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1 IN THE UNITED STATES DISTRICT COURT
2 FOR THE MIDDLE DISTRICT OF PENNSYLVANIA
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5 TAMMY KITZMILLER; BRYAN AND
6 CHRISTY REHM; DEBORAH FENIMORE
7 AND JOEL LIEB; STEVEN STOUGH;
8 BETH EVELAND; CYNTHIA SNEATH;
9 JULIE SMITH; AND ARALENE
("BARRIE") D. AND FREDERICK B.
CALLAHAN,

Plaintiffs,

10

vs.

Case No. 4 CV 04-2688

11

12 DOVER AREA SCHOOL DISTRICT;
13 DOVER AREA SCHOOL DISTRICT
14 BOARD OF DIRECTORS,

Defendants.

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17 DEPONENT: DICK M. CARPENTER, II, Ph.D.
18 DATE: Tuesday, May 17, 2005
19 TIME: 9:39 a.m.
20 LOCATION: 100 Renaissance Center, 36th Floor
21 Detroit, Michigan
22 REPORTER: Elizabeth G. LaBarge, CSR-4467
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1 APPEARANCES:

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1 Detroit, Michigan
2 Tuesday, May 17, 2005
3 9:39 a.m.

4 * * *
5 D I C K M. C A R P E N T E R, I I, P h, D.
6 having been first duly sworn, was examined and testified
7 as follows:

8 E X A M I N A T I O N

9 BY MR. WALCZAK:
10 Q My name is Vic Walczak, I am one of the attorneys for
11 the plaintiffs in the case of Kitzmiller versus Dover
12 Area School District. How are you today?
13 A Good, thank you.
14 Q How would you prefer that I address you?
15 A Whatever you're most comfortable.
16 Q Actually, I'm doing it for your comfort.
17 A Okay. Just call me Dick.
18 Q Dick?
19 A Yeah.
20 Q Okay. Is this your first ever deposition?
21 A No, this is the second.
22 Q What was your first deposition?
23 A It was a case, Hanson v. Ann Arbor Schools, I think.
24 Q And who deposed you in that case?
25 A The name of the attorney?

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- 1 Q Who did the attorney represent?
2 A Ann Arbor Schools.
3 Q What was the nature of that case?
4 A The student was suing the school for free speech and
5 religious freedom issues.
6 Q And were you representing the plaintiff or the
7 defendants?
8 A In that case, it was the plaintiff.
9 Q We're going to be here most of the day, I think, and I
10 want to make sure you're comfortable. There are cold
11 and hot drinks there. If at some point you need a
12 break, which I think we're all going to need breaks,
13 feel free to ask. I would just ask that you not request
14 a break immediately after I've asked a question.
15 A Okay.
16 Q So if you need a break, wait until you've given an
17 answer to the question. Or if you're waiting for my
18 next question, then by all means, we'll take a break.
19 If you don't hear something that I said or if you
20 don't understand my question, I'd ask that you tell me
21 and I'll either say it louder or I'll rephrase it, but
22 if you answer the question, I'm going to have to assume
23 that you both heard and understood it, is that fair?
24 A Yes.
25 Q The other thing is that Beth is really, really good, but

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1 she cannot take down nods of the head or shrugs of the
2 shoulders and so your responses need to be audible.
3 A Yes.
4 Q And I've also heard that as good as she is, that she
5 cannot take down both of us talking at the same time, so
6 I'm going to try to wait until you respond and I ask
7 that you wait until I've finished my question.
8 A Understood.
9 Q Any questions for me before we start?
10 A Not yet.
11 Q Last chance, because I'm the one doing the questioning
12 here.
13 MR. WALCZAK: Can we mark this as Plaintiff's
14 Exhibit 1?
15 (Exhibit Number 1 was marked for identification.)
16 BY MR. WALCZAK:
17 Q I show you what's been marked as Exhibit 1.
18 Do you recognize this?
19 A Yes.
20 Q What is it?
21 A That's an expert report.
22 Q Whose expert report?
23 A Mine.
24 Q Is this something you've submitted in this Dover
25 litigation?

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1 A Correct.
2 Q And this contains your opinions about the case?
3 A Correct.
4 Q We're going to spend the bulk of the day going over this
5 report.
6 A Understood.
7 Q I guess what I'm not clear on is your area of expertise.
8 What are you an expert in?
9 A In this particular case, education policy, practice,
10 pedagogy.
11 Q Is that all of those things?
12 A Correct.
13 Q When you say "in this case," are you a different kind of
14 expert in another case?
15 A It depends on the case. I might be able to talk about
16 the U. S. presidency, for example, I do research on that
17 area.
18 Q So what are your areas of expertise?
19 A In this particular case?
20 Q Generally.
21 A Okay. Well, I do research and teach in areas around
22 educational leadership --
23 Q What's that?
24 A Educational leadership considers issues around the
25 leadership and management of schools and school

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1 districts, decision-making, both in the global sense of
2 just leadership and management, but also specific to
3 schools and school districts.
4 Q Do you recognize an area known as science education?
5 A I'm not sure I understand what you mean by "recognize."
6 Q Is there an area of expertise that would be called
7 science education?
8 A Um-hmm, yes, that's correct.
9 Q And do you have expertise in that area?
10 A Not specific to science education.
11 Q What do you mean, what expertise do you have at all
12 about science education?
13 A Well, that's what I mean, not specific to science
14 education, but more globally to issues of education and
15 curriculum and pedagogy as it relates to schools.
16 Q But you recognize that there is a -- I guess a
17 subspecialty of education on science education?
18 A Yes, a sub-discipline, correct.
19 Q Thanks for correcting my terminology.
20 But you are not an expert in the sub-discipline of
21 science education?
22 A Not in science education, correct.
23 Q More generally in education?
24 A Yeah. When you're -- educational leaders are
25 generalists by nature. When you work as a school

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1 principal, you have to be conversant in all types of
2 pedagogy, pedagogy as it applies to all kinds of
3 disciplines and sub-disciplines, so leadership and
4 policy inevitably will deal with pedagogy as it applies
5 to all classrooms.

6 Q But there are, for instance, specific courses taught in
7 science education?

8 A In colleges of education, for example? Yes.

9 Q I'd like for you to tell me all of the opinions that you
10 have arrived at in this case?

11 A Do you mean you want me to walk through this document?

12 Q Whichever way you'd like. I want to go through and
13 understand every opinion that you are prepared to
14 advance if this case goes to trial about the Dover Area
15 School District's new policy.

16 And let's just get our definitions straight. What
17 we're talking about is the policy passed by the School
18 Board on October the 18th, 2004, plus any attendant
19 implementation of that policy. So when I say "policy,"
20 it's everything the School District is doing to further
21 that October 18th Board statement.

22 MR. THOMPSON: Objection. That does not
23 characterize the issue here because the Complaint that
24 was filed by the plaintiffs talked about the press
25 release that was dated November 19th, I believe, and

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1 that included both the resolution and the following
2 policy that was developed as a result of it, so I think
3 that is the policy, if I'm not mistaken.

