

SUPERIOR COURT OF THE STATE OF CALIFORNIA
COUNTY OF SAN FRANCISCO
UNLIMITED JURISDICTION

)
ELIEZER WILLIAMS, a minor, by)
SWEETIE WILLIAMS, his guardian)
ad litem, et al., each)
individually and on behalf of all)
others similarly situated,)
)
Plaintiffs,)
)
vs.) No. 312236
)
STATE OF CALIFORNIA, DELAINE)
EASTIN, State Superintendent of)
Public Instruction, STATE)
DEPARTMENT OF EDUCATION, STATE)
BOARD OF EDUCATION,)
)
Defendants.)
_____)

DEPOSITION OF MICHAEL JOHN PODGURSKY, Ph.D.
Los Angeles, California
Wednesday, August 13, 2003
Volume 3

Reported by:
CAROL ANN NELSON
CSR No. 6974
JOB No. 44004

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DEPARTMENT OF EDUCATION, STATE)
BOARD OF EDUCATION,)
Defendants.)

Deposition of MICHAEL JOHN
PODGURSKY, Ph.D., Volume 3, taken on behalf
of Plaintiffs at 555 West Fifth Street,
35th Floor, Los Angeles, California
beginning at 9:24 a.m. and ending at
5:05 p.m. on Wednesday, August 13, 2003,
before CAROL ANN NELSON, Certified Shorthand
Reporter No. 6974.

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MICHAEL JOHN PODGURSKY, Ph.D.
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3 INFORMATION REQUESTED
4 (NONE)

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10 (NONE)

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1 secretary in word processing trying to figure out a way
2 to get this on a CD or in a Zip file or something to get
3 it to you in readable form. In the meantime I can
4 forward the two E mails to you or to somebody and, you
5 know, if you want them or if somebody has the SAS
6 software, you know you'll be able to download them.

7 MR. AFFELDT: I think it's efficient if you
8 forward them to Leecia Welch.

9 MS. DAVIS: All right. So we'll do that.

10 MR. AFFELDT: Do you have her E mail?

11 MS. DAVIS: Yes, we do. I'll call somebody and
12 have them forward the -- the two E mails.

13 The next issue was on scheduling. Yesterday
14 you said that plaintiffs had requested five days of
15 deposition. Leecia Welch actually on behalf of
16 plaintiffs requested only four days of deposition for
17 Dr. Podgursky -- Professor Podgursky. Sorry. I just
18 wanted to set the record straight. We have a letter
19 that requested four days. I'm hoping that that means we
20 can really try to push forward and finish this up as
21 soon as possible.

22 MR. AFFELDT: If we can finish in four days
23 that would be great, that would be my preference --

24 MS. DAVIS: Okay.

25 MR. AFFELDT: -- and I'll try to do that but it

1 Los Angeles, California, Wednesday, August 13, 2003
2 9:24 a.m. - 5:05 p.m.

3
4 MS. DAVIS: Can we just talk about a couple of
5 administrative things?

6 MR. AFFELDT: Sure.

7 MS. DAVIS: You had had requested a couple of
8 documents yesterday and I just wanted to give you an
9 update.

10 The first request were E mails between Dr. Berk
11 and Professor Podgursky. Professor Podgursky's
12 assistant is right now as we speak looking through his
13 archives back in Missouri, archived E mails, and trying
14 to locate those E mails. The plan is he'll forward them
15 to me and I'll print them off for you. So hopefully
16 we'll have an update on that mid-morning or by lunch.

17 The second request was for the data attached to
18 the two E mails of May 29 of 2003. I have the two E
19 mails now, tried to open the attachments. You know,
20 it's just --

21 MR. AFFELDT: Big files?

22 MS. DAVIS: -- symbols and you can't read
23 anything, there's no words. So they're in SAS form is
24 what I understand and obviously I don't have the
25 software on my computer to read that, so we have a

1 might not.

2 MS. DAVIS: Okay. I'll just say, you know, I
3 mean we're starting 20 minutes late today. We started
4 late the other two days of depo. Professor Podgursky
5 and I have been here before 9 o'clock every morning and,
6 you know, if we can just make an effort to be on time,
7 you know, back from lunch and in the morning, that would
8 probably, you know, help things speed along.

9 MR. AFFELDT: Certainly --

10 MS. DAVIS: Okay.

11 MR. AFFELDT: -- we can do that. Also,
12 obviously, we have other obligations to other clients we
13 have to take care of.

14 MS. DAVIS: No, I understand. You know, I just
15 ask, you know, at the very least as a courtesy if you
16 don't think you can make it on time let us know because
17 then we won't show up on time. That's all I ask.

18 MR. AFFELDT: Sure.

19 MS. DAVIS: Okay.

20 MICHAEL JOHN PODGURSKY, Ph.D.,
21 having been previously sworn, was examined and testified
22 further as follows:

23 EXAMINATION (Resumed)

24 BY MR. AFFELDT:

25 Q Dr. Podgursky, I remind you that you're still

1 under oath.

2 A Yes.

3 Q The methodological minimum standards that we
4 talked about yesterday, do those apply to your work as
5 well in the area of educational policy?

6 MS. DAVIS: Vague and ambiguous.

7 THE WITNESS: Well, yes. To the extent that
8 I'm looking at the relationship between student
9 achievement gains and teacher characteristics, yes, of
10 course.

11 BY MR. AFFELDT:

12 Q Does your study that you did as part of your
13 expert report in this case establish a causal
14 relationship or the lack thereof?

15 A I -- I --

16 MS. DAVIS: Vague and ambiguous.

17 THE WITNESS: I'd say that it suggests that
18 there may not be a causal relationship.

19 BY MR. AFFELDT:

20 Q What do you mean by "suggests"?

21 A Well, as I point out in the paper, I think that
22 the methodology I've proposed of looking at gain-scores
23 is at least closer to the standard that has been laid --
24 that I argued should hold for research than is a simple
25 cross-section approach, so it's closer to the standards

1 for student achievement or else the study doesn't --
2 wasn't counted. Prior controls for student achievement
3 and controls for SES.

4 Did that answer your question?

5 Q Not really. My question is: Does
6 nonexperimental longitudinal student data research
7 establish causal relationships or a lack of a causal
8 relationship if there's no positive finding?

9 A Well -- Are you done?

10 Q Yes.

11 A It -- When you do this research the data can
12 never establish with certainty that a relationship is
13 causal. You bring theory, you theorize, you have a
14 hypothesis about how the world works, you collect data
15 in either experimental or nonexperimental to try to
16 support your theory, and if lots of the data -- and many
17 studies support your theory, ultimately researchers say,
18 conclude, that you've made the case for -- for a causal
19 relationship. Usually you don't base it on one study
20 but sort of repeated studies, other researchers
21 replicate it, and you have a theory that indicates that
22 X is causing Y and not the other way around. So it's a
23 combination of a theory that's -- that tells you what --
24 what is causing what combined -- linked with data and
25 careful empirical analysis. And if you -- if you have

1 I've laid out. It does not meet that. I did not have
2 individual student level data.

3 Q If -- If one does not carry out a randomized or
4 a natural experiment but employs a nonexperimental model
5 according to your minimum standards, does that research
6 establish a causal relationship or lack thereof?

7 MS. DAVIS: Vague and ambiguous. Calls for
8 speculation.

9 THE WITNESS: Well, I believe that you're
10 referring to the use of nonexperimental longitudinal
11 data, and the -- the -- in this area of research what
12 you do is you try with the data that's available to --
13 to address these -- the issues I laid out, the problems
14 of omitted variables that we discussed yesterday. The
15 researchers make the best attempt they can to address
16 this and they send their work out to other researchers
17 and try to make a convincing case. The general -- The
18 standard I've laid out is what's -- what is now expected
19 to really contribute to the literature on teacher
20 quality is, you know, longitudinal data. You have to
21 have prior controls for student achievement. I gave you
22 articles on the first day of the -- of the case -- or of
23 our deposition that make this argument, that -- that
24 article in the REVIEW OF EDUCATION RESEARCH, I was quite
25 explicit about that standard -- you need prior controls

1 enough data and the theories make sense to the
2 researchers, then you conclude that there's a causal
3 relationship.

4 But of course it's always possible on down the
5 road someone will come along with data, experimental or
6 nonexperimental, that shoots a hole in what you thought
7 and it argues it really wasn't a causal relationship. I
8 mean that's just the way science is. Everything is --
9 Any theory is ultimately -- can be disproven with new
10 data and new evidence, so you're always in sort of a
11 tentative state.

12 Q Would you ever rely on a single study to
13 support a conclusion in the course of your work?

14 MS. DAVIS: Vague and ambiguous. Calls for
15 speculation.

16 THE WITNESS: More studies, more -- more
17 rigorous studies, lead to more confidence in a
18 conclusion than fewer studies, so clearly one study
19 would not be as convincing as five studies. What you
20 want to see is you want to see results replicated.

21 BY MR. AFFELDT:

22 Q Would you ever rely on only one study?

23 A Well, see, "rely" is sort of a -- it's a legal
24 word and I don't know exactly what it means. I wouldn't
25 conclude for sure that there was a causal relationship

1 based on one study. I'd be more confident of a causal
2 relationship if there were five studies. "Rely" implies
3 certainty, I think, and I'm just saying you're more
4 confident of a result if there's more studies, you're
5 less confident if there's fewer studies.

6 Q Do you have a minimum number of studies that
7 you require before you begin to achieve confidence?

8 MS. DAVIS: Calls for speculation.

9 THE WITNESS: No. It's complicated because
10 it's -- the quality of the studies -- If I saw one
11 really good experiment, you know, that was large scaled
12 and had lots of data that was experimental, then, you
13 know, I think that that's much stronger than one
14 small -- you know, smaller study in a particular school
15 district, you know. So it really depends on the sort of
16 comprehensiveness of the -- of each of your studies as
17 well, so it's -- I don't have a fixed rule as to the
18 number of studies.

19 BY MR. AFFELDT:

20 Q Does a well-designed experimental study
21 establish causal relationship or the lack thereof?

22 MS. DAVIS: Vague and ambiguous. Calls for
23 speculation.

24 THE WITNESS: It -- It -- In a well-designed
25 experimental study combined with a sensible theory about

1 MR. AFFELDT: No, it's for me.

2 MS. DAVIS: Okay.

3 THE WITNESS: There are different kinds of
4 evidence. I mean it's -- And like I said, you can have
5 small experiments and big nonexperiments and, you know,
6 you can have a lot of variation in -- in your policy
7 effects in an experiment -- I mean in a nonexperimental
8 context.

9 For example, take the Hanushek. I mean the
10 fact that he's got a data set that's got every kid in
11 Texas, was able to track every kid in Texas. Although
12 it's nonexperimental data it's a massive -- is a -- has
13 enormous value in beginning to shed light on the
14 relationships between teachers and student achievement
15 gains even though it's nonexperimental. If it were just
16 one school district, that would be -- make it less
17 valuable. So, you know, you have to look at the
18 particular types of studies. But in other things being
19 equal, a true experiment is -- is -- like I said, is
20 highly valued. I mean you -- If it's a well-designed
21 experiment with a large sample, then it just carries a
22 whole lot of weight in terms of policy conclusion.

23 BY MR. AFFELDT:

24 Q I am going to hand you what we will mark as
25 Exhibit 12.

1 what you're looking at, about X causing Y, it can give
2 us -- is very -- is very useful in -- in leading us to
3 believe, giving us a level of confidence or scientific
4 support for a hypothesis.

5 As I said before, you -- you build up more and
6 more confidence in a theory or hypothesis the more
7 evidence, the more studies you have in its support and
8 the better quality of the studies. And as I indicated
9 yesterday, you know, the -- an experiment -- an
10 experiment is -- is the -- you know, the highest quality
11 study in general, a well-designed experiment is -- is --
12 just carries a lot of weight in the research community
13 in examining the effect of a policy.

14 BY MR. AFFELDT:

15 Q Is there a qualitative difference, then, in
16 your mind between a well-designed experimental study and
17 a well-designed nonexperimental study in terms of
18 establishing causality?

19 MS. DAVIS: Calls for speculation.

20 THE WITNESS: Well, there's a difference and I
21 guess it is qualitative. There are different kinds of
22 evidence.

23 (Interruption.)

24 MS. DAVIS: This must be you. I thought they
25 were delivering something from O'Melveny.

1 (Podgursky Exhibit 12 was marked for
2 identification by the court reporter.)

3 BY MR. AFFELDT:

4 Q Do you recognize this document?

5 A Yes.

6 Q What is this?

7 A I'm sorry. Did you say what is it?

8 Q Yes.

9 A It's the rejoinder to Professor
10 Darling-Hammond's rejoinder on -- from -- on the Abell
11 Foundation report on teacher certification.

12 Q And it lists Kate Walsh and it also lists you
13 with contributing analysis by Michael Podgursky.

14 Can you identify for me which parts of this
15 document you authored?

16 A Well, if you -- if you look it's -- the way
17 it's set up is it says Darling-Hammond response,
18 Darling-Hammond response, and everything I wrote is set
19 off by "PODGURSKY." As I indicated to you yesterday or
20 the day before, I -- my contribution to this was to take
21 a few of these studies -- I think there were like maybe
22 four of them -- and just write about a page describing
23 the study and -- and my conclusions about the
24 reliability of the study, and that's all my -- so my
25 contribution is clearly set off and delineated here.

1 Everywhere it says "PODGURSKY," that's what I wrote.
 2 And then Walsh wrote the other stuff.
 3 Q The first time I see your name set off there
 4 aren't any page numbers on this, but is that on the page
 5 titled "ANALYSIS OF STUDIES"?
 6 A Yes.
 7 Q Discussing Hawk and Coble and Swanson?
 8 A Yes.
 9 Q And is all that follows "PODGURSKY" until we
 10 get to Darling-Hammond on the bottom of the next page?
 11 A Yes.
 12 Q Is the -- the response part which appears above
 13 your name you or Walsh?
 14 A Walsh.
 15 Q And as I understood your testimony from the
 16 other day, you did not otherwise coauthor the other
 17 sections with Kate Walsh?
 18 A That is correct. What I contributed to this is
 19 clearly delineated.
 20 Q Did you review and sign off on the Kate Walsh
 21 sections?
 22 MS. DAVIS: Vague and ambiguous.
 23 THE WITNESS: I -- I did not sign off on them.
 24 Kate asked -- Kate discussed things with me and I gave
 25 her opinions but I did not write her section. I did not

1 edit her section. I did not sign off on her section.
 2 Early on I said to Kate, "Kate, I'm just going to write
 3 about these four studies that have come up over and over
 4 again and give my opinion of them," and that was my
 5 contribution.
 6 And then she said later on, is my recollection,
 7 well, she wanted to include my synopsis in the report of
 8 those studies. But I did not write and I did not edit
 9 or I -- My contribution to this is clearly delineated.
 10 My opinions about the research are clearly delineated in
 11 this report, and she has her opinions, I have mine --
 12 "she" being Walsh -- I have mine, mine are clearly
 13 delineated in this report.
 14 BY MR. AFFELDT:
 15 Q And remind me, you may have said this the other
 16 day, did you review her section before it was published?
 17 A I do not believe that I did, no.
 18 Q Is it not standard practice in the academic
 19 arena to review and agree on the entire contents of a
 20 piece that one's name is appearing on with another
 21 author?
 22 MS. DAVIS: Vague and ambiguous.
 23 THE WITNESS: This clearly delineates my
 24 contribution. It does not identify me as a coauthor.
 25 It says I contributed analysis -- Okay? -- and what I

1 contributed is delineated. So it's as if I wrote an
 2 appendix or a boxed insert. It -- I'm not a coauthor of
 3 this. Or I don't know. By someone's definition I'm a
 4 coauthor, but my contribution to it is clearly
 5 delineated and I -- I don't consider -- I did not sign
 6 off on what Kate wrote, and I told her that. I said,
 7 "Look, I'm just going to write about these four studies
 8 and give my opinion and," you know, I said, "use it as
 9 you want," and that's what I did. So I stand by and
 10 will defend what I wrote but I'm not -- I may or may not
 11 agree with what Kate wrote.
 12 BY MR. AFFELDT:
 13 Q When you do coauthor or do what you consider to
 14 be a coauthoring with other academics, is it your
 15 practice to review and agree on the sum total of what
 16 the piece says?
 17 A Yes.
 18 Q So you consider this relationship to be a
 19 different relationship than your standard academic
 20 coauthoring?
 21 MS. DAVIS: Asked and answered.
 22 THE WITNESS: Yes.
 23 BY MR. AFFELDT:
 24 Q What's the relationship between experience of
 25 teachers and whether or not they hold credentials in

1 your experience in the field?
 2 MS. DAVIS: Vague and ambiguous.
 3 THE WITNESS: Well, could you clarify that a
 4 little bit?
 5 BY MR. AFFELDT:
 6 Q Do experienced teachers tend to hold
 7 credentials?
 8 MS. DAVIS: Vague and ambiguous. Calls for
 9 speculation.
 10 THE WITNESS: What do you mean by
 11 "credentials"? Different credentials?
 12 BY MR. AFFELDT:
 13 Q Teaching credentials, yeah.
 14 A Right. I mean in general you can't -- more
 15 experienced teachers will tend to have permanent
 16 credentials, clear certification. In theory and
 17 according to regulations there's time limits on the
 18 amount of time you can have preliminary or intern or
 19 preintern or emergency or waivers. In California and in
 20 every other state I've seen there are time limits as to
 21 the amount of time you can hold that type of credential
 22 whereas a clear credential is -- is essentially
 23 permanent, although even many states have
 24 recertification requirements but -- so there is --
 25 there's on average a relationship, yes.

1 Q Do you know what the time limit on emergency
2 permits is in California?

3 A You have to renew them every year and I -- my
4 recollection was you could only have it for two years?

5 Q Five years.

6 A Okay. I stand corrected.

7 Q So if you're trying to study the experience of
8 teachers separate from certification, is there a way
9 practically to separate that for research purposes?

10 MS. DAVIS: Vague and ambiguous.

11 THE WITNESS: You could control for the
12 experience of teachers.

13 BY MR. AFFELDT:

14 Q How would you do that?

15 A Put the average experience into the model.

16 Q But if the average experience is, say, seven
17 years, wouldn't that teacher tend to have a credential?

18 MS. DAVIS: Vague and ambiguous. Calls for
19 speculation.

20 THE WITNESS: On average, but we're -- Well, if
21 you're talking about schools, you're going to have a
22 mix. At the -- At the individual teacher level
23 presumably you won't find any teachers with 20 years of
24 experience who have emergency certification. But if you
25 look at the school level, you'll have -- you'll be

1 A Yes.

2 Q In your report, and you've mentioned a couple
3 of times, that you referred to the experimental study
4 being carried out by the Mathematica Policy Research?

5 A Yes.

6 Q Do you know what stage that study is at?

7 A I think it's preliminary. One of the senior
8 researchers at Mathematica, Paul Decker, gave a seminar
9 at the -- at the Department of Economics at the
10 University of Missouri talking about some other
11 research, some other experimental research they're
12 doing, but he also talked a little bit during the
13 seminar about this study -- a couple of the studies that
14 were in a preliminary stage that Mathematica was
15 conducting.

16 I also was a reviewer. I reviewed for a
17 foundation -- A foundation asked me to review a proposal
18 from Mathematica that contributed to one of these
19 studies and I believe that proposal was funded. So in
20 conversations with Paul that -- with Professor Decker
21 that there are some -- a couple of studies underway in
22 Mathematica because of discussions and his seminar at
23 the University of Missouri. I don't know when the
24 results will be available. I suspect it may be at least
25 a year and maybe longer.

1 averaging teachers of various levels of experience and
2 various types of credentials. So the issue here is from
3 a statistical point of view is there independent
4 variation in experience as compared to percent of
5 teachers with some or other type of credentialing.
6 BY MR. AFFELDT:

7 Q Can you flush that out a little bit? What do
8 you mean by independent variation of --

9 A Well, if -- if teacher experience were
10 perfectly correlated with the type of credential you
11 have, then it would be impossible to distinguish with
12 nonexperimental data the effect of experience versus the
13 credential, so there has to be -- But even if you had
14 individual data among the teachers with clear cert,
15 you'd have some that had five years of experience, some
16 that had fifteen years of experience, so you'd have
17 vary -- among those with clears you'd have variation of
18 experience. Among those with preliminary, you'd have
19 some variation in experience, some would be one year,
20 some would be two years or maybe even three, and the
21 same would be true for some of the other types of
22 certification.

23 Q So you're saying you could examine the
24 different -- the effects of different years of
25 experience within different types of credentials?

1 Q Do you know what those studies are attempting
2 to investigate?

3 A There are two. The first -- Well, there are at
4 least two, the two that I discussed with him. One was
5 on Teach For America, so this was a study that looked at
6 Teach For America teachers and compared their
7 performance to traditionally trained teachers and, you
8 know, a variety -- different types of credentialed
9 teachers at a number of sites where -- where TFA, Teach
10 For America, teachers are used more extensively.

11 And then the other study which I -- I
12 believe, or my recollection is, was funded by the U.S.
13 Department of Education and is -- and is in its early
14 stages is looking at alternate teacher certification,
15 and they were -- at the time that he gave the seminar
16 they were looking -- they were just setting up the
17 design and picking the number of sites, so it was in
18 fairly preliminary stages, a fairly preliminary stage of
19 research at that point.

