
 15 MS. MITCHELL: Q. Or in any way quantifying
 16 the teacher's performance; is that right?
 17 A. That is right. That it is a 36 or 40 or
 18 whatever.
 19 Q. Does that make it more difficult to control
 20 for teacher performance when you are doing these kinds
 21 of tests and comparing the substandard schools to the
 22 top quartile schools?
 23 A. No, it doesn't. The only way I can really
 24 answer that is because some of the correlational
 25 studies tried to control for teacher experience and

1 others had a uniform teacher preparation and uniform
 2 curriculum, so they didn't especially do it that way.
 3 Now, as far as perception studies are
 4 concerned, we don't need that kind of a limitation or
 5 control because we are -- a statistical approach is
 6 different.
 7 Q. You answered a little different question
 8 than the question I was asking, I think.
 9 A. Okay.
 10 Q. What I was asking is because there is no --
 11 it is very difficult to measure teachers'
 12 effectiveness, not the number of years they've been in
 13 service or the curriculum they are teaching, but their
 14 effectiveness conveying information in teaching the
 15 students. Does that make it more difficult in the --
 16 does that make it hard to control for teacher
 17 effectiveness when you are doing the correlative
 18 studies comparing different schools?
 19 A. Again, I would have to answer that no
 20 because they have tried other means. I think it would
 21 be less precise to try to use principal evaluations of
 22 teachers.
 23 Q. Right. I'm not suggesting there is a better
 24 means than what we use.
 25 A. I understand.

1 Q. But what I'm saying is it is true that it is
2 not easy to measure teacher effectiveness, so if they
3 are using, for example, years in service, that is
4 really only a rough proxy for teacher effectiveness.
5 It is not a substitute for controlling teacher
6 effectiveness?

7 MR. ELIASBERG: Objection. Compound.

8 THE WITNESS: It is not effective measure
9 for identifying teacher competence, but the years of
10 experience have been used by reputable researchers as a
11 measure of control for teacher effectiveness and it is
12 a quantifiable statistic and I guess that is why it is
13 used so prevalently.

14 MS. MITCHELL: Q. But the problem with it
15 is it doesn't necessarily accurately measure the
16 effectiveness of the teacher; isn't that right?

17 A. That's right.

18 Q. If you could turn to paragraph 44, the
19 report that the public advocate did, what kind of study
20 was that?

21 A. The public advocate used data provided by
22 the school district and some perception analyses of
23 teacher responses to determine the effective
24 overcrowding on the students and on the teachers.

25 Q. Was there an instrument that was used for

1 Q. Okay. And that is true as a general
2 principle, right? If you have a flawed instrument,
3 then it can result in flawed conclusions?

4 A. Absolutely, but I must say that I think
5 flawed instruments in perception studies and
6 naturalistic inquiry are probably very rare. They may
7 not measure what people want, but they are -- flawed
8 instruments are very rare.

9 Q. Okay. And in correlative studies, if you
10 have a flawed instrument, then the conclusions are
11 suspect; is that correct?

12 MR. ELIASBERG: Objection. Assumes facts.

13 THE WITNESS: That could be. That could be.

14 MS. MITCHELL: Q. And you would have to
15 look at the flaws to see the extent to which they
16 affected the data?

17 A. Well, yes. Yes.

18 Q. And to do that, would you have to replicate
19 the study?

20 A. No, because if you replicate a study, you
21 are expecting to obtain the same results as this.

22 Q. I see. Okay.

23 A. I would -- depending upon what the
24 instrument was, I would examine the instrument myself
25 and based upon my knowledge, but most researchers, when

1 assessing the data that resulted in these conclusions
2 from the public advocate or was this more of kind of a
3 report on the state of the schools that was not
4 necessarily as rigorous in its assessment as the kind
5 of studies that you otherwise rely on?

6 MR. ELIASBERG: Objection. Compound and
7 ambiguous.

8 THE WITNESS: My recollection of the study
9 is that an instrument was prepared to gather data upon
10 teachers.

11 MS. MITCHELL: Q. Okay. And did you assess
12 the adequacy of that instrument? Did you see that
13 instrument?

14 A. I did not assess the adequacy of it.

15 Q. Okay. And so if that were a flawed
16 instrument, it might have some impact on the
17 reliability of the comments of the public advocate?