4 MR. WALCZAK: Well, I want to define this as
5 broadly as we can to include everything that the School
6 District is doing pursuant to that one-sentence
7 statement that was passed on October the 18th, and that
8 would include the November 19th press release and the
9 statement that the teachers read. Am I missing
10 something?

11 MR. THOMPSON: Yes. What I'm trying to point to is
12 that the Complaint itself specifically is focused on the
13 November 19th, 2004, press release, that is what the
14 policy is that has been complained about, and that is
15 what this lawsuit is all about, whether that policy is
16 unconstitutional, as you have alleged. So going beyond
17 that, I think, is not a fair characterization of the
18 lawsuit.

19 MR. WALCZAK: Well, I'm not doing this for purposes
20 of characterization of the lawsuit, I'm doing this so
21 that we can be on the same page in the questions. And I
22 would reject your characterization of our lawsuit. We
23 are challenging what's colloquially known as the
24 intelligent design policy of the Dover School District,
25 and that includes everything they've done in furtherance

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1 of that.

2 So what I'd like to do is -- and maybe the best way
3 to do this is to ask Dick about what it is he has
4 considered in constructing his opinions, and I'll do
5 that --

6 MR. THOMPSON: Sure.

7 MR. WALCZAK: -- in short order.

8 MR. THOMPSON: The other objection I have is that
9 he has prepared an expert report and the document speaks
10 for itself, unless you just want him to go ahead and
11 read what he said.

12 MR. WALCZAK: No, I want to make sure I understand
13 what it is that his opinions are on this.

14 MR. THOMPSON: Fine.

15 BY MR. WALCZAK:

16 Q So I'm going to ask you about the Dover School Board's
17 intelligent design policy as I'm going to call it, and
18 we'll come back to how you want to define that later,
19 but why don't you tell me -- again, you've obviously
20 looked at this and come up with some opinions. Let's go
21 through your opinions.

22 MR. THOMPSON: And I just want the record to make
23 clear I also object to the characterization of the
24 School Board policy as the intelligent design policy and
25 my continuing objection to those characterizations.

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1 MR. WALCZAK: That's fine.

2 BY MR. WALCZAK:

3 Q You can go ahead and answer.

4 A Okay. Well, then I'll just walk through this then.

5 Q However you'd like.

6 A Okay. Well, first, in speaking about the policy, one of
7 the ways to think about policy is what incentives does a
8 policy create or what behaviors, for example, what goals
9 does it set out, and one of the goals that might be
10 perpetuated in this policy is the idea of critical
11 thinking. And as in the report, there are different
12 definitions of critical thinking.

13 One that I include is that it's the ability to
14 explore a problem, question, or situation, integrate all
15 the available information about it, arrive at a solution
16 or a hypothesis, and justify one's position. And then I
17 include also in the report some different ways that one
18 might think about it in terms of a structure around
19 ideas of critical thinking. So what we see here is a
20 policy that would encourage students to think critically
21 about what they read and hear and learn in a classroom
22 and outside of a classroom. So that's the first thing.

23 The second thing is how can we -- in education, we
24 often talk about how can we encourage students to assume
25 responsibility for their own learning. Rather than

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1 creating a passive one-way relationship in learning, how
2 can we encourage students to take more responsibility
3 and ownership in their learning. And this policy,
4 statement, whatever we're calling it, does that, as
5 well, or encourages that amongst students.

6 The third thing is that it's aligned with various
7 standards. For example, the Pennsylvania standards
8 specifically state that students needs to know and
9 assume they will be tested on evolution, and the policy
10 makes it very clear that's what's going to be taught in
11 class, and I assume that the implementation of it is
12 consistent that what's going to be taught in class is
13 evolution according to the Pennsylvania state standards.
14 But also, the standards say this, that students should
15 be taught to critically evaluate the status of existing
16 theories and then it has various examples. One of those
17 is the theory of evolution. So pursuant to that
18 particular part of the standards, it's encouraging
19 students to critically evaluate the status of a theory.
20 In this case, the theory in question is evolution.

21 And then finally, there was a part of No Child Left
22 Behind that talks about the issue of discussing with
23 students contemporary issues and controversies
24 surrounding contemporary issues, and so this policy is
25 consistent with that understanding from No Child Left

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1 Behind.

2 Q Anything else?

3 A Oh, I guess the last thing would be the policy also
4 talks -- well, I guess I already addressed that, the
5 idea of critically evaluating the status of existing
6 theories, the notion that the theory of evolution is, as
7 the National Science Education Standards call it,
8 incomplete, so helping students understand that it's not
9 fact, ironclad, but in fact is a developing theory.

10 Q So that would be -- that last one would be your fourth
11 point on page 3 of your expert report?

12 A Correct, right.

13 Q Your report also mentions introducing multiple ways of
14 knowing?

15 A Yes.

16 Q You didn't discuss that. Is that an opinion you still
17 hold?

18 MR. THOMPSON: The first page.

19 A Oh, yes, correct, right, yep.

20 BY MR. WALCZAK:

21 Q Explain that to me?

22 A The three dollar word is epistemology. I define that in
23 my research and stats class just as you said it, there
24 are multiple ways of knowing and describing the world,
25 reality, if you will, and there are different

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1 understandings amongst different members of the
2 community, research community, and outside of the
3 research community, as well, so introducing students to
4 this awareness, this understanding that there are
5 multiple ways of knowing, there are different
6 epistemologies.

7 Q Is that concept appropriate in science class?

8 A It's appropriate in any class, in any curriculum,
9 pedagogy, that students understand the different ways of
10 knowing and understanding.

11 Q We're going to come back to that.

12 Do you have kind of -- I mean, it strikes me these
13 are all sub-opinions of your grand opinion, which is
14 that teaching problems and gaps in the theory of
15 evolution, making students aware of alternative theories
16 such as intelligent design, and making resources
17 available to students to pursue independent inquiry
18 promotes legitimate pedagogical and educational goals,
19 and therefore enhances student learning.

20 Is that kind of your penultimate conclusion here?

21 A I assume you're reading from the report?

22 Q I'm reading from what I think is your report. That
23 would be on the second to last paragraph on page 4.

24 A Um-hmm. I'm sorry, yes.

25 Q And that's kind of your penultimate conclusion?

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1 A Correct.

2 Q Any other opinions that you have formed for this case,
3 anything since you wrote the report?

4 A No, I think we should leave it at that.

5 Q When you say "leave it at that," so you have no other
6 opinions that you're prepared to advance about this
7 case?

8 MR. THOMPSON: Objection. It's a vague, ambiguous
9 question.

10 If you can answer it, go ahead.

11 A I guess that's why I'm somewhat equivocating, because
12 I'm not sure I understand what you're asking.

13 BY MR. WALCZAK:

14 Q We've just discussed what I'm calling your penultimate
15 opinion and a number of sub-opinions, is that a fair
16 assessment? I mean, you talk about promote critical
17 thinking, you talk about encouraging students to assume
18 responsibility, alignment with Pennsylvania state
19 science standards, alignment with No Child Left Behind,
20 accuracy in helping students understand that evolution
21 has gaps and problems, promote multiple ways of knowing,
22 with kind of the penultimate standard that the Dover
23 policy and ultimate opinion that the Dover policy in
24 fact is sound pedagogy?