20 Q Does that one also involve Teach For America?

21 A It -- It might but I don't think it's the
22 primary focus. There may be -- Teach For America
23 teachers may appear in the sample but I think it was
24 more generally designed to examine programs like the
25 California intern program, New Jersey's alternate cert

1 program, Texas has alternate certs. A number of states
2 are running these types of alternate cert programs.
3 Teach For America really isn't an alternate
4 certification program, so I don't believe it would play
5 a big role in that study.

6 Q Other than California and New Jersey, what
7 other states are you aware of running intern programs?

8 A Well, the -- the definitive reference on this
9 is an annual volume published by Emily Feistritz
10 called Alternate Teacher Certification and many states
11 have programs that are -- are beginning -- or beginning
12 programs or have started up programs that fall under
13 this general rubric of alternate certification.

14 I named those states because they've had --
15 they have the biggest program and have been in place for
16 the longest period. New Jersey was really the pioneer
17 in this area, but now many states are beginning to
18 become interested in this and have established
19 programs. I know South Carolina has one now, it's
20 smaller than California's. Missouri has one. The U.S.
21 Department of Education is funding a number of these.
22 In Missouri, for example, they've provided funds for a
23 small program that -- that is an alternative route for
24 career changers, so there's a good deal of interest in
25 the U.S. Department of Education in stimulating programs

1 to go and pass CBEST; they have demonstrated content
2 knowledge or passed a practice exam; and, you know, have
3 a bachelor's degree from an accredited institution.
4 There's a list of nine requirements.

5 In addition, the IHE, Institute of Higher
6 Education, run programs have some type of minimum clock
7 hours for the semester before the participants begin --
8 I'm sorry, the summer before -- and I don't recall --
9 and I believe it may vary a little bit from program to
10 program, but there's a certain amount of time you have
11 to spend in the summer getting a -- preparing you for
12 the classroom. Then while the teachers are in -- in the
13 classroom, they have their assigned mentors and they
14 have to do course work every week either at night or at
15 weekends or sometimes in the afternoons and they have to
16 do this for a couple of years and then they have to --
17 their performance is assessed, I gather, by local
18 supervisors. And if they complete the whole process at
19 the end of that process, and I gather typically within
20 two years, they have a clear certification.

21 Q And how does the district intern program differ
22 from the university intern program?

23 A My sense, and I'm a little vague on this, is
24 that the -- the district intern programs can -- are a
25 way to provide the training on-site. In some of the

1 for career changers, alternate route programs, and so
2 that's -- that's providing incentive for many states to
3 begin to develop such programs.

4 Q Are California's and New Jersey's programs
5 similar to each other?

6 MS. DAVIS: Vague and ambiguous.

7 THE WITNESS: That's hard for me to say.

8 There's -- I think there are similarities but in order
9 to answer that I would really have to look much more
10 carefully. They have features that are similar.
11 They've accelerated training in the summer before and
12 mentoring and class work on the job, so there --
13 superficially there are many similarities but I haven't
14 studied both -- either program in depth to -- to make a
15 careful point-by-point comparison.

16 BY MR. AFFELDT:

17 Q What do you understand California's intern
18 program to consist of?

19 MS. DAVIS: Vague and ambiguous.

20 BY MR. AFFELDT:

21 Q Let's start with the university intern program.

22 A As I understand it, and again I understand from
23 reading about it there is -- there is some variation
24 across programs, but the -- the candidates have to meet
25 certain minimum requirements to participate. They have

1 district intern programs they still partner with IHEs to
2 come on-site to provide the training, but my sense is
3 it's to try to facilitate the training on-site, in a
4 sense customize it to the -- to the -- to the needs of
5 the district or districts.

6 My recollection is there's one -- L.A. Unified
7 is so big I gather they have their own, it's my
8 recollection. And if I recall there's a consortia of a
9 few districts that set up their own IHE programs. I
10 also believe that Kantor, which is a subsidiary of
11 Sylvan Learning Systems, has set up computer-based
12 training or web-based training with some of these
13 consortia that have done these intern programs. So I
14 gather that it's a mechanism for doing this type of
15 on-site training that gives the districts some
16 flexibility in how it's delivered.

17 Q When you say LAUSD has their own, do you mean
18 they have their own relationship with an IHE or do you
19 mean they have their own teacher preparation program
20 that they administer?

21 A Well, again --

22 MS. DAVIS: Calls for speculation.

23 THE WITNESS: -- my recollection, and again I
24 could have remembered this wrong, is that L.A. Unified
25 does have their own district intern program but I gather

1 they also have -- have other IHE-based interns on the
2 job as well. To put it differently, it's -- I believe
3 that L.A. Unified has interns on the job who are in
4 different types of programs both IHE and district
5 programs.

6 BY MR. AFFELDT:

7 Q And those in the district program, are they
8 taught on-site by IHE staff or by LAUSD staff?

9 A I don't know.

10 MS. DAVIS: Same objection.

11 BY MR. AFFELDT:

12 Q If you could turn to page 12 of your expert
13 report.

14 MS. DAVIS: Exhibit 5. What page? I'm sorry,
15 John.

16 MR. AFFELDT: 12.

17 THE WITNESS: Okay.

18 BY MR. AFFELDT:

19 Q And if you could read the first paragraph under
20 subheading C. to yourself, let me know when you're
21 done.

22 A Okay. Yes.

23 Q I'm a little confused by your analysis in that
24 paragraph. Is it your understanding that if school A
25 had 25 percent of its teachers holding a preliminary

1 A Yes, I'm sorry. 10 percent.

2 Q And I think the other piece that confused me is
3 it sounded like you answered as an aside in your
4 previous answer is that you were assuming that with
5 school A the other 75 percent had clear credentials?

6 A Yes.

7 Q Well, I guess in both cases, schools A and B,
8 the other 75 percent had clear credentials?

9 A Yes.

10 Q So to make your point how would you modify that
11 sentence?

12 A Well, the simplest way would simply be --
13 The point I was trying to make is that if -- if a school
14 has -- a school with 25 percent of its teachers with a
15 preliminary credential would be school A is okay. If
16 school B had a mix of preliminary and intern or
17 nonintern teachers, it could be in violation of the
18 proposal. So for example -- So if you changed the 15 to
19 20 percent, then this would be correct. Well, no, I'm
20 sorry. 21 percent it would be correct. So if school B
21 had 21 percent of its teachers with preliminary -- I'm
22 sorry. Delete the whole sentence.

23 The point is I was trying to make, and I
24 utterly failed, was that you've got a variety of
25 preliminary, quote, unquote, types of credentials,

1 credential that it would be allowed to hire any other
2 kind of teacher --

3 MS. DAVIS: Vague and ambiguous.

4 BY MR. AFFELDT:

5 Q -- emergency, intern, waiver, et cetera?

6 MS. DAVIS: Same objection.

7 THE WITNESS: My understanding of what
8 Professor Darling-Hammond said is that no more than 20
9 percent of teachers could hold something other than a
10 preliminary or clear teaching credential. So if school
11 A had 25 percent of its teachers holding a preliminary
12 credential implicitly and none holding -- and the rest
13 with clear, they'd be fine in terms of this
14 requirement. But school B would be -- Woops. I think I
15 have -- Let's see. Let me think about what I said
16 there. Okay. I believe I made a mistake in the last
17 sentence.

18 School B would not be in violation of the rule
19 if -- as I read this now because 15 percent of its
20 teachers are interns -- are preinterns and that would be
21 below the threshold.

22 So does that clarify?

23 BY MR. AFFELDT:

24 Q Yes, except I think you meant to say 10 percent
25 of its teachers would be preinterns?

1 interns, preinterns or preliminary, and you're --
2 schools that have only preliminaries, that is these are
3 all -- these are all types of probationary teachers in
4 effect -- Okay? -- novices. If your novices are all of
5 the preliminary type, then you're okay in this rule.
6 But if your novices are in a preintern or intern
7 program, if you have a lot of them, then you'd be in
8 violation. So if school A had 25 percent of -- had 25
9 percent of its staff as novices and they were all
10 preliminary credentials, then they would be okay with
11 this rule. But if school B had 25 percent of its staff
12 as novices but they were all interns, then they would be
13 in violation. That's the point I was trying to make, is
14 these -- these are inexperienced novice teachers with
15 different types of credentials, one kind of credential
16 is okay, the other type isn't, and that's -- that's the
17 distinction here.

18 Q The difference between a preliminary
19 credentialed teacher, though, and all the other types
20 are that the preliminary credentialed teacher has
21 completed all of their training related to -- all of
22 their preservice training whereas other types, including
23 interns, are still being trained on at least pedagogy.

24 MS. DAVIS: Vague and ambiguous.

25 THE WITNESS: That is correct. But individuals

1 in an intern program will have a clear credential at the
2 end of two years if they complete and so will the
3 preliminary candidates, so they're both in a sense on
4 track for a clear credential in the same time frame.

5 BY MR. AFFELDT:

6 Q Do you know what percentage of California's
7 interns are made up of people switching over mid-career
8 from other fields?

9 MS. DAVIS: Vague and ambiguous.

10 THE WITNESS: No. That was discussed in the
11 McKibbon report. I don't know the numbers off the top
12 of my head. McKibbon reports statistics on that.

13 BY MR. AFFELDT:

14 Q Do you agree that data should be representative
15 of the group about which a given study is attempting to
16 make conclusions?

17 MS. DAVIS: Vague and ambiguous. Calls for
18 speculation.

19 THE WITNESS: As a general rule that sounds
20 right.

21 BY MR. AFFELDT:

22 Q What makes data representative in your opinion?

23 MS. DAVIS: Vague and ambiguous. Calls for
24 speculation.

25 THE WITNESS: Well, if it's a random sample

1 come to you, what process generated the data. If it
2 wasn't random, what was it?

3 BY MR. AFFELDT:

4 Q And with -- with our example of teachers, what
5 kind of teacher characteristics would you try to analyze
6 the data by?

7 MS. DAVIS: Same objections.

8 THE WITNESS: I think if -- you're just going
9 to have to let me know where you're going and then I can
10 tell you what I'd do, but I can't -- It depends on the
11 question. I -- I need to know more about what we're
12 discussing to -- to say that -- to answer that.

13 BY MR. AFFELDT:

14 Q All right. What would you need to know?

15 A I told you I can't say without knowing more
16 about the problem we're discussing, the particular case.

17 Q What's your understanding of the term
18 "objective data"?

19 A My -- Data that isn't -- Data that's collected
20 in an arm's length way and in some sort of disinterested
21 way about whatever topic's being examined.

22 Q Can objective data be gathered by observation?

23 MS. DAVIS: Vague and ambiguous. Calls for
24 speculation.

25 THE WITNESS: I can't tell you -- I don't know

1 it's representative.

2 BY MR. AFFELDT:

3 Q If it's not a random sample?

4 A It might still be representative but it has to
5 be -- it requires some analysis to determine that.

6 Q And what kind of analysis would -- would you
7 undertake to determine whether data is representative of
8 a target population?

9 MS. DAVIS: Same objections.

10 THE WITNESS: I would really have to know the
11 specifics of the case.

12 BY MR. AFFELDT:

13 Q Well, if you're doing a study involving
14 teachers.

15 A Well, then, you would -- you would --

16 MS. DAVIS: Calls for speculation. Vague and
17 ambiguous.

18 Go ahead.

19 THE WITNESS: -- you'd look at the people --
20 you'd look at the teachers that are in your sample or
21 the group you're analyzing and then see if on the basis
22 of what you have in terms of teacher characteristics
23 they -- they appear to be representative of the target
24 population. You'd want to know how the data were
25 generated. That's an important factor, how did the data

1 what -- I'd have to know the context. I would imagine
2 in many circumstances you can. If I want to know how
3 many pigeons are sitting on that building across the
4 street, I could probably get some binoculars and collect
5 data on that. If I want to know what teachers produce
6 more -- larger student achievement gains, then I
7 couldn't figure that out by just looking at the teachers
8 or looking at their classroom.

9 BY MR. AFFELDT:

10 Q You testified, for example, that you think
11 principals should have a much bigger role in determining
12 which teachers should be allowed to teach; is that
13 right?

14 A Yes.

15 Q As part of -- Were your system put into place,
16 how would -- Let me ask it this way: Were your system
17 put into place, would students realize solely -- would
18 principals, rather, use evaluations to assess the
19 quality of their teachers?

20 MS. DAVIS: Vague and ambiguous. Calls for
21 speculation and incomplete hypothetical.

22 THE WITNESS: This is very hypothetical and I
23 don't know what my system is but -- I just don't know
24 the context. I'm sure that some principals in some
25 schools may sit in on classes, others may use formal

1 evaluation. I don't -- In my opinion teachers, or
 2 someone, it could be a department head, it could be a
 3 team of teachers, but teacher performance needs to be
 4 monitored; that monitoring can take a variety of
 5 forms -- direct observation, formal evaluations, student
 6 test scores, parents' satisfaction surveys. You know, a
 7 variety of things could enter into the assessment of the
 8 performance of teachers.

9 BY MR. AFFELDT:

10 Q Could the principal observations of teacher
 11 performance be sufficiently objective for you to use in
 12 a research study?

13 MS. DAVIS: Vague and ambiguous. Calls for
 14 speculation. Incomplete hypothetical.

15 THE WITNESS: I have used principal
 16 observations of performance in a research study so I --
 17 it -- I think they're useful, and there's some evidence
 18 that principals -- teachers identified by principals as
 19 high or low performing in fact produce higher or lower
 20 student achievement gains. So there is evidence out
 21 there that principals do know which teachers or at least
 22 have some information as to who's producing larger
 23 student achievement gains and who's not.

24 BY MR. AFFELDT:

25 Q What study did you use principal evaluations

1 they arrived at that conclusion. They simply asked how
 2 do you rate the performance of your novice teachers and
 3 your experienced teachers.

4 Q So the -- there wasn't some other form that had
 5 a bunch of criteria and boxes on it, it was simply the
 6 two questions from the SASS survey that principals were
 7 responding to?

8 A Yes.

9 Q And so at least in that case you've relied --
 10 you found it acceptable to rely on observational data
 11 for education policy research?

12 A Well, that was -- my data wasn't observational
 13 but it was coming -- it was generated by -- from
 14 principals. So my data was quantitative, it wasn't
 15 observational, it was quantitative. So it was, you
 16 know, what principals are assessing the quality of their
 17 teachers. But it was their opinions, the principals',
 18 yes, but I wouldn't call that observational data. At
 19 least the data in SASS that elicits opinions and
 20 attitudes, I wouldn't call that observational. That's
 21 not the usual use of the term.

22 Q What would you call that data?

23 A I would call it quantitative, where there were
 24 thousands of observations.

25 Q So opinion and attitude data becomes

1 in?

2 A The one in the JOURNAL OF POLICY ANALYSIS AND
 3 MANAGEMENT that we talked about yesterday. That was --
 4 Oh, Teacher Recruitment and Retention in Public and
 5 Private Schools.

6 Q What page are you on, please?

7 A I'm sorry. Page 2. That study, the June 1998
 8 study, JOURNAL OF POLICY ANALYSIS AND MANAGEMENT. We
 9 also discussed that type of data and used it along with
 10 other types of data in our book, TEACHER PAY AND TEACHER
 11 QUALITY, so we used it as an indicator of teacher
 12 quality along with other indicators in our book.

13 Q And what were the teachers being evaluated on
 14 in those principal evaluations?

15 A It was simply in those we were using data from
 16 Schools and Staffing Surveys, SASS, and there was a
 17 question in there about how principals evaluated their
 18 novice teachers, their new teachers, those with three
 19 years or fewer years of experience, and how they
 20 evaluated their -- their assessment of the quality of
 21 teachers -- of their senior teachers. And there was
 22 no -- it was simply the -- The principal was simply
 23 asked to rate the quality of their teaching staff, and
 24 that -- that was purely their assessment, their
 25 subjective assessment. It wasn't -- They didn't ask how

1 quantitative when there are a sufficient number of
 2 observations?

3 MS. DAVIS: Mischaracterizes his testimony.

4 THE WITNESS: To a certain extent, yes. You're
 5 asking -- If you do observational, then you're going out
 6 and visiting five or ten classrooms and talking to five
 7 or ten people whereas I'm analyzing 50,000 public school
 8 teachers and schools and staffing, so there's a big
 9 difference there. And I think that the survey data can
 10 be more representative of the population than going out
 11 and making your own observations unless you -- unless
 12 you go out and do it for 5 years and visit 12- or 15,000
 13 schools.

14 BY MR. AFFELDT:

15 Q And what would you -- how would you
 16 characterize the term "observational data" as you think
 17 it's typically used?

18 A Well, I -- I -- it's not what economists do but
 19 I think it's people -- and I think it falls under what
 20 we'd call qualitative research. And people visit a
 21 small number of classrooms or visit a small number of
 22 schools, spend some time there, and -- and write up what
 23 they found.

24 Q Do you think that sort of data can be relied on
 25 in making education policy decisions?

1 MS. DAVIS: Calls for speculation.
 2 THE WITNESS: I think it has some value. For
 3 example, the U.S. Department of Ed collected videotaped
 4 classrooms in Japan and China and the U.S., and that's
 5 been -- people have studied that extensively. It has
 6 some value.

7 But the danger with observational data is you
 8 have to make sure your sample is representative. You're
 9 talking about a small n, so you're talking about five or
 10 six classrooms and it could be that you picked that
 11 those aren't representative of the whole population.

12 BY MR. AFFELDT:

13 Q How do you determine whether your five or six
 14 classrooms are representative of the whole population?

15 MS. DAVIS: Calls for speculation.

16 THE WITNESS: Well, in a sense I guess I'd say
 17 it's -- it's very difficult for them to even be
 18 representative of the whole population. You've picked
 19 five or six classrooms, and even if they were all
 20 clustered around the mean you still wouldn't know much
 21 about details. That's your problem. There are a lot of
 22 teachers in a lot of classrooms and if you pick only
 23 five or six, you may not be learning a lot about the --
 24 all the classrooms.

25 BY MR. AFFELDT:

1 representative of all teachers, so that's -- that's an
 2 issue that comes up. You know, it's self-selection as
 3 to who agrees to be interviewed or watched and who
 4 doesn't.

5 BY MR. AFFELDT:

6 Q Do you agree that studies should control for
 7 effects of families on educational achievement?

8 A Yes, in general.

9 Q What effects -- What family effects should
 10 studies control for?

11 A Well, if the study is on student achievement --
 12 That's what we discussed yesterday -- as opposed to who
 13 gets on the basketball team, but if we're talking about
 14 student achievement then -- then the -- the theoretical
 15 -- the theoretical thing that you're trying to measure
 16 is family -- the family's contribution to the student's
 17 learning, and so that's -- that's what you're trying to
 18 measure conceptually. What is it about the home
 19 environment that family A contributes versus family B?
 20 Okay? Now, sociologists and other social science
 21 researchers have tried in longitudinal studies like the
 22 National Educational Longitudinal Survey in high school
 23 and beyond they would ask a variety of -- a long set of
 24 questions of things like "Do you have a computer at
 25 home?" Do you have -- "How many books do you have at

1 Q But one should you make an effort to pick
 2 classrooms that are representative of the broader
 3 population; right?

4 MS. DAVIS: Same objection.

5 THE WITNESS: If at all possible, yes.

6 BY MR. AFFELDT:

7 Q What would you look for in trying to pick a
 8 classroom of five or six that were representative of the
 9 broader population?

10 MS. DAVIS: Calls for speculation.

11 THE WITNESS: I -- I'd have to know the
 12 specific content. I just don't know. It depends on
 13 what you're looking at. Are the teachers left-handed?
 14 I don't know what you're looking at. Does the school
 15 have blackboards or eraser boards? Are the teachers
 16 certified or -- you know, have clear certification or
 17 noncertification? It really just depends on the issue
 18 that you're studying I think.

19 Let me give you another example that I've seen
 20 in research that's observational. You have to have the
 21 cooperation of the teachers. In general when
 22 researchers do these kinds of studies they have to
 23 elicit the cooperation of teachers. Well, some
 24 teachers -- it may well be that the teachers who decide
 25 to cooperate with a study like that aren't

1 home?" Do -- Does your -- Does your family get a
 2 newspaper, magazines?"

3 I mentioned yesterday a big one if you -- if
 4 you've got to know one thing, if you can't ask a lot of
 5 things but really want to know just one or two things it
 6 would be the mother's education and the father's
 7 educational level. So those are the things that you
 8 would like to know if you're controlling to capture what
 9 the family is providing versus what the school is
 10 providing in terms of the students learning.

11 Q If you could know whatever you wanted to know,
 12 your ideal list of family effects, what would you look
 13 for?

14 A Well, right at the top, as I said, would be the
 15 parents' education, both parents, and then you'd want to
 16 know are they -- you know, are they both together. You
 17 know, is it the natural parents, is it a single -- you
 18 know, is the mom heading the family or is it intact.
 19 Obviously income. Those would be the big ones for an
 20 economist.

21 Now, if you were looking specifically at
 22 reading scores, for example, you might want to know
 23 about magazines and books and do they have a
 24 subscription to Cricket magazine and things like that.
 25 If you were looking at math achievement, maybe you would

1 want to know if they had a computer. Or in the old days
2 they would ask "Do you have a calculator at home?" So
3 it would really depend on what you were trying to learn
4 about. I mean these sociological studies get into did
5 the parents read to them, how much time did they spend
6 reading to them, did the parents help them with their
7 homework, things like that.

8 Q And what do you mean by sociological studies?

9 A Well, sociologists have -- economists tend to
10 be more parsimonious in looking at this, just tell me
11 the parents' education. But sociologists have probed
12 more deeply into these surveys that have more data
13 looking at these other environmental factors.