18 A. I would believe that it was not a flawed
19 instrument.

20 Q. I understand that you believe that. I'm
21 asking you to assume for a moment that it was, because
22 that is what experts get to do, and if you assume it
23 was a flawed instrument, that might have some impact on
24 the outcome; is that right?

25 A. Only if I assumed it was.

1 they are using a new -- or when they have developed an
2 instrument and using it for the first time, they try to
3 pilot it. They try to get validity and reliability by
4 using expert panels so that they eliminate any possible
5 flaws and I think those are good measures to guarantee
6 that the instrument is not flawed.

7 Q. And have you ever been in a situation where
8 at the conclusion of a study, you've realized that the
9 instrument was flawed?

10 A. I would have to answer that that I don't
11 believe so.

12 Q. Has that ever happened with any of your
13 students?

14 A. Well, that is what I was thinking back, that
15 there are some results of studies that surprise me,
16 different than what I expected, but it was not
17 necessarily because of the data that were gathered as a
18 result of this instrument.

19 Q. Okay. So you have never seen a situation,
20 then, where there has been a flaw in the instrument?

21 A. Oh, I think that I probably have, yes. My
22 estimation is flawed, yes.

23 Q. In your mind, once you encounter that
24 situation, what is the process that you go through to
25 get correct data, to get a study that has a reliable

1 outcome?

2 MR. ELIASBERG: Incomplete hypothetical.

3 THE WITNESS: The -- if a study is done that
4 I have no control over, then the study is done and
5 there is nothing really that can be done.

6 Now, if I'm directing a study or if I'm
7 directing a student to study, we try and assure that we
8 find -- that we have an instrument that will gather the
9 data that we need and I haven't seen -- I can't
10 remember any time when that didn't happen.

11 Now, I have seen where we have developed the
12 instrument, we've piloted it. We've gotten validity,
13 reliability upon it. And then we come out and after
14 the data are gathered, come out and find out we should
15 have included this or I would have liked to have
16 included this. As long as you are in there, I would
17 have liked to include that, but that does not negate
18 the validity of the instrument itself.

19 MS. MITCHELL: Q. And does that undermine
20 the validity of the results?

21 A. Not in the case I was mentioning, but what
22 they found, they found. And it was a result of the
23 instrument that they gathered, but in some cases while
24 you wanted to ask, well, why didn't we find out about
25 this, too, while we were in there, after we've seen the

1 like a two-minute break and make sure I've covered what
2 I need to cover.

3 MR. ELIASBERG: Sure.

4 (Recess taken.)

5 MS. MITCHELL: Q. So Mr. Earthman, can you
6 tell me if you discussed anything related to the
7 deposition during your break?

8 A. No.

9 Q. Okay. I just have a couple more questions
10 for you and then I'll be done.

11 When you are examining an instrument, what
12 do you look at to determine whether or not it is
13 flawed?

14 MR. ELIASBERG: Objection. Incomplete
15 hypothetical.

16 THE WITNESS: Maybe the best way I can
17 answer this is that --

18 MS. MITCHELL: Let me try and rephrase the
19 question.

20 Q. What is the process you go through when you
21 are examining an instrument? I think you mentioned
22 something like piloting or --

23 A. I'm sorry, yes. There can be a
24 validation -- contented evaluation. If I developed an
25 instrument, I would send it around to five or ten

1 study, which is quite legitimate.

2 Q. Okay. And if somebody's failed to control
3 for something that they ought to control for in a
4 study, what impact does that have on the result of the
5 study?

6 MR. ELIASBERG: Objection. Incomplete
7 hypothetical.

8 THE WITNESS: I think it would depend upon
9 what they were trying to control for and didn't or
10 something like that.

11 MS. MITCHELL: Q. And what is the range of
12 the effects it could have on the study?

13 A. I have no idea. I have no idea.

14 Q. Could it invalidate the results of the study
15 if you failed to control for something you ought to
16 have controlled for?