25 A Correct.

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1 Q Are there any other kind of ultimate opinions, as I call
2 them, or sub-opinions that you would like to add?

3 A Not at this time.

4 Q And if at some point you come up with more, of course,
5 you'll let counsel know and counsel will let us know?

6 MR. WALCZAK: Is that a yes?

7 MR. THOMPSON: Yes, if you ask the question. Now,
8 what I'm objecting to, it's such a vague question that
9 if you ask him does he have an opinion on a particular
10 topic, I think he can answer, but when you have such a
11 general question, it's pretty hard to answer.

12 MR. WALCZAK: Right now what I've gotten is that
13 Dick has agreed, in essence, that his opinions are what
14 they've been stated in the report. To the extent they
15 go broader than that, I'm asking that you advise me of
16 that fact and then we can decide whether or not to
17 resume the deposition.

18 MR. THOMPSON: Correct. Fine, we can do that.

19 BY MR. WALCZAK:

20 Q What I'd like to do now is to explore everything you did
21 to come up with your opinions in this case, what is it
22 that you looked at, why you looked at it, and when. So
23 why don't you take me through sort of what you did to
24 come up with these various opinions we've just
25 discussed?

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- 1 A Okay. Well, first was to look at the policy and the
2 statement that's read to the students and the press
3 release that was pursuant to that.
- 4 Q Let me stop you. I'm going to probably interrupt a lot
5 here and I apologize.
- 6 A Okay.
- 7 Q I think we need to get some definition.
- 8 When you say look at the policy, what are you
9 referring to?
- 10 A The policy that was part of the press release as it's
11 written, students will be made aware of gaps and
12 problems in Darwin's theory and of other theories of
13 evolution, including but not limited to intelligent
14 design, the origins of life is not taught.
- 15 Q So you looked at the November 19th press release?
- 16 A The statement included within -- yes, ultimately, yes,
17 correct, I was looking at the press release, and then
18 the policy statement that was part of that press
19 release, and then the statement that is read to
20 students, as well, which again is part of that press
21 release. So that's what I mean by policy and then the
22 statement that's read to students.
- 23 Q What else did you look at to consider the policy?
- 24 A Obviously, the press release. And then I did some
25 literature review on --

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1 Q Let's stop with the policy here. So you looked at the
2 November 19th press release which includes that
3 four-paragraph statement that teachers read to students?
4 A Correct.
5 Q Did you look at the Board resolution passed on October
6 the 18th?
7 A If you're referring to this statement? Right there?
8 Q I'm not sure what "this" is.
9 A "This" being students will be made aware of gaps,
10 et cetera, et cetera.
11 Q Okay. So that does -- the press release includes that
12 October 18th --
13 A Policy statement.
14 Q Right. Anything else you looked at?
15 A So then we -- I looked at -- did a literature -- well, a
16 literature review, I guess, one might call it pursuant
17 to the issue at hand. As I listed in my report, I
18 looked at the Pennsylvania state standards, specifically
19 those that are related to science and technology. In
20 preparation -- I assume you're talking about in
21 preparation for the report?
22 Q Um-hmm.
23 A Okay. Also in preparation for the report I looked and
24 read through Dr. Behe's expert report which was
25 available at that time. I also looked at an excerpt

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1 from the course text.
2 Q What specifically did you look at?
3 A The portion of the book that talks about evolution
4 specifically. There's a page in the book that tells
5 readers this idea that evolution is a developing theory,
6 that there are questions, gaps, and so forth.
7 Q So the book is the Levine and Miller textbook?
8 A That is correct.
9 Q And did you look at just that page or did you read the
10 entire chapter?
11 A At that time, I looked at that page.
12 Q Which page is that, do you know?
13 A Page 386.
14 Q So that's the only page of the book that you looked at?
15 A For the report, yes.
16 Q And how did you decide to look at page 386?
17 A It was brought to my attention that in the book there
18 was reference to this particular issue around evolution.
19 Q Who brought it to your attention?
20 A One of the attorneys for the defense.
21 Q Who was that?
22 A Robert Muise.
23 Q And what did you learn on that page?
24 A Essentially as I described it, that Miller and
25 Levine -- or Levine, I don't know which is -- how he

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1 pronounces it, essentially as it describes, that
2 evolution is a developing theory, and that as new data
3 are released, that the theory continues to evolve, no
4 pun intended.
5 Q Was that something new to you?
6 A That evolution is a developing theory? No.
7 Q So I guess I'm not sure why you read it and what was the
8 significance of that page for you?
9 A Well, it was understanding that in the course text,
10 there is something related to the policy that the School
11 Board passed.
12 Q And so you didn't read the rest of the book?
13 A Not in detail, no.
14 Q Did you read it at all?
15 A The entire rest of the book?
16 Q Yeah.
17 A I mean, I skimmed portions. Not for the report, after.
18 Q Why did you do it after?
19 A To come to an understanding of kind of the tenor, the
20 text of the rest of the book, what it covers and so
21 forth.
22 Q But you didn't do that before you wrote the report?
23 A I didn't have it available to me before the report.
24 Q So the only thing you had available to you was that one
25 page that you got from Mr. Muise?

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- 1 A Correct.
- 2 Q What else did you look at?
- 3 A Well, the various references from the literature review
4 that are included in the report.
- 5 Q So that would be the references on Exhibit 1 at the
6 bottom of page 4?
- 7 A Correct. And then there are, obviously, others as part
8 of a literature review that you skim or read but don't
9 necessarily reference.
- 10 Q Let's go over those. What else did you skim or read to
11 prepare for this report?
- 12 A Other various articles related to what you see here in
13 the references.
- 14 Q References -- I'm sorry, you've got to unpackage that
15 for me.
- 16 A Sure. The references on page 4, there are other
17 articles that are related to things that you see here.
18 For instance, Petress, Ken Petress's work, there are
19 other references that said very similar things to
20 Petress. I didn't reference those because it would be
21 redundant.
- 22 Q What I'd like to do is go over those. What were those
23 sources?
- 24 A I couldn't even tell you. I couldn't tell you by name.
- 25 Q Why?