14 Q So if you only had your economist's list and
15 not the sociologist's list, would you still find the
16 results of the study reliable assuming all other aspects
17 of it were well designed?

18 MS. DAVIS: Vague and ambiguous. Calls for
19 speculation.

20 THE WITNESS: I'm sorry. What if -- Would I
21 still find the study reliable? What study?

22 BY MR. AFFELDT:

23 Q The study that only controlled for -- that took
24 into account the three things you mentioned, parents'
25 education, are the parents together, and the income

1 added --

2 A Well, I would --

3 Q -- SES to your two points of randomization or
4 prior student achievement controls.

5 A I'm sorry. I was using SES for a shorthand for
6 a bundle of variables that would be education, income,
7 intact family; so I didn't mean one variable, I meant
8 sort of a bundle of variables that captured the
9 socioeconomic status of the family.

10 Q What if all you had was just the income level?

11 A Well, that wouldn't be as good as knowing
12 more. It would be better than knowing less. It
13 wouldn't be as good as knowing more. Income level can
14 be -- You know, it's not as good as the parents'
15 education because income obviously fluctuates. I mean
16 you could have graduate students in colleges. Our
17 colleges, our research universities are filled with
18 graduate students many of whom have kids who have a
19 tremendous educational background and their kids are
20 getting tremendous resources at home for learning but
21 their income at that time of the survey is low. Now,
22 later on it will be higher but at the time of the survey
23 their income is low. So if you just knew income for
24 those kind -- types of people, you would be missing the
25 boat, you wouldn't be -- you know, income wouldn't be

1 level of parents.

2 MS. DAVIS: Same objections.

3 THE WITNESS: And the -- And the study was of
4 student achievement?

5 BY MR. AFFELDT:

6 Q Yes.

7 A And a controlled for prior student achievement?

8 Q All other aspects of the study were well
9 designed?

10 A I would -- I would -- I would find such a
11 study -- I would -- Other things being equal, that kind
12 of a study would -- would meet my requirements that I've
13 talked about as being a good nonexperimental study.

14 Q And what if you only had the SES level, you
15 didn't know parents' education or whether the parents
16 are even together or not and all other aspects of the
17 study were well designed?

18 MS. DAVIS: Incomplete hypothetical.

19 THE WITNESS: Well, what do you mean by "SES
20 level"? The actual individual kids SES -- I mean the --
21 some -- some index score of SES, so one, two, three,
22 four, five, six, something like that?

23 BY MR. AFFELDT:

24 Q I mean what you meant by SES yesterday when you
25 were laying out your methodological minimums you

1 capturing fully or very well at all what they're getting
2 at home. So in general more data is always better than
3 less data.

4 Q Of course assuming you had an otherwise
5 well-designed study that only had income level as the
6 SES control, would you rely on that study to form
7 conclusions?

8 MS. DAVIS: Incomplete hypothetical. Calls for
9 speculation.

10 THE WITNESS: And it had prior student
11 achievement?

12 BY MR. AFFELDT:

13 Q Yes.

14 A I'd have to know more about the study but it
15 sounds -- it would be -- I'd have to know more about the
16 study.

17 Q And what more would you want to know?

18 A Well, I would want to read it. I mean we're --
19 you're walking me down a path here and I -- I'd like to
20 read the study; I'd like to see how it was done; I'd
21 like to see how big the sample size was. You know,
22 there's just a whole lot of things that you would want
23 to know about.

24 Q In my hypothetical all other aspects of the
25 study meet your satisfactory methodological minimums.

1 A You must know me pretty well.
 2 MS. DAVIS: Yeah. Vague and ambiguous. Calls
 3 for speculation. Incomplete hypothetical.
 4 BY MR. AFFELDT:
 5 Q So the only issue with this study that you
 6 would otherwise have is that you only have income data
 7 on the students' families?
 8 MS. DAVIS: Same objections.
 9 THE WITNESS: I would have to see the study.
 10 I -- I would just have to see the study. And it -- if
 11 it met all the other standards I'd laid out and they
 12 only had income, it would be -- it would be -- based on
 13 what you say it probably could have value, but I'd have
 14 to see the study. This is just very speculative.
 15 BY MR. AFFELDT:
 16 Q Is your answer the same if the only SES
 17 variable was -- or rather the only SES data was free and
 18 reduced lunch?
 19 MS. DAVIS: Same objections.
 20 THE WITNESS: Well, free and reduced lunch is
 21 worse than income, in my opinion, for reasons we
 22 discussed yesterday as a control for SES.
 23 BY MR. AFFELDT:
 24 Q So would your answer be different, that you
 25 wouldn't rely on such a study?

1 A Well, I didn't say I would -- I didn't -- My
 2 answer wouldn't be different because I didn't give you
 3 an answer on the last one. I -- I got to know about the
 4 study, I really do. I've got to see the study. Free
 5 and reduced lunch is not as informative. It's a zero
 6 and a one. It's based on family income in relation to
 7 need, so clearly there's less information in free and
 8 reduced lunch status than there is in family income;
 9 there's less information in family income than there is
 10 in parents' education, so I -- I can't parse this out
 11 and say -- you know, this isn't like -- I can't quantify
 12 how much reliability goes down as we walk along each of
 13 these steps. I'd just have to see the study.
 14 Q Do you believe that to be methodologically
 15 sound the study should have a comparison group and a
 16 control group?
 17 MS. DAVIS: Calls for speculation.
 18 THE WITNESS: In general, yes, although
 19 you're -- it -- you -- you need -- what you need is you
 20 need variation in the -- in the variable -- the policy
 21 variable of interest. So if we're looking at percent of
 22 teachers with clear -- with preliminary and clear
 23 certification, well, then, you don't really have a
 24 comparison and a control group, you just have variation
 25 in your sample between, say, zero and 100 percent across

1 schools. Do you see what I'm saying?
 2 So if you have sort of a -- if you have
 3 individual level data and you have -- your treatment
 4 level is binary, you either got the treatment or you
 5 didn't, you either had a certified teacher or you
 6 didn't, then there would be a treatment and a control
 7 group. If you have a regression study with sort of a
 8 continuous data on your policy variable, then -- then
 9 you won't have a well-defined treatment and control
 10 group, you just have various doses of the treatment, if
 11 you will.
 12 BY MR. AFFELDT:
 13 Q And if you have the latter, does that preclude
 14 one from carrying out a methodologically sound study?
 15 A No.
 16 Q So how would you carry out a methodologically
 17 sound study with a continuum of treatments as opposed to
 18 a binary treatment?
 19 A It's the same point that I -- I said in the
 20 paper. You need prior data on student achievement and
 21 you need to control for socioeconomic status of the
 22 students.
 23 May I request a break before you take -- ask
 24 your next question?
 25 Q You certainly may.

1 A Okay.
 2 (Recess.)
 3 MS. DAVIS: We have burned a CD of the
 4 attachments which is going to be delivered to the
 5 receptionist desk here at Morrison & Foerster and Paul's
 6 secretary is also forwarding the two E mails with the
 7 attachments to Leecia Welch, probably right now. And it
 8 looks like I have the documents with the E mails between
 9 Professor Podgursky and Dr. Berk and we'll print those
 10 off during lunch. I will go back to the office and I
 11 will bring those back with me.
 12 MR. AFFELDT: Thank you for following up.
 13 MS. DAVIS: No problem.
 14 THE WITNESS: Wow, you found them.
 15 MS. DAVIS: Yeah.
 16 THE WITNESS: In the black hole of my E mail
 17 archives.
 18 MR. AFFELDT: Can you read the last question
 19 and answer.
 20 (Record read.)
 21 MR. AFFELDT: Can you reread the question and
 22 the answer about a couple back concerning where Dr.
 23 Podgursky explains the difference between a binary and a
 24 group and the continuum.
 25 (Record read.)

1 MR. AFFELDT: Can you read the next question
2 and answer, then.

3 (Record read.)

4 BY MR. AFFELDT:

5 Q When one has a comparison group and a control
6 group, should the -- should the comparison group be
7 genuinely equivalent to the control group to be
8 methodologically sound?

9 MS. DAVIS: Vague and ambiguous. Calls for
10 speculation.

11 THE WITNESS: In a nonexperimental study?

12 BY MR. AFFELDT:

13 Q Why don't you give it to me both ways starting
14 with a nonexperimental study.

15 A Well, in a nonexperimental study suppose you
16 were looking at classrooms and so let's make it binary,
17 a teacher has a clear certificate or doesn't -- has a
18 preliminary and clear or doesn't, so there, there's your
19 treatment and control. So you've got some classrooms
20 where they have teachers preliminary and clear, others
21 where the teacher isn't preliminary and clear. Then --
22 And you have longitudinal data on the students for --
23 ideally for a few years. Well, there will still be --
24 Now, you have the socioeconomic status to control for.
25 Now, you actually don't have to have the classes of

1 children in one group and white children in another,
2 then you would have to ask yourself whether you really
3 have -- your algorithm for randomizing assignment had a
4 problem, so you would look and see -- I don't think
5 there's hard-and-fast rules, but if you noticed an
6 imbalance in something that was associated with student
7 achievement, or potentially associated with student
8 achievement, then you would -- you would want to -- that
9 would be a concern.

10 BY MR. AFFELDT:

11 Q Well, taking the demographics of, say, there
12 were only black-and-white students involved in our
13 study, would the treatment and control group need to
14 have identical black-and-white-student populations?

15 MS. DAVIS: Incomplete hypothetical. Calls for
16 speculation.

17 THE WITNESS: Well, again, this is entirely
18 hypothetical and speculative, but you could run a t test
19 and see if the difference in means among the -- of the
20 various factors were -- were different.

21 BY MR. AFFELDT:

22 Q By "t test" you mean a test to see if there's a
23 statistically significant difference in population
24 between the two groups?

25 A In the means, yes.

1 the -- of the treatment and control classrooms being
2 identical. What you're doing is you're using the
3 regression procedure to take account of those other
4 factors that you -- that vary between classrooms, so
5 that's why you run a regression is to -- you're
6 statistically controlling for the other variables, and
7 if the model is specified correctly then it will take
8 account of those other factors.

9 Q What about in an experimental study?

10 A If you actual -- If you have a large sample and
11 random assignment, then you shouldn't have to worry
12 about these other omitted -- these other factors because
13 if -- if you're randomly assigning the students, then --
14 then there -- they should be roughly similar in these
15 background characteristics on average between the
16 treatment and control group.

17 Q Is that something that you'd want to look at to
18 make sure that the treatment and control group are
19 roughly similar?

20 A Yes.

21 Q And what's your -- what's your standard for
22 acceptably similar in that situation?

23 MS. DAVIS: Calls for speculation.

24 THE WITNESS: Well, you -- you -- if you looked
25 at the data and you found that there were all black

1 Q And if there were a statistically significant
2 difference in the means between two populations, would
3 that prevent you from relying on the results of such an
4 experimental study?

5 MS. DAVIS: Same objections.

6 THE WITNESS: Well, it just becomes a -- it
7 raises a flag. It says maybe there was a problem with
8 randomization here. You just have to look at the -- at
9 the whole set of results and -- and the -- all the
10 factors to -- to reach some conclusions. That's one
11 variable, and it's not that much different than it would
12 be -- it probably wouldn't be a cause of concern but if
13 a bunch of variables were different and you knew those
14 things from other context were associated with student
15 achievement gains, then you would have to ask yourself
16 well, maybe I should redo the assign. Because it's
17 always possible when you do random assignment that, you
18 know, it's possible that all the black students could
19 end up in one class and all the white students in
20 another. I mean that's just like it's possible to flip
21 20 heads in a row. It doesn't happen very often but it
22 could. But if you got that result you would probably
23 want to go back and do a rerandomization of your
24 sample. And that's what a good research study would do,
25 it makes sure that their baseline samples were -- you

1 didn't have those kind of imbalances.

2 BY MR. AFFELDT:

3 Q And when you don't have a binary study with a
4 treatment and control group, what I believe you're
5 calling a regression study, in that -- in that scenario
6 do you -- do you have one big sample that you're looking
7 at or are you comparing different -- different groups as
8 well?

9 A Well, now I think we've switched from
10 experiment to nonexperiment.

11 Q Yes, we did. Thank you.

12 A Okay. Well, you -- one factor you need is you
13 need to make sure you have variation in the thing you're
14 looking -- the variable -- the policy variable of
15 interest, so you want to make sure it's better to have
16 more variation than less variation because then you're
17 more likely to detect an effect.

18 So if -- I mean from a social justice point of
19 view it isn't good but from a research point of view you
20 want to have a lot of variation across classrooms in
21 whatever it is you want to study so that -- You know, if
22 everyone had the same percentage of clear and
23 preliminary certified teachers, you couldn't -- you
24 couldn't do a regression study to determine its effect
25 because everyone has the same dosage in effect, the same

1 BY MR. AFFELDT:

2 Q Is there any value in your view to using
3 cross-section approaches for educational policy
4 research?

5 MS. DAVIS: Vague and ambiguous. Calls for
6 speculation.

7 THE WITNESS: Well, we talked about this
8 yesterday. I think that in general if you're evaluating
9 an education policy, you want to take account of initial
10 conditions, either of the student or of a school or of a
11 grade and then you have a treatment of some sort or an
12 intervention and then you look at how the situation
13 changed after the treatment or intervention. That's the
14 preferred study design and that's not cross sectional
15 because you're collecting two -- at least two points of
16 observation on the -- on student achievement or
17 performance. So cross-section studies, in my opinion,
18 in general are going to be inferior and much more likely
19 to have biased results than longitudinal studies that
20 take account of initial condition or prior student
21 achievement.

22 BY MR. AFFELDT:

23 Q So are cross-sectional studies to be accorded
24 no weight in drawing conclusions about the relationship
25 between teacher characteristics and student achievement?

1 treatment level. So the more variation you have in
2 the -- in the policy variable, the easy -- the more
3 likely you are to detect an effect if it's there. So
4 that's one factor you look at. Then, as I said, you
5 want to make sure you have prior data on student
6 achievement and whatever the -- the best available
7 controls you have for socioeconomic status.

8 Q What is a bivariate correlational study?

9 A It means -- It's just there's an X and a Y,
10 there's just two variables, and the -- and you report
11 the correlation is what I understand the term to mean.
12 So you look at, you know, the correlation between
13 percent of free and reduced lunch and percent of
14 students above the 50th percentile on STAR is minus .4.
15 That would be bivariate relationship -- bivariate
16 correlational relationship.

17 Q What is a cross-section approach?

18 MS. DAVIS: Vague and ambiguous.

19 THE WITNESS: Well, the way I've used it is it
20 means that you don't account for prior student
21 achievement, so you haven't followed the -- the thing
22 you're observing over time. You've only taken one
23 snapshot as opposed to a longitudinal approach where you
24 followed either the student or a cohort or a building or
25 something like that over time.

1 MS. DAVIS: Same objections.

2 THE WITNESS: I -- For reasons I explained
3 yesterday, I think they -- they tend to produce bias
4 results because of this problem of correlation with
5 omitted socioeconomic variables and so they tend to all
6 consistently be biased in one direction, and so I think
7 that their weight should be very low. They're just
8 inferior to longitudinal studies, studies that take --
9 You just have -- You have to have data on prior student
10 achievement and so I think that their weight is
11 virtually zero.

12 BY MR. AFFELDT:

13 Q Are there any authorities that you can cite
14 that support the notion that a gain-score approach is
15 more accurate than a cross-sectional approach?

16 MS. DAVIS: Vague and ambiguous.

17 THE WITNESS: Hanushek, the paper I gave you
18 yesterday by -- Excuse me. Time has passed. A few days
19 ago -- by Hanushek and Rivkin, the Review of Education
20 Research study by Wayne and someone -- I forgot the
21 second author -- I think those two are -- are good
22 examples.

23 BY MR. AFFELDT:

24 Q Any others?

25 A That's all I can think of in print at the

1 moment.

2 Q The answer may be the same, but do you know of
3 any research which has specifically analyzed the
4 accuracy of the gain-score approach versus a
5 cross-sectional approach?

6 MS. DAVIS: Same objection.

7 THE WITNESS: Well, the problem -- the answer
8 is no, and the reason is it seems to me implicit in what
9 you're saying is you know what the true effect is, and
10 the problem is we don't know what the true effect is so
11 we -- the -- I would argue the consensus among
12 researchers is that because of the strong effects of
13 socioeconomic status and the cumulative effect of
14 learning that a longitudinal approach is preferred. But
15 I don't know how you design the study that you're --
16 you're describing.

17 BY MR. AFFELDT:

18 Q Are there any treatises that you would consider
19 authoritative that state that the gain-score approach is
20 superior to the cross-sectional approach?

21 A Well, Hanushek in a series of papers have laid
22 out the econometrics of this issue. The paper that I
23 gave you and prior papers have been cited widely in
24 economics starting with a paper in 1986 which I'm sure
25 which is in the bibliography which was in the JOURNAL OF

1 cite -- I don't believe I cited it in my paper but
2 it's -- I suspect it's cited in Hanushek's paper.

3 Q Have you ever conducted a cross-section
4 analysis?

5 A Well, yes, but not of student achievement.

6 Q What cross-section analyses have you conducted?

7 A Well, my papers and our book have many, many
8 tables that report data that are cross-sectioned. Will
9 that suffice or do you want more detail? I can look at
10 my Vita and start talking if you want.

11 Q Did you say your papers and your book or the
12 papers in your book?

13 A My papers and articles and my book.

14 I've run thousands of regressions and done lots
15 of statistical work in my professional life, some of
16 those were cross-section regressions.

17 Q Among your -- If you could look at your Vita on
18 pages 2 and 3 and let me know which ones involve
19 cross-sectional analyses?

20 A Where is the Vita?

21 MS. DAVIS: 1, Exhibit 1.

22 THE WITNESS: There it is. Okay.

23 If you look at my book starting on page 2,
24 middle, there are cross-section tables in the book and
25 we draw inferences in certain points from corroboration

1 ECONOMIC LITERATURE.

2 So it's -- it's widely understood within the
3 economics profession that in evaluating policy
4 interventions, longitudinal data is preferred. That's
5 why the U.S. Department of Education and the U.S.
6 Department of Labor spend millions of dollars conducting
7 longitudinal surveys with things like high school and
8 beyond, things like National Longitudinal Educational
9 Survey. The latest one in progress is The Early
10 Childhood Survey. All of these surveys are -- are very
11 expensive because you have to track kids over time and
12 it's -- they do this because there's a clear
13 understanding that longitudinal data -- analysis of
14 longitudinal data advances our understanding of learning
15 and what affects learning and what doesn't affect it.
16 So it's -- it's implicit in -- in the really hundreds of
17 papers published in the social sciences, beginning with
18 Coleman's work with the earliest high school and beyond
19 studies of student achievement. James Coleman, the late
20 sociologist at the University of Chicago.

21 Q What's the 1986 Hanushek paper again?

22 A It was published in the JOURNAL OF ECONOMIC
23 LITERATURE and it was a very widely cited survey of
24 research on education and the effects of inputs on
25 education and student achievement. I don't have the

1 section data comparing public and private schools, for
2 example. We looked at teacher quality measures in
3 public and private schools. That's an example of
4 cross-section analysis. It's not longitudinal. We're
5 looking at private schools and public schools at a point
6 in time.

7 Student Loan Defaults is longitudinal data.
8 Seniority, Wages and Turnover is longitudinal. The
9 Merit Pay is just a more general policy discussion.
10 Reforming Teacher Preparation and Licensing has lots of
11 data some of which is cross sectional. We compare the
12 distribution of teacher test scores between NCATE,
13 N-C-A-T-E, and nonNCATE schools for example.

14 BY MR. AFFELDT:

15 Q Which one are you on? Reforming --

16 A Teacher Preparation and Licensing. Oh, no, I'm
17 sorry. That's not -- I don't know. There's probably
18 some cross-section data in that paper.

19 Teacher Recruitment and Retention is primarily
20 longitudinal. The Case Against Teacher Certification is
21 just a -- There's not even a table in there. Reforming
22 Teacher Training and Recruitment: A Critical Appraisal
23 has a couple of cross-section tables in it. Rural
24 Schools is cross-section overwhelmingly. It's
25 descriptive compared to rural schools, urban schools,

1 suburban schools, descriptive.
 2 What Makes a Good Principal? How teachers
 3 Assess the Performance of Principals, that would be a
 4 cross-section regression. Recruiting Smarter Teachers
 5 is really a theoretical model with a bunch of equations
 6 and simulations. Education Policy and Teacher Effort,
 7 what did I do in that one? I don't remember. Let's
 8 see. What was that about? That was work hours, I
 9 believe, so I believe there was a cross-section
 10 regression in that one.

11 And then we get into job displacement. You
 12 don't want to talk about job displacement, do you?

13 Q No.

14 A Good.

15 Oh, there's a merit -- I'm sorry. There's
 16 another one. Teachers' Attitudes Toward Merit Pay,
 17 that's a cross-section regression. That's -- That's the
 18 primary -- Those are my teacher articles.

19 Q And your Contributions to Edited Volumes on
 20 page 5, are there cross-sectional analyses in there?

21 A The second one in the volume by Wahlberg,
 22 Regulation Versus Markets, there's some cross-section
 23 comparison. The next one in the volume by Loveless, D.
 24 Ballou and M. Podgursky, Teacher Unions and Education
 25 Reform, there's some cross-section data in there.