17 MR. ELIASBERG: Incomplete hypothetical.
18 Calls for speculation.

19 THE WITNESS: I suspect it might. I
20 couldn't answer that.

21 MS. MITCHELL: Q. And it would depend on
22 the individual circumstances. Is that what you are
23 saying?

24 A. Yes, it would; uh-huh.

25 MS. MITCHELL: Okay. I just want to take

1 people that I know are expert in this field and they
2 would look at the content. Am I asking the right
3 questions or not. Am I asking it in the right way to
4 get the data that I need.

5 Now, after that, then I would take all of
6 the suggestions and revise the instrument. Then I
7 would select a very small sample and actually gather
8 data on it and then determine if I got the data that I
9 needed to complete the analysis.

10 Now, if someone gave me an instrument and
11 said is this a valid instrument, then if I had the
12 competence, the expertise to judge that, I would be
13 able to do it, but it would be upon my knowledge, does
14 this question -- is the question worded so I understand
15 it. Will the answer to it or the data, something like
16 that, be such that it applies to the question of the
17 research study.

18 Q. Okay. And so when you talk about -- when
19 you talk about what you do after you analyze the
20 instrument yourself, you talked about piloting it,
21 doing it with a small group. Is that kind of like a
22 focus group to see how it works?

23 A. Yes.

24 Q. And if you were coming in later and
25 evaluating the instrument, would it help you to see

1 that data from the focus group?
 2 MR. ELIASBERG: Objection. Misstates his
 3 prior testimony.
 4 THE WITNESS: If I were evaluating it later?
 5 MS. MITCHELL: Q. If you were not creating
 6 the instrument, but you were coming in to evaluate it,
 7 would it help you to see what had been done in terms of
 8 the piloting or the focus groups?
 9 A. It might help me, yes.
 10 MS. MITCHELL: Okay. I don't think I have
 11 any more questions, subject to if Mr. Earthman produces
 12 additional documents or formulates additional opinions.
 13 Obviously we would reserve the right to examine him at
 14 that point, but otherwise we're done.
 15 MR. ELIASBERG: Okay.
 16 MS. GIORGI: The State Agency Defendants do
 17 not believe we're done until we have received all the
 18 materials that we've requested.
 19 MR. HILL: And we've requested the draft
 20 copies of his reports and we don't believe we're done
 21 until we receive those.
 22 MR. ELIASBERG: I think I previously stated
 23 our position on the record with respect to both of
 24 those requests, so I don't think I need to do it again.
 25 MS. GIORGI: Thank you.

1 (Recess taken.)
 2 MR. ELIASBERG: Add ten days to the
 3 stipulation.
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1 We stipulate that copies of the documents
 2 attached to this deposition be used as originals;
 3 That the original of this deposition be
 4 signed under penalty of perjury;
 5 That the original be delivered to the office
 6 of Mr. Peter Eliasberg;
 7 That the reporter is relieved of liability
 8 for the original of the deposition;
 9 That the witness will have 40 days from the
 10 date of court reporter's transmittal letter to Mr.
 11 Peter Eliasberg to sign and correct the deposition; and
 12 that Mr. Peter Eliasberg shall notify all parties in
 13 writing of any changes in the deposition and if no such
 14 changes are communicated or no signature within that
 15 time, that any unsigned and uncorrected copy can be
 16 used for all purposes as if signed and corrected.
 17
 18 (Whereupon, the deposition was adjourned
 19 at 4:15 p.m.)
 20 --o0o--
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 25

1 I declare under penalty of perjury that the
 2 foregoing is true and correct. Subscribed at
 3 _____, California, this ____ day of
 4 _____, 2003.
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 10 DR. GLEN EARTHMAN
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CERTIFICATE OF REPORTER

1
2 I, JOHNNA PIPER, a Certified Shorthand
3 Reporter, hereby certify that the witness in the
4 foregoing deposition was by me duly sworn to tell the
5 truth, the whole truth and nothing but the truth in the
6 within-entitled cause;

7 That said deposition was taken down in
8 shorthand by me, a disinterested person, at the time
9 and place therein stated, and that the testimony of the
10 said witness was thereafter reduced to typewriting, by
11 computer, under my direction and supervision;

12 I further certify that I am not of counsel
13 or attorney for either or any of the parties to the
14 said deposition nor in any way interested in the event
15 of this cause and that I am not related to any of the
16 parties thereto.

17
18 DATED: _____, 2003.

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21 _____
22 JOHNNA PIPER, CSR 11268
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