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- 1 A Oh, I didn't commit them to memory.
- 2 Q Are these not well known --
- 3 A Well, very few of these would be well known to the
4 general public. I only referenced or was prepared to
5 talk about those things that I've cited specifically.
6 In a literature review, you'll typically skim or read
7 through tens, dozens, scores, hundreds of different
8 things, but that doesn't necessarily mean you've
9 prepared to be conversant about those that you didn't
10 necessarily reference.
- 11 Q Which ones did you end up consulting to write this
12 report?
- 13 A Those that are listed in the reference section.
- 14 Q It's really important for me to understand what else you
15 looked at in trying to figure out this report. I mean,
16 what kind of texts are we talking about?
- 17 A Well, that's what I'm saying, when I say they're related
18 to what you see here, they're things that are like what
19 you see in the reference section, so they're articles
20 like you see listed here or book chapters like you see
21 listed here.
- 22 Q But you can't name any others that you consulted?
- 23 A How do you define "consulted"?
- 24 Q Read, skimmed, looked at in preparation for this report.
- 25 A No, I could not, I did not commit them to memory. You

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1 have to understand, in a literature review, you skim or
2 read just gobs of things, but you're not necessarily
3 prepared to use them, you're just looking to make a
4 value judgment, would I use this, is this good, bad
5 information, is it related to this. Because when you're
6 doing a literature review, you see a title in a data
7 base and the title may be something that would relate to
8 this topic and it may not be, so you have to inevitably
9 open it and skim it to see, okay, is this related, is it
10 not related.

11 Q So the seven references listed on page 4 of your report,
12 those are the key pieces of literature that you actually
13 consulted and relied on in producing your opinions?

14 A Correct.

15 Q What else did you do to prepare for this report?

16 A Well, inevitably there's kind of the thinking and
17 analysis that goes into it, so taking into account these
18 things that you see listed here, taking into account my
19 own --

20 Q Wait. When you say "listed here," what are you --

21 A I'm sorry. The references on page 4.

22 Q Okay.

23 A The experiences that I have had as a principal, things
24 that I've written about or taught or read just in
25 general about pedagogy and learning and leadership and

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1 decision-making and so forth, through that frame or that
2 filter came to conclusions and analyzed those into this
3 report.

4 Q Did you look at anything else?

5 A By anything else, do you mean other references?

6 Q Did you talk to anybody about this matter?

7 A By anybody, what do you mean by anybody?

8 Q The world.

9 A That's pretty big. If you mean any --

10 Q Did you talk to a lot of people?

11 A No, certainly not.

12 Q Who did you talk to in thinking about what you say in
13 this report?

14 A Obviously, I was talking to the counsel for the defense
15 to understand what was going on.

16 Q Is that Mr. Muise?

17 A Correct.

18 MR. WALCZAK: And I think we have an agreement that
19 we're not going to inquire as to communications. Is
20 that your understanding, Dick?

21 MR. THOMPSON: Correct.

22 BY MR. WALCZAK:

23 Q So you talked to Mr. Muise?

24 A Um-hmm.

25 Q Who else did you talk to?

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1 A That was it.
2 Q That was it?
3 A Yep.
4 Q Did you talk to anybody else at your school?
5 A No.
6 Q Did you go to any conferences about this?
7 A Specific to this? No.
8 Q Is there anything else that you feel that you need to do
9 before you go to trial and testify on this case?
10 A Well, having never done that --
11 Q "Done that" being?
12 A Being gone to trial to testify in a case, I don't know
13 that I -- it would all be theorizing at this point, it
14 would all be supposition.
15 Q How comfortable are you with your opinions here?
16 A Well, comfortable enough that I would put them in print.
17 Q So you're certain that you've come to the right opinion
18 here?
19 A As certain as one can be with available information.
20 Q And the available information is what you've looked at
21 here and what we've just discussed?
22 A Correct.
23 Q Well, let me rephrase my last question. And Dick
24 Thompson will certainly correct me if I'm misadvising
25 you here. But right now we're scheduled to go to trial

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1 on September the 26th. It doesn't look like there's
2 going to be an amicable resolution to this, so we're
3 pretty much expecting this is going to go to trial.
4 You're going to be asked to come to the stand
5 presumably, I don't know that you're committed to do
6 that, but we expect that you will be called to present
7 these opinions in court. Again, you'll be under oath
8 and there will be a judge.

9 Is there anything else that you would do that you
10 haven't already done to prepare yourself for that trial?

11 A Well, again, I'm just theorizing, I'm guessing. I would
12 be interested in certainly reading through other
13 depositions and seeing what others have to say.

14 Q When you say other depositions, whose depositions?

15 A Of the expert witnesses.

16 Q Why?

17 A Just as I read all of the expert reports after this
18 report, I've come to some understanding of the facts in
19 the case and other opinions in the case.

20 Q So you've in addition to the things we've discussed,
21 since the report, you have read which expert
22 depositions?

23 A All of them.

24 MR. THOMPSON: He meant expert reports. I thought
25 you said depositions.

00028

1 MR. WALCZAK: I did say depositions, but thank you,
2 I stand corrected.

3 BY MR. WALCZAK:

4 Q What else have you done since you produced the report
5 and prior to coming here today, what else have you
6 looked at or read in relation to this subject?

7 A I read through the National Science Education Standards.

8 Q So you read those after you submitted the report?

9 A Correct. Did a little bit more literature review.

10 Q What did you find that you thought was relevant?

11 A There were a couple of articles examining the
12 testability of evolution, so there were some authors
13 discussing that. Also looked at some contemporary
14 newspaper articles around the issue as it applied to
15 other areas.

16 Q What do you mean, other areas?

17 A Other parts of the country.

18 Q Can you tell me what those articles examining
19 testability of evolution were?

20 A By name?

21 Q Um-hmm. Or by author.

22 A Sure. One of them is by Penny, Hendy, and Poole.

23 Q How do you spell that?

24 A Penny is Penny, P-e-n-n-y. The next one is Hendy,
25 H-e-n-d-y. And the final one is Poole, P-o-o-l-e.

00029

1 Title, Testing Fundamental Evolutionary Hypotheses.
2 Q Do you know when that was put out?
3 A I do. 2003.
4 Q What did you find significant about that article?
5 A Did you want the other one first or --
6 Q No, let's do that and then we'll come back and do the
7 other one.
8 A Okay. It might be helpful to do the other one first
9 because that was written in response to the first one.
10 This is a -- Penny and Hendy were writing in response to
11 Sober and Steel.
12 Q The other one was what?
13 A Sober, S-o-b-e-r, and Steel, as you would expect it,
14 without -- S-t-e-e-l.
15 Q Okay.
16 A Title, Testing the Hypothesis of Common Ancestry.
17 Q And the date on that?
18 A 2002.
19 Q And what did you find significant about Sober and Steel?
20 A Okay. Sober and Steel, as the title implies, were
21 taking the issue of common ancestry and looking to see
22 is it a testable theory. If it is testable, how might
23 one test it. And they came to the conclusion that it is
24 an intrinsically difficult theory to test.
25 Q Okay. Anything else?