1 Teacher Training and Licensing: A Layman's Guide,
 2 Ballou and Podgursky, that's got some cross-section
 3 data. Podgursky -- Ballou and Podgursky, Rural Teachers
 4 and Schools, that's all cross sectional, just compare
 5 rural teachers and nonrural teachers, descriptive.
 6 That's it for the teacher stuff there.

7 If you want to go down to other publications,
 8 Personnel Policy in Charter Schools is cross-section.
 9 We're comparing descriptive, we're comparing personnel
 10 policy in charter schools, results of our survey. So
 11 it's cross-section survey point in time, what do charter
 12 schools do, what do private schools do, what do
 13 traditional public schools do.

14 The one, Pros and Cons of Teacher Merit Pay
 15 is -- is a -- there's not data in that one. The others
 16 are -- There's really not much data in the others.
 17 Okay. There's one more. Teacher -- The Proceedings of
 18 the American Statistical Association, page 6. Teacher
 19 quality and -- Woops. Actually, no. It's the one D.
 20 Ballou and M. Podgursky, Implicit Markets for Teacher
 21 Quality and School Attributes is a cross-section
 22 regression. It's looking at pay, a cross-section model
 23 of teacher pay.

24 Q What about a couple above that, Ballou and
 25 Podgursky, Reforming Teacher Training and Recruitment?

1 A That's just like a little short, boiled-down
 2 version of what was in the GOVERNMENT UNION REVIEW.
 3 There's -- There's not really -- I don't recall -- I
 4 don't even think we have a table in there. It's just a
 5 short little -- a shortened version of the earlier
 6 paper.

7 Q And when you use the term "cross-sectional,"
 8 that means that the analysis was correlational?

9 A Well, in all the examples I gave you the --
 10 the -- I was not looking at student achievement. I did
 11 use cross-section data, it was in education, but I was
 12 not looking at student achievement. I was looking at
 13 something else. It's -- When you say the studies were
 14 correlational, I mean I -- they're not really -- I ran
 15 regressions. You can run a regression -- In general --
 16 In most of the analysis -- analyses I'm doing in those
 17 studies, it's -- it's more informative to report
 18 regression coefficients rather than correlation
 19 coefficients so -- because there's natural units on the
 20 dependent and independent variable, so it's not -- If
 21 there are natural units, if the coefficient is
 22 meaningful on its own, economists tend to prefer just
 23 reporting the natural units rather than a correlation.

24 Q And what do you mean by "natural units"?

25 A Well, in that study we just -- that Implicit

1 Markets one, I'm looking at the effect of teacher
 2 characteristics on pay in public and private schools, so
 3 the coefficient has -- is -- is easy to interpret. If
 4 you have -- If you're certified, you make X dollars more
 5 or less. If you went to a selective college, you make X
 6 dollars more or less. So the attributes, the X
 7 variables, have natural units and the Y variable is
 8 dollars of income and it has a natural unit, so it's --
 9 it's more informative to just report the regression
 10 coefficient in those situations than a correlation
 11 coefficient because most of the readers would like to
 12 know well, how much more does -- for example, how much
 13 more does a public school teacher make than a private
 14 school teacher make. Now, I could run the regression
 15 and tell you that. I could report that as a correlation
 16 coefficient but that doesn't answer the question. The
 17 question that most people want to know is once you
 18 control for other background factors, how much more does
 19 a public school teacher make, and the answer would come
 20 out of a regression. It wouldn't be very useful to say
 21 the correlation -- after controlling for a bunch of
 22 other things, the correlation between pay and whether
 23 you're a public school teacher or not is, you know, .03
 24 or .3. That's not very interesting. What you would
 25 like to know is how much more do they make. So there's

1 a natural units; see?

2 Whereas when you do tests, we talked about this
3 the other day, you could do scale scores, you can do
4 percent above the median. There's no -- There's no
5 single way -- Or even the units you can report in NCEs,
6 normal curve equivalents, or scale scores or raw scores
7 or standard deviation units. There's no -- There's
8 frequently not sort of one way to report the result, so
9 that's why researchers will use -- when looking at test
10 scores will use standardized coefficients or
11 correlations more commonly than the natural unit.

12 (Interruption.)

13 THE WITNESS: I'm not trying to run out the
14 clock, it's just that you said correlational studies and
15 they're regression studies rather than correlation
16 studies I guess is the way to answer it.

17 BY MR. AFFELDT:

18 Q I'm just trying to determine that you were
19 correlating an X to a Y at some point in there.

20 A In those terms, yes, I was correlating an X to
21 a Y.

22 Q How do you define a regression study as
23 compared to a correlational study?

24 A They amount to the same thing. What you're
25 doing in either case is you're -- you're taking a Y

1 variable and an X variable and you're telling the
2 computer in effect to fit a line between them --
3 Okay? -- to fit a line to the data that minimizes the
4 squared distance between any point and a line. If you
5 just do the regression, then you leave the units in;
6 okay? So if X is in dollars and Y is in dollars, then
7 it's dollars per dollar, you know. Correlation, what
8 you're doing with a correlation is you're basically
9 dividing the regression. You're -- You're -- You're
10 taking the covariance between the two and you're
11 dividing it by the standard deviation of X and Y so in
12 effect you're taking the units out, so it's a unit-free
13 measure of association so that way you can say the
14 correlation between the price of chickens and the
15 quantity of chickens is .2 and the correlation between
16 the price of ball bearings and the quantity of ball
17 bearings is .3, and so they -- you have canceled out the
18 unit so in some sense you can compare, okay, across. So
19 that's one reasons why people like to use correlation
20 coefficient because they're unit free. But sometimes
21 you want to know the units, like in the pay example I
22 gave you; see?

23 Q And it's your testimony that you haven't used
24 correlational analyses when examining student
25 achievement?

1 A I don't believe that we've run a regression
2 where we had student achievement and something on the
3 right-hand side.

4 I could actually give you a good example of
5 where the mind of the profession is on this. This paper
6 here, okay, is -- Well, the other day I mentioned to
7 you, okay, a paper that's on my web site on -- on
8 teacher turnover and teacher quality and I submitted
9 that to ECONOMICS OF EDUCATION REVIEW and we had a
10 simple regression in the first draft of that paper, the
11 one that's on the web site, that regressed student
12 achievement in Missouri on teacher characteristics but
13 we included -- we were looking at tenth or eleventh
14 grade test scores and we had grade three -- we
15 controlled for grade three or grade four test scores, so
16 you see we controlled for prior student achievement at
17 the district level, and the referees didn't even like
18 that. They said you should be -- you're so far behind
19 the state of the art. You should be looking -- If
20 you're even going to talk about student achievement,
21 you've got to be looking at the classroom or school
22 level and you have to have prior controls for student
23 achievement. So they said get rid of it, and so it's
24 out of the second draft.

25 No one wants to see cross-section regressions

1 of student achievements at least in the academic
2 journals I'm dealing with.

3 Q Is that your fringe benefits paper?

4 A No, no, no. This is a -- I don't list
5 unpublished papers on here. It's a paper I presented.
6 Yeah, it's Teacher Mobility, Pay, and Academic Quality
7 on page 8. I presented it in Baltimore at the Society
8 of Labor Economists. That paper's on my web site.

9 Q And you submitted that to a referee journal?

10 A Yes.

11 Q And has it been accepted yet?

12 A We discussed this the other day. It's revised
13 -- It's a revise and resubmit.

14 Q This is the one that you don't know if it's
15 going to be accepted?

16 A That's right.

17 Q And in that instance were you not able to get
18 student achievement -- I'm forgetting the variable --
19 were you not able to do your analysis at the classroom
20 or school level?

21 A Yes, that's right.

22 Q The best data that you could do was at the
23 district level?

24 A That's right.

25 Q Is there a difference between a correlational

1 study and a bivariate correlational study?

2 A Well, bivariate just means there's two
3 variables, an X and a Y.

4 You know, I'm not sure how it's used. I mean
5 some people might say correlational study and mean
6 bivariate. I mean probably they're synonymous and most
7 people would use them in -- in a synonymous way. You
8 actually can do multivariate analyses and do
9 correlations. It's called partial correlations. And
10 some people might say correlational study in that
11 context. But basically I think when they say
12 correlational study they just mean bivariate
13 correlation.

14 Q And why did you believe that various
15 cross-sectional approaches using correlational analyses
16 were appropriate for the times that you used them?

17 A Well, because I wasn't looking at student
18 achievement. And I mean in those instances, even in
19 some of those cases, longitudinal data might have been
20 better but what you have to -- the big reason is that I
21 wasn't dealing -- Remember, we've had this talk about
22 the big omitted variable, that is student socioeconomic
23 status. I wasn't dealing in a situation where there was
24 this powerful variable that was -- that I wasn't
25 controlling for very well, at least I don't think that I

1 urban schools to be urban and this is what causes rural
2 schools to be rural. I was simply describing the
3 outcomes, here's -- here's the typical -- what the
4 typical rural school looks like in terms of a variety of
5 factors. So I was sort of -- It was sort of a
6 statistical profile of schools and staffing in different
7 situations, descriptive. I wasn't testing a particular
8 -- I guess you could test -- I was testing the
9 hypothesis that they're different and it's easy to
10 reject that hypothesis, they are different in a lot of
11 respects but
12 nothing beyond that.

13 Q Other than instances in which you were being
14 descriptive, have you carried out correlational analyses
15 without controls?

16 A Not that I'm aware of.

17 Q When making education policy decisions based on
18 measures of student achievement, what types of measures
19 of student achievement are appropriate in your opinion?

20 MS. DAVIS: Vague and ambiguous.

21 THE WITNESS: So you're saying how should we
22 measure student achievement?

23 BY MR. AFFELDT:

24 Q Correct.

25 MS. DAVIS: In California?

1 can recall in these studies. So -- So that's the
2 difference here. It's -- You -- I was able to include
3 control variables and plausibly argue that I've -- I've
4 taken account -- I've taken a good account of the other
5 factors that affect whatever I was looking at and then
6 focused attention on the thing that was important,
7 whatever that may have been -- public; private; you know
8 urban; rural, what have you.

9 Q Have you ever carried out a correlational
10 analysis without controls?

11 A Well, I -- I may have done -- Some of these
12 studies were descriptive. There may have been a
13 correlation maybe on rural -- you know, where I compared
14 rural schools and urban schools. It was just
15 descriptive. So the point -- you know, the question at
16 hand, are their systematic differences between teachers
17 in urban and rural schools, so you really don't need --
18 to answer that question you don't need a sophisticated
19 regression analysis, you simply can look at a
20 correlation or even a difference in means.

21 Q And what do you mean by "descriptive"?

22 A Well, for one thing I'm not trying to draw
23 causal inferences. I'm just describing here's the
24 typical urban schools, here's the typical rural
25 schools. I wasn't trying to say this is what causes

1 THE WITNESS: In a study that's trying to
2 determine the effects of teachers or just in general?

3 BY MR. AFFELDT:

4 Q In general.

5 A Oh. Well, states do report cards, so the most
6 popular way in state report cards is what's called
7 performance levels or criterion-referenced scores, that
8 is they say advanced, proficient, nearing proficient,
9 pretty far from proficient, basic, so states will like
10 establish four or five tiers of performance. And this
11 is a good example because the scale score if you tell
12 the parents "Well, your little Susie got a 600 on her
13 STAR exam," well, that doesn't tell them anything. Or
14 if you told the parents "Well, little Susie got -- you
15 know, was two standard deviations above the mean,"
16 that's not informative. Even reporting it in
17 percentiles may not be very informative. She knows how
18 she stacked up vis-a-vis other kids. But
19 criterion-referenced kind of sets benchmarks for
20 performance and then describes performance that way.

21 I guess California isn't doing that. I can't
22 remember if you do proficient -- Well, you're going to
23 have to because everyone is supposed to report
24 proficient, so I don't know where you are in that
25 regard. But most other states have taken their

1 assessments and kind of set these thresholds, because
 2 all -- under No Child Left Behind every student is
 3 supposed to be proficient by 2014 or thereabouts. So
 4 that's one way, and I think that's useful for these
 5 report cards.

6 But now for purposes of hypothesis testing, I
 7 don't think it's so useful. I think, you know, we
 8 should -- in my case I think it's better to use a
 9 percent above the median on a national norm. In another
 10 context it might be appropriate to use scale scores.

11 Q In the context of student achievement is it
 12 only appropriate to use standardized test scores as the
 13 outcome measure?

14 MS. DAVIS: Vague and ambiguous.

15 THE WITNESS: No. Some people look at drop-out
 16 rate as a measure of school performance, college-going
 17 rates. I mean there's other measures of performance you
 18 could use. Or, you know, there's other states like
 19 Missouri have constructed response items on their
 20 assessments, so you -- those aren't considered
 21 standardized tests. I mean when most people say
 22 "standardized tests" they think multiple choice, and
 23 many states have gotten sort of more open-ended or
 24 constructed response items on their tests.

25 BY MR. AFFELDT:

1 level, then you obviously you could average at the
 2 building level and then you could look at the same kind
 3 of a model, you could look at, you know, you've got one
 4 set of school buildings that, you know, adopt a certain
 5 curriculum and you have another set that don't, so what
 6 you would want is prior data on student -- on that
 7 performance measure, drop-out rate, college-going rate,
 8 and then you'd have a treatment and a control group and
 9 then a subsequent measure, and then you would want to
 10 control for other factors that may have affected the
 11 school. At the individual level you obviously couldn't
 12 do this but you would have to -- you would therefore
 13 want -- but it's sort of like the culmination. I mean
 14 you can only drop -- Well, I mean you can only drop out
 15 once basically, so it's -- it's like a one-time thing.
 16 So it's -- I mean you -- And it would -- So at the
 17 individual level it's sort of like assessing the effect
 18 of your whole academic career. So you certainly would
 19 want good measures of socioeconomic background if you
 20 were using individual data and then you were trying to
 21 compare schools or something like that in terms of
 22 drop-out rates or college-going rates.

23 I mean in principle there's no reason you
 24 couldn't put -- well, you would want good data on prior
 25 academic history and family background; okay?

1 Q In doing an analysis of teacher effects on
 2 student achievement, how would you use constructed
 3 response items?

4 A Well, usually they're part of an overall score
 5 on the test and so, you know, that overall score could
 6 be reported in -- in a variety of ways, you know, in a
 7 scale score, a standardized measure so. . .

8 Q And are those various measures of student
 9 achievement that you indicated acceptable to you as ways
 10 to test for teacher effects?

11 MS. DAVIS: Same objection.

12 THE WITNESS: I think there's ways to test for
 13 teacher effects that could use these more open-ended or
 14 constructed response -- response assessments. But
 15 still, you would need to take account of prior levels of
 16 achievement if you are using those as your outcome
 17 variable. That principle would remain but I think you
 18 could use other assessments.

19 BY MR. AFFELDT:

20 Q How would you use prior achievement if your
 21 outcome measure was drop-out rates or college-going
 22 rates?

23 A Well, that -- that would be something you would
 24 measure at the -- Well, there's two ways you could get
 25 at that. One is if you were looking at the building

1 Q Is it possible to have other measures of
 2 student achievement that are subjective in the same way
 3 at least that the principals' evaluations were that you
 4 talked about earlier?

5 MS. DAVIS: Vague and ambiguous. Calls for
 6 speculation.

7 BY MR. AFFELDT:

8 Q So in other words, could one construct an
 9 acceptable study of teacher effects on student
 10 achievement in your view with the measure of student
 11 achievement not being a standardized test but some sort
 12 of a review and evaluation of the student's work that
 13 was objective enough to satisfy?

14 A Well, you can --

15 MS. DAVIS: Same objections.

16 THE WITNESS: I think you're getting into a
 17 murky area. And, you know, the policy debate that's on
 18 the table is that we're -- we're testing kids and we're
 19 looking at test data and so we're not looking at
 20 portfolios and measures of self-esteem and things like
 21 that. I mean basically we're in a world where
 22 policymakers -- and I think the public and federal
 23 government are looking at measures like drop-out rates,
 24 college-going rates, test scores, they're looking at
 25 these objective measures. Obviously it's possible to do

1 that, but, you know, I think that -- I think that's not
2 why we're having these discussions. We're having these
3 discussions because we see big persistent differences,
4 you know, the gaps in test scores, drop-out rates,
5 college-going rates. That's what we're -- That's what
6 the public's concerned about.

7 MS. DAVIS: Are we getting close to a good time
8 to break for lunch?

9 MR. AFFELDT: We are.

10 MS. DAVIS: It's 12:10. Okay.

11 BY MR. AFFELDT:

12 Q You said it's obviously possible to do this.
13 How would one create a -- an objective evaluation of
14 student achievement that was not a standardized test
15 score such that one could use the data in an appropriate
16 study of teacher effects on student achievement?

17 MS. DAVIS: Vague and ambiguous. Calls for
18 speculation.

19 THE WITNESS: You could -- You could measure
20 the performance of teachers however you want. You can
21 look at the drop-out rates of their students. You could
22 look at -- You know, you could come up with your own
23 customized test to measure their higher-order thinking,
24 their -- their civic mindedness, their self-esteem. You
25 could come up with any -- any instrument under -- you

1 MR. AFFELDT: This is probably a good place for
2 a break.

3 MS. DAVIS: Okay.

4 (Lunch recess.)

5 EXAMINATION (Resumed)

6 BY MR. AFFELDT:

7 Q Dr. Podgursky, is it ever appropriate to rely
8 on data at an aggregated level to make statements at a
9 disaggregated level?

10 MS. DAVIS: Vague and ambiguous. Calls for
11 speculation.

12 THE WITNESS: Well, it's -- I guess my answer
13 is yes but. Yes, sometimes. The -- You have to -- When
14 you do research you use the best data that's available
15 and microdata, individual-level data is preferred, but
16 aggregated data -- For example, if you're looking at
17 school performance or if you're looking at teachers,
18 then you could -- it seems to me it's legitimate to
19 aggregate up to a classroom, or if you're aggregating up
20 to a school I think that that -- that can be
21 informative. So it goes -- I think the other areas
22 we've talked about are more important.

23 Now, I think you don't want to go above the
24 school in terms of -- I'm reluctant to go above the
25 school to the district level, but going to a school or a

1 know, under the sun to measure what's being -- measure
2 the status of the kids in a classroom. But my argument
3 is that if -- if you're going to look at the effect of a
4 classroom teacher, you've got -- whatever you're looking
5 at, self-esteem, civic mindedness, creativity, what have
6 you, you've got to take account of initial conditions,
7 prior levels of achievement in whatever you're looking
8 at unless you have random assignment.

9 So, you know, it could be that Sally Jones, you
10 know, has a lot of really truly creative young, little
11 students whose true creativity isn't well measured on
12 Stanford 9 but it could be that they started out at the
13 beginning of the year truly creative, and so she always
14 gets the kid -- the pick of the litter in terms of
15 creativity because of some reason we don't know about --
16 the principal likes her. I don't know.

17 So if you're going to evaluate what a teacher
18 is producing in the classroom, you've got to -- if it's
19 going to be convincing in terms of causal effect, you
20 need to take account of where the kid started from. So
21 it's the same principle of prior controls, where did
22 they start from and what did the teacher add during the
23 course of year. So the same principle applies it seems
24 to me no matter what your dependent variable is, no
25 matter what your outcome is.

1 classroom is aggregated but I think you can -- there
2 have been many good studies that relied on school or
3 classroom level data.

4 BY MR. AFFELDT:

5 Q In your teacher mobility paper that we talked
6 about before lunch you said that you made conclusions at
7 the district level with certain data; is that correct?

8 A No.

9 Q Okay.

10 A I had some data about -- At the beginning of
11 the study it was purely -- I was using teacher average
12 ACT scores as a measure of teacher quality and I was
13 trying to justify the use of that, so I cited a number
14 of studies that suggested that these general measures of
15 teacher ability or achievement were associated with
16 student achievement gain. But then I also wanted to
17 show that in Missouri there was a similar association,
18 so I ran a regression where I looked at the grade ten or
19 eleven scores at the district level and then controlled
20 for grade three or grade four scores depending on the
21 test at the district level. So that was -- But that was
22 not the -- The study itself, it was kind of peripheral
23 to the study. The study was with microdata on teachers.
24 I was simply trying to justify my use of ACT scores as a
25 measure of teacher quality, so it wasn't an important a

1 part of the study. It was taken out in the revised
2 draft.

3 Q So walk me through again what you did exactly.
4 What were you -- What were the two variables you were
5 looking at?

6 A Missouri has -- I looked at four different
7 tests of achievement in Missouri. Our state assessment
8 has four primary fields -- social studies, language
9 arts, math, and science -- and those are tested at
10 different grade levels. They're not tested every year.
11 Math is at four, eight, and ten. English/language arts
12 is three, seven, eleven; I think social studies is four,
13 eight, and ten; and science is three, seven, eleven. So
14 you can't link them, but you can't do what we did in
15 California. I can't track a cohort through a building
16 because kids change buildings. So as a second best I
17 tried to look at -- I aggregated to the district level
18 and I was looking at student achievement. So a
19 dependent variable would have been the score of the --
20 at the district -- averaged at the district, and on the
21 right-hand side I had grade three or grade four scores
22 at the district level, so I was trying to measure value
23 added and then I had other controls for the district and
24 teacher characteristics and things like that.

25 Q The dependent variable was the grade ten and

1 A It gets worse in textbooks. They go "LHS" for
2 left-hand side and "RHS" for right-hand side.

3 Q When you looked at the dependent variable, was
4 that a mean score for the grade level?

5 A In -- In this case I believe it was the -- I
6 can't remember if it was a scale score or the percent
7 proficient and advanced. I did it both ways. I think
8 it was percent proficient and advanced.