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- 1 A I mean, obviously, it was a long article, but that's
2 probably the biggest upshot of the article.
- 3 Q Was it impossible to test or difficult to test?
- 4 A No, they said intrinsically difficult.
- 5 Q How did you find this publication?
- 6 A Through a literature review.
- 7 Q Why did you select it?
- 8 A Because it was an example of scientists who are
9 currently discussing certain tenets of evolution.
- 10 Q What do you mean, currently discussing tenets of
11 evolution?
- 12 A It's obviously a contemporary discussion within the
13 community.
- 14 Q And what is it that they're discussing about evolution?
- 15 A In this case, they were discussing -- the authors were
16 saying that the issue of common ancestry is one of the
17 features of evolution, and their word was it is an
18 assumed feature of evolution, and that because it is
19 assumed, scientists need to check their assumptions.
20 And so in this case, they were testing their assumption,
21 or that assumption.
- 22 Q And found that it was intrinsically difficult to test?
- 23 A Correct.
- 24 Q Is there some implication to that?
- 25 A Well, the authors are saying we need to be aware of our

00031

1 assumptions, and if we have assumptions about things
2 that are difficult to test, how solid can our
3 assumptions be. And I'm paraphrasing the authors.

4 Q And do you agree with that?

5 A Certainly in the general sense, yes. If we have
6 assumptions that are difficult to test, one needs to
7 think critically about our assumptions.

8 Q Anything else on Sober that you found significant?

9 A No. I mean, well, I wouldn't say no. It was
10 interesting. But not pursuant to this.

11 Q And so then you read the Penny book, which was, I
12 guess --

13 A It's an article.

14 Q It's an article?

15 A Yeah.

16 Q And what were they talking about there?

17 A They were responding by saying -- first, they were
18 confirming things that Sober and Steel said, yes, it is
19 an assumption, or yes, the science community often
20 assumes this. They commended them for raising the issue
21 and recommended others do likewise. And then they went
22 on to examine Sober and Steel's supposition, the idea
23 that it's intrinsically difficult to test, and
24 recommended how one might go about testing it. And then
25 they also said -- after they kind of lay out their

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1 recommendation for testing, they say here's how you
2 might use this recommendation in other ways with other
3 alternatives, so they demonstrated or illustrated upon
4 other alternatives, including intelligent design.
5 Q What did they say about intelligent design?
6 A They were -- they didn't really say -- I mean, it wasn't
7 an article about intelligent design, it was just taking
8 their hypothesis and applying it to intelligent design.
9 Q So they're saying the same kind of test could be done
10 for intelligent design?
11 A Correct. Yeah.
12 Q So how would that test work?
13 A Do you want to talk about it in detail, the particular
14 test?
15 Q What could you tell me about it, how would you test
16 intelligent design?
17 A I don't know that I'd want to be speaking on behalf of
18 Penny and their test, that's not my expertise.
19 Q What's not your expertise?
20 A Their particular hypothesis and so forth.
21 Q Can you summarize it for me, how you would test for
22 intelligent design?
23 A I would have to have it in front of me to kind of walk
24 you through it.
25 Q Do you have it?

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1 A Only in electronic version on my laptop.
2 Q What do you remember?
3 A Again, I didn't commit it to memory.
4 Q Well, what do you remember?
5 A Pretty much what I've explained to you, the idea of
6 testability, that was the critical issue in the article.
7 Q But you don't remember how you could test it?
8 A I'd have to go back and read it. That's not something I
9 committed to memory.
10 Q So you do not remember how --
11 A Correct, I didn't commit it to memory.
12 Q Let's go back to National Science Education Standards.
13 These are all things you looked at after you produced
14 your report?
15 A Correct.
16 Q Why did you go back and look at these things?
17 A I was asked to craft a rebuttal to some points.
18 Q Who asked you to do that?
19 A The counsel for the defense.
20 Q And what were you asked to craft a rebuttal to?
21 MR. THOMPSON: Objection, attorney work product.
22 This is conversations he had with an attorney.
23 MR. WALCZAK: Have you all submitted a rebuttal?
24 MR. THOMPSON: I think there were rebuttals that
25 were going to be submitted yesterday. I haven't seen

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1 them, but I know --

2 MR. WALCZAK: Because we submitted one.

3 MR. THOMPSON: Okay. I believe that Mr. Muise and
4 Pat Gillen were working on submitting rebuttals, I think
5 yesterday was the last day. I don't want to
6 mischaracterize what the status is. So I think that
7 rebuttals were submitted. Now, I don't know if a Dick
8 Carpenter rebuttal was one of those submitted.

9 And you can respond yes or no on that. I don't --

10 A My understanding is that it was.

11 BY MR. WALCZAK:

12 Q It was?

13 A That it was faxed -- I faxed it yesterday before I got
14 on the plane.

15 MR. WALCZAK: I don't think we want to do this
16 again, we've --

17 MR. THOMPSON: Right.

18 MR. WALCZAK: -- had enough depositions. Can we
19 get a copy of that maybe faxed here so that I could look
20 at it and maybe ask some questions about it this
21 afternoon if in fact you have submitted that?

22 MR. THOMPSON: Do you want to take a break right
23 now?

24 MR. WALCZAK: Why don't we --

25 MR. THOMPSON: If we wait -- we can go some more

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1 and then I'll call the office and do that.

2 MR. WALCZAK: Let's do that. Do you object if I
3 ask him about the scope of the rebuttal?

4 MR. THOMPSON: See, I don't know if they even
5 submitted the rebuttal, so that's the question I -- you
6 might want to wait for me to make the call. If they
7 have in fact submitted a rebuttal, then I don't have any
8 problems with you asking him questions about the
9 rebuttal.

10 MR. WALCZAK: I think it makes senses, let's take
11 five minutes.

12 (Discussion held off the record.)

13 BY MR. WALCZAK:

14 Q So you were asked to prepare a rebuttal report. A
15 rebuttal to what?

16 A They didn't specify specific points, they just merely
17 said from based on what you've read, could you prepare a
18 rebuttal.

19 Q And what do you mean, read what, the --

20 A Expert reports.

21 Q -- expert depositions?

22 A Expert reports.

23 Q I'm sorry, expert reports.

24 So were you responding to Ken Miller or were you
25 responding to some of the other experts?

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1 A Some of the others.

2 Q And which experts were you responding to?

3 A Specifically, Doctors Alters and Padian. Is that
4 how -- is that how he pronounces his name?

5 Q And generally -- we'll come back to this when we get the
6 report, but generally, what did you say in this -- what
7 are your further opinions that are advanced in that
8 report?

9 A They were pretty consistent with the things that I
10 already talked about in my first report, the idea that
11 in this case, this policy is telling students that -- or
12 raising awareness amongst students that theories -- or
13 that evolution is a theory rather than a fact, and that
14 that's consistent with the National Science Education
15 Standards, for example, the course text and so forth, so
16 it's not something that the School Board conjured up,
17 that it was consistent with other sources.

18 It talked about how the idea of raising awareness
19 of alternatives again is consistent with things within
20 the National Science Education Standards, also
21 consistent with other actions around the country that
22 are at the center of different discussions and debates
23 around the country.