9 Q So at least initially you were comfortable
10 aggregating at the district level in that study with
11 that piece of the study?

12 A Well, it wasn't the central point of the
13 study. I was simply providing an additional bit of
14 evidence that -- that ACT scores were worth looking at.
15 But as I mentioned the referees -- it annoyed the
16 referees more than it helped and it -- as I indicated to
17 you it illustrates a state of mind that people want this
18 aggregated data and they want to see good, you know,
19 better longitudinal controls for achievement.

20 Q What's the journal again that that's going to
21 be published in hopefully?

22 A ECONOMICS OF EDUCATION REVIEW.

23 Q Have you ever aggregated to a state level?

24 A The only education calculation we ever made was
25 in our book. We had a chapter where we were looking

1 eleven scores at the district level?

2 A Right.

3 Q And the independent variable was the ACT score?

4 A Average ACT scores of teachers in the district
5 among other independent variables but that's what I was
6 focusing on.

7 Q When you say on the right-hand side you had I
8 guess the grade three, four scores?

9 A Right.

10 Q I don't know what you're -- what your papers
11 look like so I don't know what's on your left or your
12 right.

13 A No, no, no. Can you give me a piece of paper?

14 Q I can.

15 A Okay. Forget it.

16 When you run a regression, there's two ways of
17 describing the dependent variable. Sometimes you -- you
18 say Y is on the left side and X is on the right side; so
19 people say independent variables right-hand side, those
20 are synonymous; dependent variable, left-hand side. So
21 that's -- I apologize for lapsing into that terminology.
22 So when someone says a variable is on the right-hand
23 side, it means it's an independent variable.

24 My apologies.

25 Q No problem.

1 at -- we took -- we were looking at the effective
2 changes of pay on a whole variety of measures on teacher
3 quality; and we were specifically interested in the book
4 during the '80s, there was a wide variation among states
5 in the amount by which they raised teacher pay and we
6 wanted to see if there was a relationship between states
7 that raised teacher pay more, did they get a larger
8 increase in teacher quality. So again note that that's
9 a change, not a level, so you're looking at changes in
10 quality in relation to changes in pay, so two points.
11 But again, some of that analysis was aggregated up to
12 the state level.

13 Q You said earlier that though you might prefer
14 to use individual data, you have to go with the best
15 data that you have. How do you decide when -- whether
16 your data is good enough to use in a study to produce
17 meaningful results?

18 MS. DAVIS: Vague and ambiguous. Calls for
19 speculation.

20 THE WITNESS: Well, sometimes your colleagues
21 decide for you if you -- if they don't publish your
22 research, if they don't consider it up to par. I think
23 that's one way to answer it. It -- There's standards --
24 Professional standards for what's considered state of
25 the art or what's -- what's the right methodology and

1 often you won't get published in -- in the journals if
 2 you don't meet that standard.
 3 BY MR. AFFELDT:
 4 Q Have you had any discussions with Ms. Davis
 5 regarding your deposition since we began here?
 6 A In general terms, yes.
 7 Q When did those occur?
 8 A Well, as we walked back to take our two-block
 9 walk back to the offices at the end of the day or at
 10 lunch. We haven't had any meetings per se. Well, we
 11 had lunch together. Very pleasant.
 12 Q Have you reviewed any documents since we began
 13 the deposition on Monday?
 14 A The only document that's come up in our meeting
 15 was just the one you just got, the E mail from Berk
 16 because I hadn't seen it in many months, so she gave --
 17 she ran it off and gave me a copy of it. That's the
 18 only one that I'm aware of. That's it.
 19 MR. AFFELDT: And for the record, Ms. Davis
 20 right before we started this afternoon did give me a
 21 copy of -- I don't know how many there are -- one E
 22 mail?
 23 MS. DAVIS: All of them. I think there were
 24 maybe six or seven, so you've got all of them.
 25 MR. AFFELDT: Okay.

1 A series of E mails between Professor Berk --
 2 MS. DAVIS: That's a good way to put it.
 3 MR. AFFELDT: -- and Professor Podgursky as
 4 well as a CD containing the grades four/five and
 5 seven/eight data sets from Professor Podgursky's study.
 6 She's also informed me that she's had those E mails with
 7 those data sets on them forwarded to Leecia Welch as
 8 well.
 9 Q Have you discussed with Ms. Davis the substance
 10 of your testimony so far?
 11 A No, not really. It's been more procedural. I
 12 think a lot of our discussion has been why do I have to
 13 be here for five days. Let me go home.
 14 Q Did you realize that you were getting into this
 15 when you agreed to submit a report?
 16 A As has been pointed out earlier in this, I've
 17 never had a five-day deposition before.
 18 Q Are you aware of how many days Dr.
 19 Darling-Hammond's deposition went?
 20 A No, I'm not.
 21 MS. DAVIS: Unfair comparison. Much longer
 22 report.
 23 THE WITNESS: I see this is payback.
 24 MS. DAVIS: I was not not even at that depo,
 25 neither was he. It's not fair.

1 THE WITNESS: Well, you posed it. How long was
 2 it?
 3 BY MR. AFFELDT:
 4 Q It was five or six days, maybe more.
 5 A Okay.
 6 Q Nothing personal.
 7 A I understand.
 8 Q Have you ever considered ways to move or
 9 incentivize qualified teachers to go to less desirable
 10 schools, i.e. hard-to-staff schools?
 11 A Yes.
 12 Q What are your thoughts on how to incentivize
 13 qualified teachers by your definition of qualified to
 14 teach in hard-to-staff schools?
 15 A Well, in some of my writings I've been -- a
 16 number of my writings I've been very critical of the
 17 teachers' salary schedules, the rigidity of teachers'
 18 salary schedules. That's one problem with teacher
 19 salary schedules is everyone marches up the same
 20 schedule within a district, say L.A. Unified here. So
 21 what it means is that in combination with collective
 22 bargaining agreements means that teachers will often
 23 leave the less desirable schools and use their seniority
 24 to transfer to more desirable schools when they have the
 25 appropriate seniority or whatever, or else they'll just

1 quit.
 2 But the bottom line is that the poorer -- on
 3 average the poorer schools will get poorer -- often get
 4 lower quality teachers or less senior teachers and so
 5 on. But I think the important point to know is that the
 6 problem there is not the level of teacher, it's the fact
 7 that it's rigid across the whole district, so it doesn't
 8 really matter if it's -- if the average pay is 60,000 or
 9 100,000. If you can make \$100,000 and teach in a nice
 10 school you'll do it as opposed to a tough school. So I
 11 think that creating incentives to go into tough schools,
 12 challenging schools, is something important that school
 13 districts should do.
 14 Q In your ideal situation would you do away with
 15 a single-salary schedule?
 16 A Yes.
 17 Q And what would you put in its place?
 18 A Well, let me come back to that. In my view you
 19 should give administrators flexibility. If an
 20 administrator decided that they wanted to pay teachers
 21 according to a schedule, then that's fine, but I think
 22 that we ought to give them the flexibility to consider
 23 alternate types of pay.
 24 I think pay should be decentralized. It should
 25 be at the school building level, so even if you have a

1 schedule at a school building you have ability for pay
2 to float to different levels between buildings. Some
3 schools may choose to create incentive -- individual
4 incentive pay or group incentive pay, some schools might
5 choose to pay bonuses for teachers in shortage fields.

6 One problem with the salary schedule is that
7 it's almost guaranteed to create teacher shortages. I
8 mean a typical school district has got a glut of
9 elementary ed majors where they are often short in
10 special ed, science, and math. So there needs to be
11 more flexibility of teacher pay and I'd like to see
12 that.

13 Q Assuming that this salary schedule is here to
14 stay at least for the time being, what are your thoughts
15 on how to incentivize qualified teachers to move to
16 hard-to-staff schools?

17 A Well, that be would a step in relaxing the
18 salary schedule would be just to have a bonus for
19 teachers to move into low-performing schools. I mean
20 that's a very -- You know, to have the appropriate --
21 create an incentive for teachers to go into
22 low-performing schools and give principals the right to
23 sort of pick a high-performing team to move into those
24 schools.

25 To put it differently, the result of the salary

1 turnover.

2 Q Any other working conditions you would list as
3 potentially impacting teachers' desire to work in a
4 school?

5 A Well, you know, distance from home, that's
6 clearly a factor in employment issues generally, but I
7 think that covers the main ones that are appropriate for
8 schools.

9 Q What about attractiveness of physical
10 facilities?

11 MS. DAVIS: Vague and ambiguous.

12 THE WITNESS: Well, I've never seen any
13 evidence that -- that that's a big factor in teacher
14 mobility decisions. It -- It could be just a proxy for,
15 you know, the neighborhood characteristics generally,
16 but I'm pretty skeptical that plays much of a role. I
17 mean there are a lot of private schools that -- Catholic
18 schools are in old buildings that aren't fancy but they
19 attract teachers and some of the nicest college prep
20 schools in the world are in some of the oldest
21 buildings, so I'm not -- I'm not sure that that's a big
22 factor.

23 BY MR. AFFELDT:

24 Q Age aside, do you think that the school that is
25 not in good physical condition whether it's old or not

1 schedule means that you're spending less per student in
2 the low-performing schools than in the high-performing
3 schools within a school district. And so if you just
4 gave them the same amount of money per student, it could
5 actually pay higher salaries, at least at the front end.

6 Q Do you agree that often there's considerable
7 variation in the attractiveness of working conditions
8 between schools within a district?

9 A Yes.

10 Q And what do you think of as a working
11 condition?

12 A Well, obviously safety is a factor and crime in
13 the area, and another would be the behavior of
14 students. At least if we look at the mobility patterns
15 of teachers, minority teachers are predisposed to move
16 towards higher minority -- schools with relatively more
17 minority students; nonminority teachers tend to move
18 towards schools with fewer minority students.

19 Q Is that an aspect of working condition?

20 A Well, a working condition is whatever leads a
21 teacher to move.

22 Q So the composition of the population is a
23 working condition in your view?

24 A Well, there's evidence that the composition of
25 the student body is a factor that influences teacher

1 old can impact teachers' desire to work in that school?

2 MS. DAVIS: Calls for speculation. Asked and
3 answered.

4 THE WITNESS: As I said -- I am speculating. I
5 don't -- I've not seen any research on this matter.
6 It's -- It's not implausible that it would but I'm not
7 aware of any research one way or the other on that
8 particular issue.

9 BY MR. AFFELDT:

10 Q Does that answer cover the whole host of
11 potential physical conditions, such as lack of heat,
12 potential rodent infestation, leaking roofs, poor
13 ventilation, et cetera?

14 A Yes.

15 Q What about overcrowding of the school, is that
16 a factor that could affect teachers' desire to work in a
17 given school?

18 MS. DAVIS: Vague and ambiguous. Calls for
19 speculation.

20 THE WITNESS: It's possible, but I'm not aware
21 of any research one way or the other on that.

22 BY MR. AFFELDT:

23 Q Are you aware of research on safety, crime, and
24 behavior of students?

25 MS. DAVIS: Vague and ambiguous.

1 THE WITNESS: Well, certainly the studies of
2 turnover have looked at socioeconomic status of students
3 and I'm assuming that socioeconomic status manifests
4 itself in the classroom, one of the ways it manifest
5 itself is student behavior. The crime I believe there
6 have been some studies that have included that as an
7 independent variable, but I can't name one off the top
8 of my head.

9 BY MR. AFFELDT:

10 Q What about distance from home, have you seen
11 studies that looked at the impact of distance from home
12 on the attractiveness of the school for a teacher?

13 A Yes. There is a study in -- in New York State
14 by -- a series of studies, actually, by Suzanna Loeb,
15 L-o-e-b, and Hamilton Lankford and Tom Wykoff. Actually
16 there's another author, Dan Boyd, B-o-y-d. And they've
17 looked at sort of a -- they've compiled a huge data set
18 on teacher mobility and hiring and interdistrict
19 mobility and quits in New York State and they found
20 that -- they were looking at initial employment
21 decisions and they found that a very large fraction of
22 teachers take jobs within I think it was like 40 miles
23 of where they graduated from college, they're more
24 likely to, and they quite frequently grew up in the
25 same general area. I found similar patterns in

1 My recollection was pay; some of the working
2 conditions we talked about, not leaky pipes but SES,
3 heavy student percent minority. They spent a fair
4 amount of time analyzing changes over time and patterns
5 of interdistrict mobility sort of from low to high SES,
6 movements out of New York City to suburban districts.
7 So they presented evidence, for example -- They have a
8 series of papers, so it's hard to really summarize.
9 There's just a lot in the papers. But I remember one
10 thing was that in the late '90s as many -- well, during
11 the '90s as more and more districts were hiring teachers
12 there was a lot of teacher hiring going on in the '90s
13 and school districts were lowering class sizes, you had
14 growing enrollments in many districts, and that was
15 leading to a lot of teachers to leave New York City to
16 to go to the suburbs so that you saw the exit rates
17 rising with time.

18 Q And what factors did those papers find
19 influenced teachers quitting?

20 A As I said, pay and working conditions played a
21 role.

22 Q Did you find their work to be sound
23 methodologically?

24 A Yes.

25 Q Did you agree with those -- their conclusions?

1 Missouri, that the labor market tends to be localized,
2 that teachers tend to take jobs in schools near where
3 they've gone to college and often they go to college
4 near where they grew up.

5 Q Did you reach any other findings in Missouri
6 regarding where teachers decide to work?

7 MS. DAVIS: Vague and ambiguous.

8 THE WITNESS: Well, teachers with higher ACT
9 scores were somewhat less likely to take jobs in lower
10 SES school districts, high poverty school districts.

11 BY MR. AFFELDT:

12 Q Was that at a statistically significant
13 difference?

14 A I believe so, yeah.

15 Q What about in the Loeb, et al. study, did they
16 find any other factors influencing initial decisions of
17 where to work for teachers?

18 A The -- I don't -- I don't recall. I think the
19 primary focus I believe was on initial mobility,
20 interdistrict mobility, and quits from the profession.

21 Q And what factors did they find influenced
22 interdistrict mobility?

23 By that I assume you mean moving from one
24 school to another?

25 A Yes.

1 MS. DAVIS: Vague and ambiguous.

2 THE WITNESS: Well, there are a lot of papers,
3 so I don't -- I don't know all the conclusions, but if
4 you -- but if on the point does pay affect teacher quit
5 decisions, I agree with that; and do working conditions
6 affect teacher quit decisions, I agree with that.

7 BY MR. AFFELDT:

8 Q Do you have any thoughts on how to affect
9 working conditions so as to make hard-to-staff schools
10 more desirable for qualified teachers?

11 MS. DAVIS: Vague and ambiguous. Calls for
12 speculation.

13 THE WITNESS: Well, sometimes it's easier to
14 change working conditions than it is pay and sometimes
15 it's easier to change pay than it is working
16 conditions. I think that there's -- there's -- I think
17 that you need to give administrators in hard-to-staff
18 schools flexibility. They've got to have -- They've got
19 to be incentivized, to use your term, to raise student
20 achievement and then they've got to have flexibility to
21 select their teachers and to fire teachers that aren't
22 performing; they've got to have flexibility as to their
23 compensation; and they need to be -- then they need to
24 be held accountable. I mean that's what accountability
25 means, you've got flexibility. Well, you can't hold

1 someone accountable if you don't give them flexibility
2 to make personnel decisions, so I think there needs to
3 be more flexibility for administrators in low-performing
4 schools on -- on personnel matters. That can help make
5 them more attractive places.

6 BY MR. AFFELDT:

7 Q By administrators do you mean school-site
8 administrators?

9 A Yeah.

10 Q Also known as principals?

11 A Correct. Although I try -- I prefer using the
12 term "administrators" because, you know, it doesn't
13 always have to be the administrator that does some of
14 these things. It could be an assistant principal, it
15 could be a department head, but for the most part I mean
16 principals.

17 Q Can school-site administrators make the changes
18 in working conditions that you believe affect the
19 attractiveness of the school?

20 MS. DAVIS: Calls for speculation. Vague and
21 ambiguous.

22 THE WITNESS: Perhaps they can affect some,
23 others they can't. They cannot change the nature of the
24 neighborhood they're in but it's possible they could
25 take a more aggressive stance on disciplinary policy.

1 It's possible they could do things to improve the safety
2 of the students and the teachers in the school. So
3 there may be things they can do. There's other things
4 they can't do.

5 BY MR. AFFELDT:

6 Q Is smaller class size a working condition that
7 affects the attractiveness of a given school?

8 MS. DAVIS: Vague and ambiguous. Calls for
9 speculation.

10 THE WITNESS: It may, although I'm -- I haven't
11 really seen much research suggesting that it's -- it's
12 a -- an important factor one way or the other.

13 BY MR. AFFELDT:

14 Q Do you think pay and/or working conditions
15 affect teacher retention at a hard-to-staff school?

16 MS. DAVIS: Vague and ambiguous. Calls for
17 speculation.

18 THE WITNESS: Yes.

19 BY MR. AFFELDT:

20 Q Both of them?

21 A Yes.

22 Q In your view what's the proper mix between
23 certification and local supervisor decisions in terms of
24 assessing teacher quality?

25 MS. DAVIS: Vague and ambiguous. Calls for

1 speculation.

2 THE WITNESS: I believe that the proper role
3 for -- for teacher certification -- Well, let me state
4 this differently.

5 I don't see teacher certification playing a big
6 role one way or the other in student achievement and
7 raising performance of schools. I think the important
8 thing is to create incentives for school administrators
9 and for teachers and for students to improve performance
10 and to -- to spend money in a more efficient way and it
11 may be the case we may need to spend more money in many
12 places. But I just don't see teacher certification
13 playing a big role in any of this for reasons I've
14 indicated over the last several days.

15 I think the important role for a local
16 administrator is to give them incentives to hire the
17 best possible candidates and to make sure that the
18 teachers on the job most of whom are already certified
19 are performing. That's the important thing.
20 Certification should -- should just play the role of
21 making sure we don't have criminals, you know, becoming
22 teachers, a criminal background check. There should
23 be -- I agree with testing for general academic skills,
24 a CBEST-type test, and making sure they have the proper
25 content knowledge for what they're teaching. Those are

1 reasonable. But I think we need to -- I think it's --
2 we need to create a variety of ways to enter teaching.

3 I think there is a large pool of folks out
4 there who would be willing to become teachers, talented
5 people who would become teachers and who could make a
6 good contribution in public schools if we created more
7 flexible tracks for them to enter. But the important
8 thing is to create a situation where school
9 administrators can audition as many candidates as they
10 can and keep the ones who perform and get rid of the
11 ones who don't perform. So I hope that answers your
12 question.

13 BY MR. AFFELDT:

14 Q That sounds like you don't think teacher
15 certification has much, if any, role in assessing
16 teacher quality?

17 A I don't believe it does.

18 Q And that local supervisors, i.e.
19 administrators, should be the ones to assess teacher
20 quality?

21 MS. DAVIS: Objection to the extent that
22 mischaracterizes his testimony.

23 THE WITNESS: I think that it's not in the best
24 interests of school -- If a local administrator decides
25 that an intern or a preintern as compared to a

1 preliminary applicant is the best candidate for the job,
2 it's -- it's not in the interest of state regulators or
3 the courts or the governor to second-guess that
4 decision. I think what we've got to do is hold the
5 local administrator responsible and then give them
6 flexibility as to the people they higher.

7 I don't think that there's much of a difference
8 on average in performance levels, at least in terms of
9 any evidence that's been presented here that I've seen,
10 that the type of credential a teacher holds has much of
11 a relationship to student achievement gains. Maybe it's
12 true, but I haven't seen anyone present evidence to that
13 effect.

14 BY MR. AFFELDT:

15 Q Are you aware of any studies demonstrating that
16 alternative certification routes lead to increased
17 student achievement, by that I mean teachers'
18 credentials through alternate certification?

19 MS. DAVIS: Vague and ambiguous.

20 Go ahead.

21 THE WITNESS: To date I don't believe there's
22 been any rigorous studies of alternate certification. I
23 refer you to the Education Commission of the States'
24 cautious endorsement of alternate certification, but I
25 think we need a good evaluation of it. And for -- for

1 reasons I've indicated, I think many of these programs
2 are attracting people into teaching with good academic
3 credentials and good content knowledge and experience
4 that could be valuable for schools, so I think that we
5 should wait, we should experiment with these programs,
6 collect some data, and -- and we need to assess whether
7 they're working but I think they hold promise. I like
8 them because I think they -- they can be a very
9 efficient way to get people with content knowledge and
10 experience and a good potential as teachers and often
11 teaching experience in other context into public school
12 classrooms.

13 BY MR. AFFELDT:

14 Q And when you say you're not aware of any
15 rigorous studies, do you mean studies that would meet
16 your methodological minimums?

17 A Yes.

18 Q Are you aware of nonrigorous studies providing
19 evidence one way or another of the effect of alternative
20 certification teachers on student achievement?

21 A Even in the area of nonrigorous studies,
22 there -- there really aren't many on alternate
23 certification per se. I'm aware of a few that are out
24 there but, again, they're not rigorous. Mostly these
25 studies have focused on turnover or other variables.

1 There haven't been too many that have looked at student
2 achievement per se.

3 Q So you're not relying on those studies when you
4 advocate the notion of alternative certification as a
5 desirable policy option?

6 A No, I'm not.

7 Q Does California require its candidates
8 graduating from a traditional teacher preparation
9 program to pass a pedagogical examination?

10 A I don't believe so.

11 Q In your report you say California requires a
12 test of subject knowledge and subject specific
13 pedagogy. What are you referring to there?

14 A Well, that's for -- that is -- that -- they
15 require content knowledge, and there's a requirement
16 that candidates have content knowledge and knowledge of
17 pedagogy and I believe that it could -- that can take
18 the form of a test or completion of a program.

19 Q So are you saying that the content knowledge
20 tests that California candidates are required to pass
21 includes within it subject-specific pedagogy?

22 A I believe if you're required to take the test I
23 believe there's pedagogical questions within the test.
24 It's a form of a PRAXIS that includes that.

25 Q Have you reviewed California's content

1 knowledge test for either elementary school teachers or
2 any of the single-subject teaching credentials?

3 A No.

4 Q Are you familiar with the name of the current
5 version of the California content knowledge test?

6 A I'm sorry. I don't -- Do you mean for students
7 or teachers?

8 Q For teachers, the test they need to -- that's
9 one of the options for them to pass to get a
10 credential.

11 A Well, my recollection was California used the
12 PRAXIS II, but that could be incorrect. It either uses
13 a customized test from National Evaluation Service or
14 the PRAXIS II or both. I frankly -- I thought they used
15 the PRAXIS II but I could be wrong.

16 Q On page 13 of your report --

17 A Yes.

18 Q -- on the last paragraph of that page you're
19 citing EDUCATION WEEK and their discussion of comparing
20 California to other states in terms of their licensing
21 standards for teachers. Have you reviewed any other
22 materials to compare California's certification
23 standards with those of other states for this report?

24 MS. DAVIS: Vague and ambiguous.

25 THE WITNESS: Yes, I've -- I've also looked at

1 the -- the standard source for comparing certification
2 requirements across the states is something called the
3 NASDTEC manual, N-A-S-D-T-E-C. People refer -- It has a
4 longer title but people call it "the NASDTEC manual,"
5 and that stands for the National Association of State
6 Directors of Teacher Education and Certification, I
7 believe. And it's a standard reference and I -- I'm
8 sure I looked at some tables in the NASDTEC manual on
9 California, although I don't recall if I cited any of
10 that in here. I didn't cite it.

11 BY MR. AFFELDT:

12 Q Did you produce that manual to Mr. Salvaty?

13 A No. It would only be a couple of tables. The
14 manual's this thick and it costs a lot of money, so I
15 didn't produce it. I didn't cite it so I didn't -- but
16 I have looked at it so. . . It's on my shelf.

17 Q Did you look at it as part of preparing this
18 report?

19 A I'm sure I looked at a couple of tables and I
20 can photocopy a few of the tables that would be relevant
21 that I may have looked at.

22 Q We would appreciate it if you would --

23 A Okay.

24 Q -- and if you would forward those to Ms. Davis.

25 A Duly noted.

1 comparisons. They don't grade states but they do
2 provide these comparisons. So those are the sources I
3 rely on in order to sort of see how one state compares
4 to another because it's extremely difficult for a -- a
5 novice, if you will, to sort of get on the web or read
6 documents. Both of these, in my opinion, are the best
7 sources for doing what you were describing.

8 BY MR. AFFELDT:

9 Q Do you consider yourself a novice in terms of
10 analyzing the different certification requirements among
11 the 50 states?

12 MS. DAVIS: Vague and ambiguous.

13 THE WITNESS: Well, I -- I don't consider
14 myself a novice because I've tried to do it, but I've
15 learned enough in the process that it's awfully hard to
16 do and that there -- why reinvent the wheel when there
17 are people who spend their whole -- spend, you know,
18 eight hours days for a full year distilling the
19 information for you, and I think in my judgment having
20 looked at these in a number of states I think the two
21 things I described are my -- are the best references.

22 BY MR. AFFELDT:

23 Q So you find the Quality Counts and the NASDTEC
24 manual the credible sources for comparing certification
25 standards among the 50 states?

1 MS. DAVIS: We can talk later about that.

2 BY MR. AFFELDT:

3 Q What were the tables that you looked at?

4 A I don't recall. I'd have to look at the
5 document. They compare whether tests are required,
6 who's the company that makes the test, whether there's
7 recertification requirements, what types of -- what --
8 whether -- whether there's a prior to student teaching,
9 how many -- how many hours of kind of clinical
10 experience teachers need -- teacher candidates need, a
11 variety of tables like that.

12 Q Have you ever tried to compare the -- Let me
13 ask it this way: Have you ever examined the
14 comparability of certification requirements between
15 different states?

16 A Well --

17 MS. DAVIS: Vague and ambiguous.

18 Go ahead.

19 THE WITNESS: Well, partly that's why I cited
20 education -- Excuse me -- Quality Counts because they
21 devote a whole year to doing that and a variety of
22 staffers to do exactly what you're talking about, this
23 sort of boil down to create exactly the comparison
24 you're describing, so I think it's a good source for
25 doing that. And the NASDTEC manual provides the

1 A Yes.

2 Q Would you agree that there's more variation
3 among the alternative certification programs out there
4 in the United States than there are among the different
5 states' traditional certification programs?

6 MS. DAVIS: Vague and ambiguous.

7 THE WITNESS: There -- There may be. Part of
8 the problem is -- Partly that arises because the word
9 "alternate certification" isn't well-defined. Some
10 states like New Jersey that everyone considers as having
11 an alternate certification does not call their alternate
12 certification "alternate certification." I believe they
13 call it "provisional." California calls it "interns."
14 Texas calls theirs "alternate." Missouri has another
15 term, I think it's "PCP provisionals." So that's -- So
16 that's part of the problem and that's just a problem of
17 teacher licensing generally, there's just -- the same
18 things have different names in different states and
19 different things have the same names, so it's -- it's
20 complicated to make comparisons.

21 BY MR. AFFELDT:

22 Q And part of -- Well, part of the alternate
23 certification movement, if you will, is experimenting
24 with different approaches to entry into the teacher work
25 force, so it would stand to reason that there are more

1 varieties of alternate certification than the
2 traditional certification route, would you agree?

3 MS. DAVIS: Vague and ambiguous. Calls for
4 speculation.

5 THE WITNESS: Well, if you --

6 MS. DAVIS: Asked and answered.

7 THE WITNESS: -- use Feistritz's who I
8 consider to be sort of the definitive source on this,
9 she -- she kinds of classifies states into I believe
10 it's A, B, C, D, and A means that they really have a
11 real alternate certification program in place that has
12 significant numbers of candidates and is really doing
13 something, really -- is producing a flow of teachers,
14 and these aren't -- at least on the face of it they
15 don't look so different.

16 I think they -- As I mentioned today or
17 yesterday, typically you'll have some kind of summer
18 program that involves a certain amount of clock hours of
19 preservice training; they'll get into a classroom and
20 have some kind of mentoring or support system; there
21 will be ongoing training on the job, that is they'll do
22 the course work on the job; and there will
23 be some kind of transition into a regular -- regular
24 slash permanent certification over a two- or three-year
25 period. So it might not be as diverse as you're

1 that just because if we have evidence that alternate
2 certification raises student achievement in New Jersey,
3 it doesn't necessarily mean intern programs in
4 California raise student achievement. You'd have to be
5 cautious about that.

6 Q And why is that?

7 A Well, they're different programs and they're
8 administered by different people and so it could be that
9 they have different outcomes.

10 MR. AFFELDT: This is probably a good place to
11 take a break.

12 MS. DAVIS: Okay.

13 (Recess.)

14 MR. AFFELDT: I am going to mark what will be
15 Exhibit 13 and ask if you can identify that.

16 (Podgursky Exhibit 13 was marked for
17 identification by the court reporter.)

18 BY MR. AFFELDT:

19 Q Take a moment and look at that document.

20 A Okay. It's the report that I coauthored on
21 Personnel Policy in Charter Schools.

22 Q And the Forward is at pages small Roman numeral
23 five and six written by Chester, also known as Checker,
24 Finn?

25 A Yes.

1 indicating, but I'm not sure. I think that it's a hard
2 comparison to make because regular certification differs
3 so much across states. As I indicated, some states have
4 general knowledge tests, others don't; some require
5 tests, some don't; some require that you major in
6 education, some forbid you from majoring in education;
7 some have performance-based assessments on the jobs,
8 others don't.

9 So as I think about it now, I'm not sure that
10 that's -- that what you're saying is true. I think
11 there's a lot of variation in sort of traditional
12 certification as well, so I guess I'm -- I'm not sure
13 and I'd agree with what you said.

14 BY MR. AFFELDT:

15 Q So you feel that you could look at an
16 alternative program in one state at its central
17 components and compare that to, say, California's
18 alternative certification program and its central
19 components and make an assessment as to whether or not
20 they are comparable types of certification?

21 A No, I didn't say that. I mean I believe that
22 each program should be assessed on its own, but you just
23 said is there more variety across states, more variation
24 in alternate cert versus traditional cert, and I'm
25 not -- I'm not sure that's the case. But I still think

1 Q He says in the opening paragraph on small Roman
2 numeral five in the last -- second to the last
3 sentence:

4 "For the past two years, we at the Thomas
5 B. Fordham Foundation have been urging
6 policy makers to experiment with a very
7 different approach to teacher quality. A
8 common sense approach, we have argued, is a
9 deregulatory strategy that opens entry into the
10 teaching profession and, for quality control,
11 depends primarily on evidence of student
12 learning as a measure of teacher
13 effectiveness."

14 Do you agree with the approach that Mr. Finn
15 outlines here as a matter of a good policy direction
16 that the state should be heading in?

17 MS. DAVIS: Vague and ambiguous and calls for
18 speculation as to what Mr. Finn means.

19 THE WITNESS: Yes, I think that in general it
20 would -- it makes more sense for states to focus on
21 student learning and create the appropriate incentives
22 for schools to improve that and close the achievement
23 gaps and spend less time micromanaging schools and
24 trying to regulate hiring and give them more flexibility
25 on hiring.

1 BY MR. AFFELDT:

2 Q What's your understanding of what Mr. Finn
3 means by "deregulatory strategy"?

4 MS. DAVIS: Calls for speculation.

5 THE WITNESS: Well, I -- I think he just means
6 relaxing regulation on the inputs and focusing your
7 regulation on the outputs is a shorthand way of saying
8 that.

9 BY MR. AFFELDT:

10 Q And that's a strategy that you agree with;
11 right?

12 A As a general principle, yes.

13 Q This paper is the report of the survey you did
14 of charter schools around the country --

15 A Yes.

16 Q -- that you talked about earlier; right?

17 A Yes.

18 Q Do you believe that surveys can produce
19 reliable data?

20 MS. DAVIS: Vague and ambiguous. Calls for
21 speculation.

22 THE WITNESS: Yes.

23 BY MR. AFFELDT:

24 Q Do you believe that this survey produced
25 reliable data?

1 know, we -- if you are comparing administrative data to
2 response data, often in administrative data if you can
3 get things like teacher pay, it's better to get it there
4 because it's more likely to be accurate. Not only will
5 they -- I'm not saying they'll lie but their memories
6 may be bad. They'll say "When were you hired?" they may
7 get the year wrong or "What's your pay?" they may round
8 it.

9 Q And do you assume that the respondents to your
10 survey here answered truthfully?

11 A Well, if they lied, I assumed the lies were
12 mean zero and independent and identically distributed.

13 Q So the lies canceled each other out?

14 A That's right.

15 Q What kind of a -- Let me ask you this: Your
16 survey here sought responses from 200 charter schools in
17 7 states; correct?

18 A I'd have to remember.

19 Q I'm looking at pages 2 and 3, the discussion of
20 survey methodology.

21 A Okay. Yes.

22 Q And you received responses from 132, a response
23 rate of 66 percent according to page 3, Table 1?

24 A Yes.

25 Q So what's an acceptable response rate in your

1 A Yes.

2 Q What are the minimum requirements for, in your
3 view, a survey to be able to produce data that can be
4 relied on in making policy judgments?

5 MS. DAVIS: Vague and ambiguous. Calls for
6 speculation.

7 THE WITNESS: Well, the survey needs to be well
8 designed; questions need to be clear, focused on what
9 you're trying to address; and I think one thing that's
10 very important is to -- that we try to achieve with this
11 survey is a high response rate. Often folks will
12 publish studies with a relatively low response rate and
13 we try to -- to keep -- to get the response rate as high
14 as possible.

15 BY MR. AFFELDT:

16 Q Any other minimum requirements for surveys to
17 be able to produce reliable data?

18 MS. DAVIS: Same objections.

19 THE WITNESS: Well, ultimately the respondents
20 have to tell the truth.

21 BY MR. AFFELDT:

22 Q Of course.

23 A That's important. If you ask the teachers, you
24 know -- I don't know. They may lie in terms of their
25 answers to you, so that -- and that is an issue. You

1 view for a survey to be able to produce reliable data?

2 A 66 percent. You know, it -- it -- if you're
3 below 50 percent, it's very questionable. And we -- we
4 felt we wanted to get between 60 and 70 percent. You
5 know, the nonresponse could still be a problem. We
6 looked at the pattern of nonrespondents. There was no
7 obvious pattern, but it is possible that the
8 nonrespondents were systematically different in some
9 ways, so you have to be cautious.

10 So I don't think there's a magic number. The
11 higher the better. But if it's anything below 50
12 percent, that's cause for alarm.

13 Q How did you decide on 200 charter school target
14 population?

15 A Well, we paid them to respond and so we -- most
16 of the money for this contract was paying. We sent them
17 an Amazon.com give certificate for filling out our
18 survey. So we only had so much money, so if everyone
19 had responded we would have spent our budget. So that's
20 -- I mean it's driven by a budget.

21 Q Do you think that your end sample of 132
22 respondents was a sufficient size to be able to draw
23 meaningful conclusions from?

24 MS. DAVIS: Vague and ambiguous.

25 THE WITNESS: Well, we could have reported

1 standard errors. This was meant for a broader audience
 2 and so we did not report standard errors. I mean I
 3 could give those to you. They're -- It depends on the
 4 particular question but it would be a percentage point
 5 or two. In the discussion we emphasize in our
 6 discussion -- in general we only talked about things,
 7 it's my recollection, that would pass a statistical
 8 test.

9 BY MR. AFFELDT:

10 Q So is that another way of saying that you had a
 11 sufficient sample size to draw statistically meaningful
 12 conclusions to support the conclusions that you drew in
 13 the report on a statistical meaningful way?

14 MS. DAVIS: Vague and ambiguous.

15 THE WITNESS: Remember that we were -- for a
 16 number of these questions we were comparing the charter
 17 school data to schools and staffing, and that was a
 18 large survey. I mean it was a large number of teachers
 19 in schools and staffing, particularly in public schools.
 20 So even -- So if you got a -- a large difference between
 21 the publics and charters, it was -- it was very likely
 22 to be statistically significant. So even though you had
 23 some measurement error around the charter school mean,
 24 you had almost no measurement of error around the public
 25 school mean, so if -- if they didn't overlap it would

1 For example, if you go to Figure 1, I would
 2 imagine -- I mean I would have to do my calculations,
 3 but the -- probably who granted the charter, if it was a
 4 local district, 40 percent. If you put two standard
 5 deviations around 40 percent in this sample, it probably
 6 would run between, say, 37 and 43 percent is my guess.
 7 I mean I'd have to look at the underlying data, but
 8 it's -- so, you know, it's not -- you know, I don't
 9 think it's going to change any of the conclusions here
 10 if you put two standard deviations around this with
 11 these variables.

12 Q Did you make any conclusions regarding
 13 individual state responses?

14 A Oh, I think I remember. If it came up I think
 15 I remember where that would have been. It's been quite
 16 a while since I wrote this so I forgot where things
 17 are. Let's see.

18 My recollection -- Okay. If you go to page 9,
 19 my recollection having written this several years ago is
 20 that the only place that would have come up is in
 21 looking at the percent of teachers who were not
 22 certified because some of these states required
 23 certification and some didn't, but we didn't actually
 24 break out -- we didn't report separate tabulations on
 25 that. I just mention it in the discussion but I don't

1 mean that the difference was significant. And it's my
 2 recollection that in almost across the board the -- if
 3 we made comparisons to public schools that the
 4 differences were of a sufficient magnitude to be
 5 statistically significant.

6 Let me also point out to you that on pages 21
 7 through -- Where we got into small samples we actually
 8 did report these statistics. So if you go to pages 21
 9 through -- where we were really pushing out the bounds
 10 of the sampling into small areas. If you go to pages 21
 11 through 23, we did report not only individual p
 12 statistics but an overall test of differences. So we
 13 were sensitive to the issue of our sample size and I
 14 don't believe we were careless about that issue. I
 15 think we were careful. But it was meant to be a
 16 relatively less technical report. They didn't want a
 17 lot of standard errors in the tables and charts.

18 BY MR. AFFELDT:

19 Q Whether or not you reported it, did you think
 20 that your overall sample was large enough to be able to
 21 draw meaningful conclusions from it?

22 A Well, it -- it -- I think it was large enough
 23 to do what we did which was to give us some information
 24 about patterns of -- of -- of charter school, what they
 25 looked like.

1 actually report any statistics on it, so I don't believe
 2 that we reported anything that's aggregated by states.
 3 I think that was the only place where I would have
 4 looked at it was on cert- -- certification requirements.

5 Q Did you have in your view large enough sample
 6 sizes to make meaningful conclusions state by state?

7 A No.

8 Q Do you have in your mind a minimum sample size
 9 that you would want to have before you would want to
 10 draw a conclusion that you could consider meaningful?

11 A Well, in a sense you can work this out. I mean
 12 this -- If you're looking at a percentage, then the
 13 standard error is going to be -- the standard error of
 14 the estimated percentage is going to be -- is going to
 15 be the square root of p times one minus p divided by n.
 16 So you can actually -- you could just figure out how big
 17 your standard error is going to be, so you can just
 18 watch it get bigger as n goes down. It's nonlinear.

19 So it -- it's not something you have to guess
 20 about. You can actually see how big your standard
 21 error's going to be as your n goes down to, you know,
 22 say 15 and you're looking at percentages at maybe about
 23 15 or 20 percent. So, you know, it's not -- it's not
 24 sort of subjective guesswork. It's just your standard
 25 error goes up as your sample size goes down. And so it

1 may be that, you know, if your sample's random, it could
 2 be if there were a huge differences across states that
 3 it might actually be statistically significant, but the
 4 fact is that there weren't huge differences across
 5 states so -- you know, and the small differences we
 6 observed probably wouldn't pass any statistical test so
 7 we didn't discuss them.

8 Q One of your conclusions was that your limited
 9 investigation suggested schools in which teachers are
 10 unionized are less innovative; do you recall that?

11 A Would you point to the page where I said that?

12 Q It's page 24.

13 A All right.

14 Q The particular paragraph is the third full
 15 paragraph on the right-hand column.

16 A Well, there are caveats that precede that.
 17 Given the small sample size it was not possible to do
 18 extensive controls, dah, dah, dah, dah. But we did
 19 observe within our sample that the schools that were
 20 unionized, the charter schools, that tended to be --
 21 look more like traditional public schools, and the same
 22 was true depending on who the chartering authority was.

23 Actually, do we have the union results in the
 24 chartering authority? I don't have it. We don't have a
 25 table on it.

1 But so, you know, we preceded it with a caveat
 2 but we did find that. But it is a small sample size and
 3 we alerted the reader to that.

4 Q What do you mean there by "less innovative"?

5 A Well, I said, they look less like traditional
 6 public schools. And so in that regard they're less
 7 likely to use -- more likely to use traditional salary
 8 schedules, less likely to use merit pay, less likely
 9 to -- you know, to experiment with bonuses. We had a
 10 lot of questions on different kinds of bonuses, by
 11 teaching field; for effort; you know, size of the
 12 bonuses, that sort of thing. So we -- what we meant is
 13 deviations from sort of the traditional salary schedule
 14 and more likely to hire uncertified teachers, I believe
 15 that was part of what we included. But I think the big
 16 thing was salary flexibility.

17 Q This study aside, are there -- what are the
 18 negative manifestations of unionization that you
 19 perceive in school districts in terms of being able to
 20 track qualified teachers?

21 MS. DAVIS: Vague and ambiguous.

22 THE WITNESS: In terms of attracting qualified
 23 teachers, just that?

24 BY MR. AFFELDT:

25 Q Let me ask you what else is there besides

1 attracting qualified teachers?

2 A Well, terminating unqualified teachers.

3 Q Okay. Well, let me ask it more broadly.

4 In terms of being able to employ qualified
 5 teachers in school districts.

6 A Okay. Let's just start -- First of all,
 7 collective bargaining contracts, particularly in major
 8 urban districts, in my opinion make it very difficult
 9 for schools and school administrators to -- to adopt
 10 more flexible personnel policies. I didn't bring it
 11 with me but the L.A. Unified contract is -- is a huge
 12 document; San Diego, these are long documents with
 13 extensive detail about how you staff schools, what
 14 teachers are being assigned to do, what they can't be
 15 assigned to do, when they show up for work, when they --
 16 who can apply for a job, extensive detail on work
 17 assignments and so on, and in my opinion it makes it
 18 very difficult to run a school with a contract like that
 19 in place. In addition, you have all the detail of the
 20 salary schedule. So -- So these documents or these
 21 collective bargaining agreements and the grievance
 22 procedure, every word of those documents is
 23 grievable and can make it difficult for a principal to
 24 attract and retain the best teachers, in my opinion.