24 Also talked about the idea that critical thinking,
25 again, is consistent with the National Science Education

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1 Standards. And then finally -- and then that's where I
2 introduced the discussion around Sober and Steel and
3 Penny, Hendy, and Poole. And then finally talked about
4 the idea that evolution is what's being taught in the
5 classroom.

6 Q What do you mean by that?

7 A Meaning that's the focus of the biology class, it's
8 consistent with state standards that they're teaching
9 evolution, I mean, that's what the students are
10 learning, that's what they're being tested on and so
11 forth.

12 Q So what's the point of the policy?

13 A The point of the policy is to, again, help students
14 understand that evolution is a developing theory, the
15 National Science Education Standards call it incomplete,
16 that's the word that they use, helping the students to
17 understand that it's a developing, incomplete theory.
18 Number two, encouraging students to think critically
19 about what they're learning, help them to assume some
20 ownership over what they're learning. So that's the
21 idea.

22 Q Did you read all of the National Science Education
23 Standards?

24 A Correct.

25 Q From start to finish?

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- 1 A From introduction to Chapter 6 or whatever it was.
2 Q Is that the first time you've read them?
3 A It's the first time I've read them all the way through.
4 Q And do you know what they said, if they said anything,
5 about teaching intelligent design?
6 A They did not.
7 Q Did they say anything about teaching creationism?
8 A They did not. Well, they might have said something
9 about creationism. I'd have to go back and look.
10 Q Did they say that -- so they didn't mention intelligent
11 design?
12 A No.
13 Q So they didn't say that introducing students to
14 intelligent design was something that's appropriate?
15 A No.
16 Q So you looked at the National Science Education
17 Standards, Sober and Steel, Penny, Hendy, and Poole.
18 Sounds like a law firm.
19 Anything else you looked at?
20 A I mentioned a couple of newspaper articles.
21 Q Did you consult with anybody for the second report?
22 A No.
23 Q Except the lawyers for Thomas Moore Law Center?
24 A Well, other than they asked me to do it, that was it.
25 Q Did you talk to any of your colleagues in the education

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1 field?

2 A No.

3 Q I want to talk about the literature that you either
4 reviewed or are aware of, starting with the literature
5 that supports intelligent design. I know you've
6 mentioned you had read Professor Behe's expert report,
7 correct?

8 A Yes.

9 Q What other literature did you read that supports
10 intelligent design?

11 A That was it.

12 Q Ever?

13 A Ever? Certainly not ever.

14 Q Tell me what are the most important books or articles
15 about intelligent design?

16 A In existence?

17 Q Um-hmm.

18 A Well, there were articles about intelligent design that
19 were referenced in one of the expert reports.

20 Q Have you read these?

21 A Those -- are you asking me those that I've read? Oh,
22 I'm sorry, no, I did not read those that were referenced
23 in that report, no.

24 Q So would you say that you're familiar with the whole
25 theory of intelligent design?

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- 1 A "The whole theory" meaning?
- 2 Q Well, the theory of intelligent design?
- 3 A A familiarity, yes. Certainly not an expertise.
- 4 Q And your familiarity is based on having read Michael
- 5 Behe's expert report?
- 6 A Well, you had asked me earlier what I had read in
- 7 relation to this report.
- 8 Q Right. Have you read anything else about intelligent
- 9 design besides Michael Behe's report?
- 10 A Just in life?
- 11 Q Yeah.
- 12 A Yes, certainly.
- 13 Q What are the most important things you've read about
- 14 intelligent design?
- 15 A I don't know if I'd classify them as most important, but
- 16 I've read articles talking about the controversy,
- 17 talking about the issue as it's unfolded in Ohio, for
- 18 example, and now as it's unfolding in Kansas, and so
- 19 articles related to that, for example.
- 20 Q So those would be news articles?
- 21 A Some news articles, some magazine articles.
- 22 Q Have you read any articles or books about intelligent
- 23 design theory?
- 24 A You mean kind of in-depth?
- 25 Q Yes.

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1 A No.

2 Q So the only thing you've read that kind of explains
3 intelligent design itself as opposed to the controversy
4 is Michael Behe's expert report that he submitted in
5 this case?

6 A Well, I mean, the other articles in reading about the
7 issue of evolution versus intelligent design and so
8 forth, inevitably, they have to define what is
9 intelligent design and so forth.

10 MR. THOMPSON: This is not an objection, but I just
11 wanted to get clear in my own mind the scope of the
12 question, because I think earlier Dick Carpenter
13 mentioned that he read all of the expert reports, and
14 most, if not all of those expert reports discussed
15 intelligent design, and now he's focussed on just
16 Michael Behe. I just want to make sure the record is
17 clear on that. He's read all of the expert reports and
18 those reports also talk about intelligent design.

19 Is that accurate?

20 THE WITNESS: Yeah.

21 MR. THOMPSON: Okay. I sort of kind of missed that
22 point.

23 MR. WALCZAK: Fair enough.

24 BY MR. WALCZAK:

25 Q And I have a series of questions like this I'm going to

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1 ask you about different topics, but let me just say that
2 I'm asking about books or articles that you have read
3 any time, already understanding that you have read all
4 of the expert reports. So I'm looking for other stuff.
5 So is it fair to say that the Behe report in this
6 case is probably the most authoritative thing you've
7 read discussing intelligent design theory?
8 A Authoritative? How are you defining "authoritative"?
9 Q Is that the article that you think best explains
10 intelligent design?
11 A I don't know if I'd say best explains. I mean, there
12 are others that seem to explain it just as effectively.
13 Q Such as?
14 A I recall some years ago reading an article by a
15 gentleman by the name of Mark Hartwig who discusses the
16 issue of intelligent design.
17 Q Was that in a Focus on the Family publication?
18 A No, I think that was something he had written elsewhere.
19 Q What did you learn from that?
20 A Just an understanding of what intelligent design is,
21 what it is not.
22 Q Let me ask you, what have you read that criticizes
23 intelligent design?
24 A Well, certainly the expert reports would be included in
25 those.

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- 1 Q And that would be the plaintiffs' expert reports?
2 A Correct. Yeah, thank you. Thank you for clarifying.
3 Q I was wondering if I missed something in there.
4 Anything else you've read that criticizes
5 intelligent design?
6 A Again, when you're reading about the controversy or the
7 debate or discussion, however you want to classify it,
8 inevitably you'll read different perspectives or I've
9 read different perspectives amongst those, as well.
10 Q Have you read articles that would be more scientific
11 that address, let's say, gaps and problems with
12 intelligent design theory?
13 A By scientific, do you mean peer-reviewed, is that what
14 you mean?
15 Q Sure, yeah.
16 A No, I wouldn't classify what I read as peer review.
17 Q As not peer review?
18 A Correct, I would not classify them as peer review.
19 Q Have you read any articles by scientists criticizing
20 intelligent design?
21 A Correct, I would say they were scientists. They work in
22 the science community.
23 Q So you have read articles by scientists criticizing
24 intelligent design?
25 A Right, but that doesn't necessarily denote that they

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1 were in peer-reviewed publications.
2 Q And do you remember what any of those were?
3 A No.
4 Q And do you consider them reliable?
5 A "Reliable" meaning?
6 Q Good sources, good arguments?
7 A The sources -- if you're talking about the sources, the
8 sources are credible, certainly.
9 Q The source is credible.
10 Did you consider the arguments to be credible?
11 A Do you mean credible as in --
12 Q Do they make sense?
13 A Well, certainly they were clear, yes.
14 Q They were clear. Did they make sense to you?
15 A Make sense, does that mean I agreed with them or --
16 Q Yes.
17 A That doesn't necessarily mean that I agreed with them,
18 but certainly, they were clear.
19 Q Do you personally believe in intelligent design?
20 A "Personally believe," how do you define that?
21 Q Do you believe in intelligent design?
22 A I guess I -- the word I'm keying on is not "intelligent
23 design," it's "belief."
24 What do you mean by "belief"?
25 Q Do you personally -- some people believe in evolution,

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1 some people believe in intelligent design, some people
2 believe in Raelism.