25 For example, just on the issue of attracting,

1 many of these contracts give teachers the opportunity
 2 to -- to delay until the very last minute any -- any
 3 statement about when they're retiring, for example, or
 4 taking leaves, so that can make it very difficult for
 5 schools to attract -- you know, to get out and recruit
 6 early to fill a position.

7 In the area of terminating employees, it can be
 8 very difficult to terminate, very expensive to terminate
 9 teachers who are -- who are -- perform poorly. The
 10 teacher unions strongly support the single-salary
 11 schedule and as a general rule oppose differentiated pay
 12 by field, merit pay. There have been some gains in
 13 terms of the differentiated pay you've talked about by
 14 school, but again, it's -- it's in my -- it's my sense
 15 it's an uphill fight because what you're talking about
 16 is even in -- For example, the case -- the only case I'm
 17 aware of where there's been extensive progress on this
 18 was in New York City and the only way the teachers union
 19 agreed to it was that you actually lengthen the workday
 20 and the work year at the low-performing schools, and
 21 that's how you got the union to buy it; in other words,
 22 they were still adhering to the principle of equal pay
 23 for equal hours of work, they weren't accepting the
 24 principle -- there's just a lot of resistance to
 25 differentiating pay between schools within the

1 bargaining unit, that's -- it -- There's a lot of
2 resistance to that. And they got it in New York City
3 only because they had longer hours, a longer workday,
4 and a longer work year, so you had a 15 percent bonus
5 that was associated with 15 percent more hours. But the
6 principle was still in place that the same number of
7 hours yielded the same pay. So those are some examples.

8 Q Are there any positives in your view to
9 unionization of public school teachers?

10 MS. DAVIS: Vague and ambiguous. Calls for
11 speculation.

12 THE WITNESS: I have no problems with the
13 principle of teachers bargaining collectively; however,
14 I have indicated to you earlier I think that beneath --
15 many decisions and much policy within school districts
16 needs to be decentralized, particularly in giant school
17 districts like L.A. Unified or New York City, you need
18 more school-based decision making. And so what I'd like
19 to see is bargaining occurring if it's going to occur
20 not at a district level but much more of it focused at
21 the building level so -- and that's -- that's very --
22 that's very different than the system we're in.

23 There have been cases where unions have
24 cooperated on merit pay. Apparently they've been
25 cooperative in Denver. They've implemented a

1 merit-based system there. I think many union leaders
2 are sincerely concerned about improving schools and
3 improving -- improving student achievement. I think the
4 top leadership at the AFT, the American Federation of
5 Teachers, Albert Shanker and some of his staff were very
6 bright, innovative people who -- who advanced the cause
7 of public education and highlighted problems of
8 schools. Albert Shanker was the first person to propose
9 the idea of charter schools. So I -- I think that there
10 have been contributions. And clearly they lobby for
11 more -- They're a powerful lobby for more resources for
12 public schools and so they probably -- their presence
13 has probably caused more resources to be available for
14 public schools.

15 BY MR. AFFELDT:

16 Q Is that a good thing?

17 MS. DAVIS: Vague and ambiguous.

18 THE WITNESS: As an economist, the issue to me
19 is where should we spend the next million dollars in the
20 state budget. Would we be better off raising teacher
21 pay? Would we be better off spending it in K-12? Would
22 we be better off spending it on better medical care for
23 pregnant women? I think that -- I think that K-12
24 education has done pretty well over the last couple
25 decades and I think a lot of other areas of social

1 policy are -- are other areas where there are social
2 needs have been squeezed. So I think we need to ask not
3 whether -- you know, where -- where we need to invest in
4 incremental million dollars as opposed to -- And so, you
5 know, it's not obvious to me that it's always public
6 schools where the greatest need is, even for children.
7 I think there are a lot of needs for children that need
8 to be met that won't be met by putting more money into
9 K-12 education. So -- So sometimes -- I guess the
10 political process response to interest groups and I
11 guess I wish that some other interest groups were as
12 well organized as the teachers were, so. . .

13 BY MR. AFFELDT:

14 Q I am going to hand you what we will mark as
15 Podgursky Exhibit 14.

16 (Podgursky Exhibit 14 was marked for
17 identification by the court reporter.)

18 BY MR. AFFELDT:

19 Q I ask if you recognize this.

20 A Boy, you've done your homework. Let's see.

21 MS. DAVIS: He's got your grade school report
22 card to see how you did in math.

23 THE WITNESS: That's coming.

24 I'll be darn. Is this an Eric document?

25 BY MR. AFFELDT:

1 Q I believe so. If you go --

2 MS. DAVIS: It looks like it.

3 BY MR. AFFELDT:

4 Q -- from the back and in a couple of pages.

5 A I'll be darn. I didn't even know -- Well, oh,
6 okay. I know what this is. Wait a minute. Oh, okay,
7 okay. I remember what this is now. Okay. We're going
8 back in time. Yes, okay. Yes, I know what it is.

9 Q What is this?

10 A It's a report we did for the State of Missouri
11 Department of Elementary and Secondary Education. We --
12 We completed it in December of 1999 and it's a
13 statistical analysis of the labor market for Missouri
14 public school teachers.

15 Q Broadly speaking what was it you were studying
16 in this report?

17 A Well, in this report, this was -- many people
18 in the State Department of Education were convinced
19 there was a looming teacher shortage in Missouri and so
20 they asked us to take a look at labor market dynamics
21 and to get a sense of what -- what the situation was in
22 term of loosely speaking supply and demand. So it
23 really wasn't about teacher quality at all, it was
24 really addressing the question of whether there -- I
25 think it was driven by a concern that there was going to

1 be a big teacher shortage looming in Missouri.

2 Q And when you say it's not about teacher
3 quality, you mean it didn't attempt to establish what a
4 qualified teacher in Missouri is?

5 A Right, it was -- it's strictly about quantity
6 and not quality. They were quite clear about that.
7 They didn't want to get into the issue of, you know, ACT
8 scores or things like that.

9 Q What did you include broadly speaking as to
10 whether or not there was a looming staffing problem in
11 Missouri?

12 A Well, I think there were -- in the late '90s in
13 Missouri at about the time that we were doing this
14 teacher turnover had gone up. There were clearly --
15 School districts were having shortages in certain
16 fields, but on the whole there wasn't a lot of evidence
17 of any sort of systematic teacher shortage. It was
18 clearly concentrated in the -- with the possible
19 exception of some remote rural districts, it was very
20 much concentrated in particular fields is one finding.

21 The other finding is that the -- the -- Well,
22 one of the big factors driving the enrollments -- or the
23 hiring rates was -- was not rising student enrollments,
24 it was overwhelmingly teacher turnover. Lots of the
25 teachers who turned over returned in a year or two, so

1 there really wasn't a lot of disruption. I think those
2 were some of the main ones.

3 We looked at -- We looked at some of the data
4 on new certifications. We were trying to -- This was
5 our first pass at trying to understand their
6 certification files. These are very messy things. And
7 we were showing that the state was generating a lot of
8 new certificate, even in the shortage fields. So my
9 conclusion -- The bottom line is that I didn't think
10 there was a lot of shortage problem at all based on what
11 we looked at.

12 Q You said there were shortages in particular
13 fields. Did you find shortages in urban school
14 districts and/or hard-to-staff school?

15 A We -- We didn't -- We simply looked at St.
16 Louis and Kansas City. That's our big urban districts.
17 Springfield is a -- is the next largest, I guess,
18 Columbia or St. Joseph. We didn't get into particular
19 schools. We only stayed at the district level, so my
20 recollection was there -- was a little bit more
21 turnover in St. Louis and Kansas City.

22 Actually, one -- one interesting thing we found
23 is if you really -- it -- the rural districts in general
24 tended to have more problems than the urban districts.
25 The net migration of teachers was from rural to urban.

1 as -- as with some national data these weren't permanent
2 exits, the teachers would leave and then come back two
3 or three years later, so there's a lot of -- I like to
4 always call these Brownian motion from in I guess it's
5 chemistry. If you look at like particle -- or like
6 particles on a surface of water, they jiggle around,
7 it's called Brownian motion after some chemist named
8 Brown. You really observe a lot of Brownian motion in
9 teacher labor markets, teachers are in, they're out.
10 There's -- There's movement in and out of the work
11 force. The other thing that -- that DESE -- D-E-S-E,
12 the Department of Elementary and Secondary Education,
13 was convinced that -- I mean this is oversimplifying but
14 not much -- they had themselves convinced that half the
15 teaching work force was going to retire on the same day,
16 and we showed that there really was a lot of phased-in
17 retirement, they weren't going to go off a cliff, that
18 there was -- there was, you know -- it -- people didn't
19 all retire at the same age, and so there was going to be
20 a fairly smooth transition in -- in the age composition
21 of the work force.

22 I recall that at this time everyone was talking
23 about the graying of the teacher work force and they
24 were going to have huge needs for new teachers, and in
25 fact the transition occurred in a fairly smooth way and

1 So if you sort of established a hierarchy of needs, many
2 of these rural districts, the more remote ones, were --
3 were having more problems and had more to complain
4 about, if you will, than even the central city
5 districts.

6 Q Did you conduct the survey of superintendents
7 as part of this effort?

8 A No, they wanted this qualitative part and I
9 didn't really want to do qualitative stuff. They
10 insisted on having qualitative. So let's make that --
11 the record clear, that while Podgursky's name is on this
12 and has qualitative work, he had nothing to do with that
13 and that it was at their insistence. So we contracted
14 with this guy Mike Walker and William Foster who do a
15 lot of this kind of focus group thing. And in fact
16 we -- we actually had focus groups all over the state
17 with -- I don't remember -- there were six or eight and
18 those guys conducted them. I went to one or two of them
19 that were nearby and, you know, just talked with the
20 superintendents about recruiting problems. It was
21 interesting and it's an example. I mean we had some
22 good conversations and I learned more about their
23 perception of the labor market problem, and we did run a
24 survey so the results of that are in the back there
25 asking about -- at these meetings we handed out a survey

1 and got their responses, their view of the world.

2 Q Were you responsible for designing and
3 conducting the survey of superintendents?

4 A I remember I looked over it but -- and in fact
5 it's my recollection that it was patterned on -- there's
6 a national survey about -- I know that I had some input
7 on the survey. I looked it over and, you know, it
8 passed by my hands, but a lot of it was what the
9 Department of Ed wanted to see, too, so you know,
10 I'm -- so I had some input on it but I frankly don't
11 remember much about it and I really did not focus at all
12 on that part of the report. My concern was with the
13 statewide data, that's where I really put my efforts and
14 that's what I think is the most useful contribution of
15 the report.

16 Q So is the survey of superintendents different
17 from the focus group with superintendents?

18 A Well, the survey was handed out at those focus
19 groups. They weren't -- It was every superintendent in
20 the area who showed up at these meetings. It was
21 their -- DESE has -- I mean I think the response rate
22 was very good. I don't remember what it was. But -- So
23 the survey was in addition to the focus groups.

24 Q Did you analyze the survey data or did someone
25 else do that?

1 had a -- a long meeting that was facilitated by this --
2 by Walker and Foster, and they kind of brainstormed
3 about how to deal with teacher shortages and these are
4 their ideas. I had -- I had zero input on that
5 essentially. It was -- Any time I said anything I was
6 out voted. I was one against 30 some.

7 Q Is that a way of saying that you disagree with
8 most of the proposals that the task force came up with?

9 A I -- I didn't even pay attention to it. I mean
10 it just -- I went to the meeting, I listened to it. You
11 know, I don't have an opinion on them because I don't
12 remember what they were and we didn't do most of them
13 anyhow. So, you know, it's not the way I would think
14 about the problem. I don't want to say they're good or
15 bad, but I don't see them as important for my point of
16 view.

17 Oh, actually Proposal 12 made it. They talk
18 about merit pay. Oh, I think they did. They tucked it
19 in the back. It was 12. It was buried in there.

20 Q So you would agree with Proposal 12?

21 A Yeah, I like 12. Pursuant infusion of funds to
22 encourage and enable districts to pay for performance.

23 Q What about Proposal 14, I would think that you
24 would agree with Proposal 14?

25 A Oh, yeah, that looks pretty good. But again,

1 A Someone else did it. Those two guys did it,
2 Walker and Foster. That really was their part of the
3 report. I -- I -- My part of the report is really
4 pages -- really up to -- really up to 72 and those guys
5 wrote the 73, the whole part, Report on Superintendent
6 Surveys. I really had just minimal input on that.

7 Q There are a couple of different page numbers
8 so --

9 A Right, I'm talking about the ones -- I guess
10 the -- the big number 73.

11 Q The big numbers in the center?

12 A Yeah. So where it starts Report on
13 Superintendent Surveys, I really had almost nothing to
14 do with that.

15 Q Okay. Go back using the same numbers to 142,
16 at the very end is a section entitled "Recommendations
17 of the Commissioner's Task Force on Recruitment and
18 Retention."

19 A Right.

20 Q What -- What was the Commissioner's Task Force
21 on Recruitment and Retention?

22 A I had nothing to do with that. The -- The
23 commissioner put together this little group and had a
24 day-long meeting. We presented our results but I didn't
25 vote. I was just a presenter. And they sit there and

1 let me remind you, it's these committees'
2 recommendations, they're not mine. I just. . .

3 Q I understand.

4 Proposal 1 is increase and expand the minimum
5 salary requirements to span the total teaching career
6 with the built-in growth factor. Is that a proposal you
7 would agree with as a general matter in responding to a
8 teacher shortage?

9 MS. DAVIS: Vague and ambiguous. Calls for
10 speculation.

11 THE WITNESS: I don't know what it means.
12 Establishing periodic minimum salary adjustments. Oh.
13 Okay. Yeah. Yeah, what they're saying there is some of
14 these rural districts have very flat salary schedules,
15 they barely have -- you know, they -- well, they have a
16 flat salary schedule, they don't have any built-in steps
17 the way urban districts do, the way L.A. Unified does.
18 You know, L.A. Unified probably has 25 steps with
19 probably a 3 percent gap in between them, and some of
20 these wealthier districts in Missouri will have that.
21 But some of these small, little rural districts, you
22 know, basically the teachers are master's degree, will
23 make \$1200 more than an entry-level teacher and that was
24 about it. They would get -- Everyone would get cost of
25 living increases but there were no built-in longevity

1 steps in some of these rural districts, and I think what
2 that's -- So what they wanted -- You see, the State of
3 Missouri -- Here's what they're groping with.

4 The State of Missouri -- See, like a state like
5 North Carolina has a statewide minimum salary schedule,
6 and a lot of the southern states do where you don't have
7 collective bargaining. Missouri just has a minimum
8 salary for beginning teachers and a minimum salary for
9 teachers with a master's degree and that's it. They
10 don't tell districts that have you to have steps or
11 anything like that, and I think that's what they were
12 pushing for here.

13 BY MR. AFFELDT:

14 Q Proposal 4 is to create an Advantage
15 Missouri-like program targeted at high-need teaching
16 areas, both by certification and geographic region. Is
17 that a proposal that you would generally agree with to
18 deal with some of the shortages in the high-need areas
19 you've identified?

20 MS. DAVIS: Vague and ambiguous. Calls for
21 speculation.

22 THE WITNESS: Well, there's already -- teachers
23 already get -- under federal law they get forgiveness
24 for Perkins loans under federal law if they go into
25 high-need areas or high-need districts, and Missouri did

1 these districts maximum flexibility on how they spend
2 the money.

3 So on the one hand I think it's a good -- it's
4 probably a good way to spend money. I don't like the
5 state proliferating these little categorical programs.
6 Just give the high-need districts more money.

7 BY MR. AFFELDT:

8 Q Proposal 18 is to offer grants to districts
9 with innovative ideas related to an improved work
10 environment. Do you recall what the evidence was of
11 problems with work environment?

12 MS. DAVIS: Vague and ambiguous. Calls for
13 speculation.

14 THE WITNESS: Well, it looks like here they're
15 focused more on -- because what -- Look at what they're
16 doing. They're talking about kind of satisfied and
17 supportive work environment for new and experienced
18 educators. The programs could include, but would not be
19 limited to, opportunities to lead and share leadership,
20 opportunities to pilot ideas and share impact. So this
21 looks like it's more about sort of work relationships
22 than the kinds of things you were talking about, you
23 know, broken windows and peeling paint and nice
24 bathrooms and --

25 BY MR. AFFELDT:

1 this -- This Advantage Missouri was a program like that
2 for some kind of occupational areas but not teachers, so
3 this would sort of broaden out the loan of forgiveness
4 thing.

5 I think it's generally a good idea. You know,
6 states could do this, and some states have broadened
7 this out. So, you know, I think it's -- I think it's
8 probably not a bad idea. Like I said, I'd like to see
9 school districts doing more of this. My preference is
10 to see -- is to see the state sort of level out
11 resources or provide them to districts that have the
12 greatest need and then step back and let those districts
13 decide how to spend the money. So this is sort of a
14 statewide. It says well, here's money -- See, what I
15 don't like is saying "Here's money but you can only
16 spend it this way." They put in a little side line and
17 they say "Well, here's money but you can only use it to
18 forgive loans for high-need areas." I would rather just
19 have the state say "Okay. Here's a high-need district.
20 We're going to give you more money. You spend it
21 however you want. You can forgive loans, you can do
22 national board certification, you can do merit pay, you
23 can do text books. It doesn't matter but we're going to
24 hold you accountable for hire student achievement." I
25 want the state to focus on student achievement and give

1 Q You're looking at the third bullet in the
2 string there?

3 A Yes.

4 Q If you look at the first --

5 A The first is physical. Okay. Well, I --

6 MS. DAVIS: Calls for speculation.

7 THE WITNESS: I really don't remember this --
8 the discussions that went into this. What -- Here's the
9 way these things work: It's one of these education
10 meetings that these are common education meetings. You
11 break up in little groups and someone has flip charts
12 and little smiley faces and your little work group says
13 this, this, this, this and that little group says this,
14 this, this, this, this, and then the facilitator stands
15 up and says let's talk about all of them, so it's like
16 -- I don't recall this bubbling out of my little table
17 so I don't really -- I don't remember what -- what it
18 was all about. It was a one-day meeting and so I just
19 don't remember honestly.

20 BY MR. AFFELDT:

21 Q Okay. The first sentence under Rationale there
22 says:

23 "Some research indicates that teachers
24 leave the classroom because their work
25 environment makes it difficult for them to

1 realize the goals they held when they first
2 entered the profession."
3 A I'm sorry. Where were you reading on 18, which
4 part?

5 Q Rationale, first sentence.

6 A Oh, Rationale.

7 Q Do you recall what research that might be
8 referring to?

9 MS. DAVIS: Vague and ambiguous. Calls for
10 speculation. He told you he does not remember this.

11 THE WITNESS: There's a literature in sort of a
12 more qualitative nature that -- you know, a large
13 literature in -- For example, Susan Moore Johnson, who's
14 a Harvard professor, has written a lot about teachers
15 and things and she'll go out and interview 50 teachers
16 and write a book about it. So, you know, and I'm sure
17 there's articles -- I would expect there's articles that
18 have talked about this issue using this kind of a
19 qualitative research method, so I don't doubt there's
20 some evidence in that form where teachers have indicated
21 dissatisfaction with those conditions.

22 BY MR. AFFELDT:

23 Q Are you aware of quantitative research which
24 similarly indicates teachers leaving teaching due to
25 dissatisfaction with working conditions?

1 A You know, I -- I haven't seen -- I don't recall
2 studies that have quantified some of these factors and,
3 you know, measured them in an extensive way and said
4 well, you know, this -- if -- you know, if assaults per
5 teacher goes up by 1 percent, turnover goes up by X.
6 That's what I'm talking about, sort of quantifying these
7 things so that you can get a sense of how important they
8 are.

9 I mean if you do -- If you talk to people they
10 say well, I don't like this and I don't like this and I
11 don't like this, but it can be hard to tell what -- how
12 changes in those things, how much they really affect
13 turnover.

14 Q Did you read the Goldhaber and Brewer report as
15 part of preparing your expert report in this case?

16 A Which -- Which -- They've written a lot of
17 articles. Can you tell me which you're referring to?

18 Q The one you cite in your report.

19 A Well, if I cite it then I reviewed it.

20 Q Look at page 11.

21 A Okay. You're saying Goldhaber and Brewer 2000;
22 is that what you're referring to?

23 Q Yes.

24 A Okay. So that's the article on education
25 evaluation and policy analysis. Yes.

1 Q Did this study control for prior student
2 achievement?

3 A Yes, it did.

4 Q How did they do that?

5 A My recollection is they looked at -- As I
6 recall they were looking at grade ten math and
7 controlling for grade eight and I think they looked at
8 math and science, so they were using the National
9 Longitudinal Educational Survey and the kids were tested
10 every two years on that and I think they were looking at
11 grade ten scores but controlling for grade eight scores,
12 is my recollection.

13 Q Is that similar to your Missouri study where
14 you looked at grade ten scores and controlled for did
15 you say grade three and four?

16 A No. Theirs is they actually had student level
17 longitudinal data so they had the scores for that actual
18 student. In Missouri I actually was not able to track
19 the cohort from grade three to ten. I was simply taking
20 at a point in time making a strong assumption that there
21 was -- the whole process was stationary. I was
22 controlling for third grade scores of different students
23 and looking at tenth grade and eleventh grade scores of
24 another group. So theirs is better because they were
25 using individual level longitudinal data.