3 What do you believe?

4 MR. THOMPSON: I mean, that's a pretty general
5 question. Again, can you rephrase it to a specific
6 point?

7 BY MR. WALCZAK:

8 Q Let me just ask you.

9 Do you believe in evolution?

10 A What part of evolution?

11 Q Why don't you tell me what you believe about evolution?

12 A Okay. If you're asking me do I believe in change over
13 time, there certainly seems to be evidence of change
14 over time in lots of different areas, science,
15 sociology, et cetera, et cetera.

16 Q Do you believe in descent with modification?

17 A What kind of modification?

18 Q Well, it's a scientific term.

19 Do you believe in natural selection?

20 A I guess I'm still coming back to "belief." Do you
21 mean -- how are you defining "belief," I guess?

22 Q What views do you hold about how we got here today, what
23 views do you hold on the origin of life?

24 A I guess the best way to define my beliefs would be to
25 say it is a bit of an open question at this point.

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1 Q Open between what, what are the -- what are the things
2 that you're open about?
3 A Meaning somebody would say, as you had said, do you
4 believe in this or how did we come to be? Often my
5 answer is I don't know. I don't know.
6 Q Do you believe in God?
7 A The existence of God? Certainly.
8 Q Do you believe God created the universe?
9 (Deposition interrupted.)
10 MR. WALCZAK: Would you read back the last
11 question?
12 (Record repeated.)
13 A That is consistent with my faith system, yes.
14 BY MR. WALCZAK:
15 Q And when did God do that, approximately?
16 A I have no idea.
17 Q How old do you think the earth is?
18 A Again, I don't know.
19 Q What does your faith system tell you?
20 A My faith system doesn't necessarily say.
21 Q Doesn't necessarily say. Does it say at all?
22 A No.
23 Q I don't want to get into your personal religious
24 beliefs. Let me just ask you what -- do you go to
25 church? I mean, what is your faith?

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- 1 A In answer to your first question, yes, I do go to
2 church. And the second would be typically classified as
3 Christian.
- 4 Q Is there a -- I mean, that's broad. Is there
5 something --
- 6 A Yeah, it is broad, that's why I say typically
7 classified.
- 8 Q I mean, Presbyterian or Episcopalian?
- 9 A No, I don't subscribe to a denomination.
- 10 Q So you don't have any personal belief about how old the
11 earth is?
- 12 A Not necessarily.
- 13 Q Well, do you -- well, not necessarily. Do you have any
14 belief about how old the earth is?
- 15 A No.
- 16 Q Is that something you ever think about?
- 17 A No, it isn't.
- 18 (Deposition interrupted; discussion held off
19 the record.)
- 20 BY MR. WALCZAK:
- 21 Q Do you believe that evolution actually took place or
22 takes place? Do you believe in the fact of evolution,
23 is evolution a fact?
- 24 A Well, that seems to be the central issue here, but what
25 part of evolution are you --

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- 1 Q Do you dispute the occurrence of evolution?
2 MR. THOMPSON: Objection here because I think he's
3 raised a good point. There's several different aspects
4 of evolution and that question is misleading, so I would
5 object as being vague and misleading and ambiguous.
6 BY MR. WALCZAK:
7 Q If I ask you to define evolution, how would you do that?
8 A Well, I think in the most general sense, one could
9 define evolution as change over time.
10 Q Do you know what I'm talking about when I say micro and
11 macroevolution?
12 A Correct, yes.
13 Q And so what is microevolution?
14 A Genetic change within a species.
15 Q And what is macroevolution?
16 A The development of new species from a different
17 ancestor, for example.
18 Q Do you believe in microevolution?
19 A I don't mean to equivocate, but believe in?
20 Q Do you think that microevolution occurs?
21 A Do I think it does? Do I think in a professional sense,
22 in a personal sense, in a religious sense?
23 Q How about professional?
24 A I don't know that I could render an expert professional
25 opinion on whether in fact it is a fact.

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1 Q Why?

2 A Because that's not my area of expertise.

3 Q Well, you're here testifying that evolution -- that
4 teaching gaps and problems with evolution is a good
5 thing to do?

6 A I'm here testifying to the fact that that is currently
7 an issue within the scientific community and that
8 students ought to be made aware of that.

9 Q But you are -- you're not a scientist?

10 A Correct. Not in the sense as we're defining it here.

11 Q So do you professionally think that macroevolution takes
12 place or took place or and is taking place?

13 MR. THOMPSON: Objection. I think he made it clear
14 that he is not a scientist and he doesn't want to render
15 scientific opinions.

16 BY MR. WALCZAK:

17 Q Do you think the theory of gravity is a legitimate
18 theory?

19 MR. THOMPSON: I'd object to --

20 BY MR. WALCZAK:

21 Q Do you --

22 MR. THOMPSON: The theory of gravity, whether it's
23 a theory or a law, I don't know, but --

24 BY MR. WALCZAK:

25 Q The theory of relativity, do you quibble with the theory

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1 of relativity?
2 A Again, I couldn't render a professional opinion about
3 the theory of relativity.
4 Q Because?
5 A Because again, that's not my area of expertise.
6 Q So you don't -- I mean, if I ask you to tell me what are
7 the gaps and problems in evolution that Dover students
8 should be taught, how would you answer that?
9 A That within the evolutionary trail, if you will,
10 particularly macroevolution, that there appear to be
11 gaps between species, there's no ancestor or bridge
12 across those gaps.
13 Q And how do you know that?
14 A From reading, again, about macroevolution,
15 microevolution, and understanding what it is.
16 Q And do you agree with that?
17 A Do I agree with?
18 Q That there are problems with macroevolution?
19 A It appears to be so, that there appear to be these gaps,
20 yes.
21 Q But you don't have independent scientific expertise to
22 evaluate that?
23 A That's why I say it appears to be.
24 Q So what is the basis for your saying that?
25 A Again, in reading about the definitions of evolution,

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1 reading about the issue, the debate, et cetera,
2 et cetera.