1 Q When you say you were controlling for third
2 grade scores, how did you do that?

3 A Well, at a point in time you -- the -- this --
4 the kids in the district were tested at grade -- say in
5 math they were tested at grades four, eight, and ten.
6 So what I did I was looking at grade ten scores, okay,
7 and then looking at various controlling for SES and
8 teacher characteristics and I also controlled for grade
9 three scores in the same district. So basically I was
10 saying look, if we -- I was interested in ACT scores --
11 if the average -- if we compare two school districts
12 both of which have identical socioeconomic status and
13 identical third grade scores, what you find is that
14 higher AC- -- if the teachers have higher on average ACT
15 scores, the students have higher on average tenth grade
16 math scores. So even though the third grade scores were
17 the same, tenth grade scores were higher controlling for
18 all these other factors. So I just used it as a
19 statistical control. But it -- it wasn't the same
20 students whereas it was with Goldhaber and Brewer.

21 Q In your study were they the same year?

22 A Yes.

23 Q Let me ask it better.

24 Did you look at third graders in one year and
25 look at tenth graders seven years later or you looked at

1 third graders and tenth graders in the same year?

2 A In the same year.

3 Q So very clearly it wasn't the -- none of the
4 students could have possibly been the same?

5 A That's correct.

6 Q And Goldhaber and Brewer, did they examine the
7 ninth grade and tenth grade teachers or just the effect
8 of the tenth grade teachers?

9 A I believe that they used tenth grade
10 characteristics. That's part of problem with the NELS
11 data, N-E-L-S, you have these -- it's two-year
12 snapshots, so you know the tenth grade scores and
13 teachers and you know the eighth grade scores and
14 teachers but you don't know anything about the in
15 between and that's why it's -- it's a limitation on
16 teacher studies. I believe their focus is on grade
17 ten.

18 I think there's some discussion in some of
19 their papers that they sort of averaged -- they
20 experimented around with averaging the two or, you know,
21 adding it in and it didn't make much difference. But I
22 believe the result that's described here pertains to
23 tenth grade teachers.

24 Q Though some of that result could be the effect
25 of the ninth grade teacher?

1 (Podgursky Exhibit 15 was marked for
2 identification by the court reporter.)

3 (Recess.)

4 BY MR. AFFELDT:

5 Q All right. As you just indicated, Dr.
6 Podgursky, you've been reviewing this exhibit during the
7 break which is a copy of the Goldhaber and Brewer 2000
8 study, Does Teacher Certification Matter? And the
9 question was what does -- what do you mean by "modestly"
10 in your report on page 11 and you have indicated you're
11 looking at Table 4.

12 A Okay. First, let's go over to -- We need to go
13 to table -- Table 1 and -- Woops. Okay. If you read
14 across look at the twelfth grade test score. Do you see
15 he's -- he's reporting them -- The first row, the upper
16 number is the mean of the twelfth grade test score and
17 in parentheses is the standard deviation. And as you
18 read across now he's got it broken out for the different
19 types of teachers, but the biggest group is standard
20 certification, but it's around 13, 13 to 14.

21 Q On the standard deviation?

22 A Yeah. So notice it's 13.49, 12.88, 13.76,
23 14.35, 13.03, so it's around 13-1/2 say. So that's what
24 the standard deviation is.

25 So if you go back to his coefficient -- Now go

1 A That's correct.

2 Q And we don't know how much of the result could
3 have been the ninth grade teacher?

4 A That's correct.

5 Q On the third sentence of the second full
6 paragraph on page 11 you state:

7 "Teachers holding math certification on
8 average produced gains that were only modestly
9 higher than those of math teachers who reported
10 that they held private school certification or
11 certification out of subject."

12 When you say "modestly," what do you mean?

13 A I don't remember. My recollection was the
14 coefficient was small but I don't remember what the
15 magnitude was. I'd have to go back and look at the
16 study.

17 Q You can look at it.

18 We will mark this as --

19 MS. DAVIS: Do you need to take a break or
20 anything?

21 MR. AFFELDT: Do you want to take a break?

22 MS. DAVIS: I just want to see -- We have been
23 going like an hour and 20 minutes.

24 THE WITNESS: Let me take a quick break.

25 MR. AFFELDT: All right.

1 to Table 4.

2 Q Tell us what Table 1 is --

3 A Oh. I'm sorry.

4 Q -- representing.

5 A Table 1 gives the means and standard deviations
6 of his variables in the study, or some of the main
7 variables, and the first row is a twelfth grade test
8 score so that's your dependent variable. And so the
9 mean -- it doesn't -- The mean doesn't matter. It's an
10 example. It's a scale score. I don't know what it is.
11 It's some score. The important thing is the standard
12 deviation for our purposes; okay? And so the number in
13 parentheses is a standard deviation; okay?

14 So what we want to do is compare the
15 coefficient to the standard deviation, in that way it
16 will give a sense of how big it is. So that's like an
17 effect size in terms of the ed research literature.

18 Q Did you only look at twelfth grade test scores
19 or did you look at tenth grade test scores, too?

20 A Well, he's -- but the -- If you're going to
21 look at his coefficient, you want to compare his
22 coefficient to the standard deviation of twelfth grade
23 scores because that's what you're analyzing. I don't
24 know. What does the tenth grade say? Well, it's not
25 relevant because the -- your regression, you're

1 running -- you're analyzing the effect of teacher
 2 characteristics on twelfth grade scores, so it's a
 3 twelfth grade standard deviation that matters.
 4 A Okay? So can we go back to Table 4 now?
 5 Q All right. Which is Random Effects Estimates
 6 of Twelfth Grade Standardized Tests?
 7 A Right. So if you go over, his discussion of
 8 the impact of certification, as I'm sure you're aware,
 9 is on the next page and what he's discussing are those
 10 random effects of estimates. So this is a little bit
 11 tricky to follow, but all of these numbers that pertain
 12 to certification are relative to standard certification
 13 in math; okay? So in other words, if you have
 14 probationary certification in math, you actually on --
 15 average your students scored 1.29 points, these are
 16 points, scale score points, higher than if you had
 17 regular certification. If you had emergency
 18 certification --
 19 Q Which line are you looking at when you --
 20 A Probationary Certification and Subject, 1.29.
 21 So that says probationary cert- --
 22 Q Got it.
 23 A Okay. So that's saying the effect of
 24 probationary certification, actually your students
 25 actually do better than -- than if you had regular

1 certification. Emergency certification has a positive
 2 sign as well, .58. Now, notice -- go to the next -- the
 3 number in parentheses. It's not statistically
 4 significant; okay? So that's the t value, absolute t
 5 value in parentheses. So it's not statistically
 6 significant but it's not negative, the point estimate
 7 isn't negative.
 8 Now, the result he's -- he emphasizes in the
 9 discussion and what you -- the sentence you read was how
 10 do these -- the students actually do a little worse.
 11 Let's look at not certified in the subject. So they did
 12 1.35 points lower on average worse if the teacher was
 13 not certified in math as compared to if the teacher was
 14 certified in math, had regular math certification. So
 15 that -- the 1.35, negative 1.35, is the relevant number.
 16 So is that big or large? Well, if you go to the text he
 17 points out that that's about 10 percent of a standard
 18 deviation on the twelfth grade test. That's just about
 19 in the middle of the column of -- you know, on page
 20 139. Do you see it?
 21 Q This is equivalent to about 10 percent of the
 22 standard deviation of twelfth grade tests?
 23 A Right. Okay. And that of course is consistent
 24 with what we saw in the table, that it was about -- 1.35
 25 is about 10 percent of 13.

1 Now, a 10 percent -- a .1 standard deviation
 2 effect is not considered to be a large effect. It's
 3 modest. So that's the basis of my statement, a .1
 4 standard deviation effect is not a big effect.
 5 Q In the parentheses next to the negative 1.35,
 6 Not Certified Subject column, the number there is 1.99?
 7 A Yes.
 8 Q That's the standard deviation?
 9 A No, that's the t statistic. So it's -- it's
 10 the ratio of the coefficient to the standard error.
 11 Q Is that -- I believe you told us yesterday if
 12 it's more than 1.65 it's statistically significant?
 13 A Yeah, if it's 1 --
 14 Q That would be .05 level?
 15 A No. 1.645 is the 10 percent. This would make
 16 it at the 5 percent. 1.96 is 5 percent. So it's
 17 significant at a 5 percent level; which is okay, it
 18 passes. So it's statistically significant. But the
 19 effect as I indicated, I -- I believe it's modest, .1
 20 standard deviation is not considered to be a large
 21 effect.
 22 Q In the next sentence in your report on page 11
 23 you say:
 24 "On the other hand, math teachers with
 25 emergency certification did no worse than

1 teachers with regular certification."
 2 Do you know from where the researchers obtained
 3 their data on certification status for the study?
 4 A I -- I believe it's reported by the teachers in
 5 the survey.
 6 Q So it's from the NELS database, also?
 7 A Yes. And there's a teacher component of the
 8 NELS and that's where they ask the teachers about all
 9 these things -- do you have a master's degree, years of
 10 experience, and so on.
 11 Q And what's your basis for saying from this
 12 report that math teachers with emergency certification
 13 did no worse than teachers with regular math
 14 certification?
 15 A It's the fact that the emergency certification
 16 in subject, the coefficient is .58, which of course is
 17 the wrong sign for the -- but it's not statistically
 18 significant, so the t value's .7.
 19 MS. DAVIS: I was going to say the document
 20 speaks for itself.
 21 THE WITNESS: And it is true, the document
 22 speaks to itself.
 23 BY MR. AFFELDT:
 24 Q Can we tell from the NELS database what
 25 additional course work teachers need to move from

1 emergency certification to regular certification?

2 A I don't believe so.

3 Q So we don't know if they need additional
4 subject matter course work or pedagogical course work?

5 MS. DAVIS: From NELS?

6 MR. AFFELDT: From NELS.

7 THE WITNESS: I don't believe that information
8 is available in NELS. Well, you do -- Remember that
9 he's controlling for whether you have a -- a major in
10 the subject or not so he's controlled whether -- for --
11 he's controlled for whether you have a BA in math or an
12 MA in math, so he's partly controlled for this. But I
13 think there is some merit to what you're saying, that we
14 don't know why they're emergency certified. For some of
15 them that have a BA in math it certainly couldn't be
16 content knowledge. But if they don't have a BA or a MA
17 in math, then we don't know if their emergency status
18 derives from math courses or pedagogy courses so. . .
19 BY MR. AFFELDT:

20 Q Are you aware that the NELS data didn't allow
21 researchers to distinguish between those who are not
22 certified and those are not certified in their subject
23 area?

24 A Yes, I -- I read it in the article.

25 Q When you're talking in your report about

1 teachers with emergency certification in math.

2 Q That answers my question.

3 A Okay.

4 Q Have you ever looked back at the emergency
5 certification math data from NELS to determine what kind
6 of certification background those teachers in math had?

7 A I'm sorry. I don't understand -- Can you
8 repeat your question?

9 Q Have you looked into the NELS database to try
10 to determine if you could find out more information
11 about what kind of certification background those
12 teachers who said they were not certified in math
13 actually have?

14 A No, I haven't done that, no. I don't really
15 think you know much more than what's in this study as
16 far as certification. I think they were just asked, the
17 teachers that were teaching math, what's your
18 certification, and they were given a set of choices. I
19 don't think there's much more to know than what's in
20 this study, what's reported, as far as certification
21 status.

22 Q Is it possible that some of those emergency
23 certified math teachers held the standard certification
24 but not in math and were only emergency certified in
25 math?

1 teachers with emergency certification, are you talking
2 about any of the teachers in the not certified category?

3 A Well, the way this works is you're comparing
4 the effect of teachers who reported that they held
5 emergency certification as compared to teachers who were
6 not -- held no certification whatsoever or weren't
7 certified in math but were certified in something else.
8 So your benchmark is not certified in math or not
9 certified at all. That's all you know, is they weren't
10 certified in math versus those who are emergency
11 certified in math.

12 Q And when you use the term "emergency
13 certification," are you referring to teachers with
14 emergency certification in math?

15 A Well, as I read this study, emergency
16 certification in NELS they were asked do you hold
17 emergency certification in math if you were a math
18 teacher or do you hold emergency certification in
19 science if you were a science teacher.

20 Is that addressing your question?

21 Q I believe so if in fact when you're using your
22 sentence that's --

23 A Oh, well, I'm just describing what Goldhaber
24 and Brewer find, and so when I say math teachers with
25 emergency certification, well, by that I mean math

1 A Yes.

2 Q Do you know anything about the experience level
3 of any of the teachers who identified themselves as
4 emergency certified in math?

5 MS. DAVIS: Vague and ambiguous.

6 THE WITNESS: As I recall that may have been
7 discussed in Professor Darling-Hammond's rejoinder.
8 They looked at some of the characteristics of the
9 teachers who reported these different levels. I don't
10 remember what the -- what the -- what the result was but
11 I vaguely remember this came up in -- or it might have
12 come up in the interchange, their rejoinder, Goldhaber
13 and Brewer.

14 BY MR. AFFELDT:

15 Q That's not something you've looked at?

16 A No, I did look at it. I reviewed that. I
17 reviewed the interchange and I believe I cited it. I
18 know I cited it.

19 Q My question was -- I appreciate the fact that
20 you read the -- Dr. Darling-Hammond's interchange with
21 Goldhaber and Brewer. But have you yourself gone back
22 to look at the data that tried to analyze what kind of
23 experience the emergency certified math teachers had?

24 A No, I did not.

25 Q Do you know whether many of those emergency

1 certified math teachers were out-of-state teachers
 2 waiting for new credentials?
 3 A I do not know.
 4 Q Do you know whether many of those emergency
 5 certified math teachers were simply teaching out of
 6 field?
 7 A What do you mean by that? You mean they were
 8 certified in something else?
 9 Q I mean -- Exactly, they were certified in
 10 something else but were teaching out of field.
 11 A I -- I -- I do not know.
 12 Q Do you know whether any of the emergency
 13 certified in math teachers had education training
 14 comparable to that of the certified math teachers?
 15 MS. DAVIS: Calls for speculation.
 16 THE WITNESS: I believe that that argument was
 17 made by Professor Darling-Hammond in her rejoinder.
 18 I don't have it in front of me but I believe they --
 19 they looked at that issue, but I don't know. I haven't
 20 looked at it.
 21 BY MR. AFFELDT:
 22 Q Do you know what percentage of the teachers
 23 characterized as emergency math teachers had little or
 24 no education training?
 25 MS. DAVIS: Vague and ambiguous.

1 THE WITNESS: I don't -- I don't know that,
 2 no.
 3 BY MR. AFFELDT:
 4 Q Do you know what percentage of the emergency
 5 certified math teachers had only subject matter
 6 training?
 7 A No.
 8 Q Do you have an opinion as having looked at the
 9 Professor Darling-Hammond's analysis of that
 10 information, do you have an opinion on her analysis?
 11 A I think that she had some good points in the
 12 rejoinder. I think you have problems with self-reported
 13 data from teachers on their certificate because for
 14 the -- as she pointed out and as I've pointed out, these
 15 are really complicated systems and teachers may -- may
 16 give incorrect answers not because they don't -- they
 17 pass under different names so there could be measurement
 18 error here.
 19 Q Do you recall how many emergency certified math
 20 teachers we're talking about here?
 21 A It wasn't a large number in the survey.
 22 Professor Darling-Hammond reported it. I don't
 23 remember.
 24 Q Assuming it's under 40, is that a big enough
 25 sample of emergency certified math teachers to be able

1 to draw a meaningful conclusion from?
 2 MS. DAVIS: Vague and ambiguous. Calls for
 3 speculation.
 4 THE WITNESS: Well, it's built into the t
 5 statistics that are reported here, but it's small and I
 6 would like to see these kinds of results replicated in
 7 other studies particularly in single states. If you
 8 look at the paper I gave you by Hanushek, he makes the
 9 strong case that you should do single state studies when
 10 you're looking at these teacher characteristics because
 11 then you get around this problem of, well, you know,
 12 comparing certification between states when the
 13 standards differ so much and the labels and so on.
 14 So I think it's -- I think there are
 15 limitations to the data. I think they did the best they
 16 could with the data but the data, it's a relatively --
 17 relatively small numbers of teachers involved when we're
 18 looking at these certification variables.
 19 BY MR. AFFELDT:
 20 Q When you say it's a relatively small number of
 21 teachers, does that give you pause -- Strike that. I
 22 think you just answered that.
 23 In your report on page 11, the second to the
 24 last -- in the second to last sentence from the bottom,
 25 it's in the text, not in the footnote, you characterize

1 Dr. Darling-Hammond as having criticized Goldhaber and
 2 Brewer, as well as Raymond but my question here deals
 3 with Goldhaber and Brewer, as invalid.
 4 In fact, wasn't Dr. Darling-Hammond
 5 reinterpreting the data that Goldhaber and Brewer
 6 reported as opposed to claiming that their study was
 7 invalid?
 8 MS. DAVIS: Vague and ambiguous.
 9 THE WITNESS: Well, you could discuss what
 10 choice of words. I mean Darling-Hammond made the point
 11 that you just made, that there aren't enough emergency
 12 certified teachers in the study to draw conclusions. So
 13 you could say -- you could say the conclusions were
 14 invalid. I think that's a fair way of saying what
 15 Professor Darling-Hammond was saying and I -- I -- I
 16 interpret what she's saying as you really can't learn
 17 much about teacher certification -- the effect of
 18 teacher certification on student achievement from NELS
 19 because you've got -- or particularly things like
 20 emergency certification and probationary and so on
 21 because you've got small numbers and standards vary
 22 across states and there may be reporting error. That's
 23 what I interpret her saying and so I -- Invalid, I think
 24 she believes the conclusions are invalid and the data is
 25 of limited value in addressing the question of student

1 achievement effects.
 2 BY MR. AFFELDT:
 3 Q So your point about her believing the study's
 4 conclusions were invalid, using your term, pertain to
 5 the study's findings regarding emergency certification
 6 provisional and probationary --
 7 A Yes.
 8 Q -- teacher?
 9 Do you think she was claiming that the other
 10 conclusions in the studies regarding certified teachers
 11 was invalid?
 12 MS. DAVIS: Calls for speculation.
 13 THE WITNESS: Well, I think the thrust of what
 14 she was saying calls into question any use of a survey
 15 to -- to analyze the effect of certification status on
 16 student achievement because she argued that -- I mean I
 17 quoted her at length in here saying the standards vary
 18 across states so you have problems in comparing. You
 19 know, what's emergency in one state is equivalent to
 20 regular certification in another, which means everything
 21 is misclassified is the upshot of what she's saying, so
 22 how are you going to determine one kind of certification
 23 versus another.
 24 So I interpret her as saying you really cannot
 25 learn very much about the effect of certification on

1 student achievement. If you can't put teachers in the
 2 right box as to what kind of certification they have,
 3 then you're -- you're not going to be able to draw any
 4 inferences about what the effect on student achievement
 5 is.
 6 MS. DAVIS: We need to wrap this up very
 7 shortly. We're after 5:00.
 8 MR. AFFELDT: Yes. Well, then, this is
 9 probably a good place to stop for the day.
 10 MS. DAVIS: What -- What's your estimate now?
 11 We tried to gauge yesterday at the end of the day. What
 12 are you thinking now?
 13 MR. AFFELDT: I'm thinking that it's possible I
 14 may conclude tomorrow. It may go over.
 15 MS. DAVIS: Okay.
 16 MR. AFFELDT: I don't -- I don't think I'll go
 17 a full day on Friday.
 18 MS. DAVIS: Okay. We're just going to have
 19 him, you know, start looking at flights and what the
 20 different options are.
 21 MR. AFFELDT: Okay.
 22 MS. DAVIS: Okay. All right.
 23 (The stipulation from the deposition of
 24 Michael John Podgursky, Volume 4, is
 25 incorporated as follows:

1 "MS. DAVIS: We will notify you, the court
 2 reporter, of any changes within 45 days of
 3 receipt of the transcript.
 4 "All else is per the code?"
 5 "MR. AFFELDT: Right."
 6 "MS. DAVIS: Okay."
 7 "MR. AFFELDT: Which is the court reporter
 8 is going to keep the original and will send a
 9 copy to the deponent's attorney, Ms. Davis,
 10 with an errata sheet and the court reporter
 11 will notify all parties of any changes to the
 12 original and will send a certified copy
 13 to Ryoko Kita, R-y-o-k-o K-i-t-a, at Morrison &
 14 Foerster San Francisco.")
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 9 I, MICHAEL JOHN PODGURSKY, do hereby
 10 declare under penalty of perjury that I have read the
 11 foregoing transcript of my deposition; that I have made
 12 such corrections as noted herein, in ink, initialed by
 13 me, or attached hereto; that my testimony as contained
 14 herein, as corrected, is true and correct.
 15 EXECUTED this ____ day of _____,
 16 20____, at _____, _____.
 17 (City) (State)
 18
 19
 20 MICHAEL JOHN PODGURSKY, Ph.D.
 21 Volume 3
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I, the undersigned, a Certified Shorthand Reporter of the State of California, do hereby certify:

That the foregoing proceedings were taken before me at the time and place herein set forth; that any witnesses in the foregoing proceedings, prior to testifying, were placed under oath; that a verbatim record of the proceedings was made by me using a machine shorthand which was thereafter transcribed under my direction; further, that the foregoing is an accurate transcription thereof.

I further certify that I am neither financially interested in the action nor a relative or employee of any attorney of any of the parties.

IN WITNESS WHEREOF, I have this date subscribed my name.

Dated: _____

CAROL ANN NELSON
CSR No. 6974