3 Q What literature can you point me to that you've read
4 that raises these problems with macroevolution?

5 A One of them was an article that I mentioned earlier by
6 Sober and Steel.

7 Q Anything else?

8 A Certainly the expert reports on both sides.

9 Q When you say both sides, what did you find in the
10 plaintiffs' experts reports to support your opinion
11 here?

12 A They acknowledged that -- in talking about the
13 controversy or debate or discussion or whatever you want
14 to call it, they're kind of defining terms, this is what
15 macroevolution is, when people talk about gaps, this is
16 what they mean, so forth.

17 Q And have you read literature that questions whether
18 macroevolution occurred?

19 A The one I mentioned earlier, Sober and Steel, for
20 example, they're talking about this is an assumption, we
21 ought to test this assumption, et cetera.

22 Q Anything else?

23 A Certainly articles that I've mentioned already that talk
24 about the issue.

25 Q So it seems to me kind of the universe of your knowledge

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1 about intelligent design and evolution here are the
2 expert reports, the Sober and Steel article, and the law
3 firm type sounding article, Penny, Hendy, and Poole. Is
4 that kind of the universe of what you've looked at here
5 in preparing these opinions?
6 A Well, in preparing the report specifically.
7 Q Had you ever studied evolution before you were asked to
8 do this report?
9 A Studied in what sense?
10 Q Any sense.
11 A Read about it? Certainly.
12 Q Did you take classes in college, did you take biology
13 classes in college?
14 A Yes.
15 Q During graduate work?
16 A During undergraduate work.
17 Q Were you taught intelligent design as an undergraduate?
18 A I doubt it. I don't think so, let's put it that way.
19 Q Can you identify any literature that would support the
20 existence of macroevolution?
21 A Ask the question again.
22 Q Can you identify any literature that argues in favor of
23 macroevolution happening?
24 A Not necessarily, no.
25 Q You can't?

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- 1 A Not off the top of my head.
- 2 Q Have you read any?
- 3 A Clearly, I mean, there are people out there, and I've
- 4 probably read it in the course of my life, but I
- 5 couldn't spout them, I haven't committed them to memory.
- 6 Q Have you read any peer-reviewed literature that supports
- 7 intelligent design?
- 8 A No.
- 9 Q Are you aware of any?
- 10 A I'm aware of those that were highlighted in the expert
- 11 report, or one of the expert reports.
- 12 Q Whose report is that, do you remember?
- 13 A I'm guessing it was Dembski's, but that's only a guess.
- 14 Q You're not aware of any other peer-reviewed literature
- 15 about intelligent design other than what's referenced in
- 16 any of the expert reports?
- 17 A Correct.
- 18 Q Have you read any of the peer-reviewed literature that
- 19 may be mentioned in those reports?
- 20 A As I said earlier, no.
- 21 Q Is peer review important?
- 22 A It's important in some settings, yes.
- 23 Q What settings is it important in?
- 24 A It tends to be important in research communities.
- 25 Q Why?

00054

- 1 A The idea in peer review is that your work is read and
2 reviewed by, in theory, a group of your peers, and that,
3 again, in theory, gives it a measure of credibility.
- 4 Q Besides credibility, does it do anything else? I mean,
5 I note that on your list of publications on the vita you
6 distinguish peer-reviewed from non-peer-reviewed?
- 7 A Correct.
- 8 Q So besides kind of the stamp of approval or whatever you
9 want to call it, credibility, what else does peer review
10 do?
- 11 A It's a -- in some ways, for lack of a better word, it's
12 a service to the authors.
- 13 Q What service is that?
- 14 A In that when you're preparing work and you submit it to
15 a journal and it goes through this process, they give
16 you feedback on what you write, so the service that it
17 provides is that this feedback is designed to strengthen
18 your article.
- 19 Q And you're not aware of any peer-reviewed literature on
20 intelligent design other than what's been mentioned in
21 the expert reports?
- 22 A Correct.
- 23 Q And you haven't read any peer-reviewed literature on
24 intelligent design?
- 25 A Correct.

00055

- 1 Q Have you read any peer-reviewed literature on evolution?
2 A In life or in preparation for this report?
3 Q How about in preparation for this report?
4 A Not specifically, no.
5 Q In life?
6 A Inevitably, yes.
7 Q Do you remember what you've read?
8 A No.
9 Q What would you say are the most prestigious science
10 academies or societies in this country?
11 A Probably the National Academy of Sciences, that's one
12 that comes to mind immediately.
13 Q Can you name any others?
14 A I list a few in relation to the National Science
15 Education Standards. National Science Foundation.
16 National Research Council.
17 Q Did you consult the National Academy of Sciences'
18 literature in preparing -- when I say "report" now, I'm
19 going to mean either report. Did you consult the
20 National Academy of Sciences' publications prior to
21 preparing your opinions?
22 A The National Science Education Standards are available
23 through the National Academy of Sciences through the
24 Academy Press, if that makes sense.
25 Q So it's an arm of the National Academy of Science?

00056

- 1 A Right, it's kind of an extension.
- 2 Q And do you know, does the National Academy of Science
- 3 have a position on the teaching of intelligent design?
- 4 A I think that was included in Alters' report, if I
- 5 remember correctly, but I'd have to go back and --
- 6 Q Well, do you know? Did you look at what the National
- 7 Academy of Science has said about the teaching of
- 8 intelligent design?
- 9 A Only in that I read it in the Alters report.
- 10 Q So you did not consult, other than the standards, you
- 11 did not consult the literature put out by the National
- 12 Academy of Science?
- 13 A Correct.
- 14 Q And that would apply either to the teaching of evolution
- 15 or intelligent design?
- 16 A Correct.
- 17 THE WITNESS: Could we take a break?
- 18 MR. WALCZAK: Please.
- 19 THE WITNESS: Thank you.
- 20 (Short recess.)
- 21 BY MR. WALCZAK:
- 22 Q Do you know if the National Academy of Science has taken
- 23 a position on the teaching of intelligent design?
- 24 A If it's included in the Alters report, then --
- 25 Q Well, I'm asking what you know.

00057

- 1 A I'd have to consult the report to know for certain.
- 2 Q So what do you know as we sit here right now, does the
3 National Academy of Science support the teaching of
4 intelligent design?
- 5 A Again, I don't know for a fact, but I think there was a
6 position taken that was listed in the Alters report.
- 7 Q And what's that position?
- 8 A If I'm remembering correctly, I think their position was
9 they didn't necessarily endorse the teaching of
10 intelligent design.
- 11 Q Have you gone back and looked at the National Academy of
12 Science position since you read Dr. Alters' report?
- 13 A No.
- 14 Q Do you know whether the National Academy of Science has
15 taken a position on whether a student should be taught
16 that there are gaps and problems in evolution?
- 17 A I don't know.
- 18 Q Do you know whether the National Academy of Science has
19 taken a position on what you call the controversy in the
20 scientific community about intelligent design?
- 21 A I don't know.
- 22 Q Do you know whether the National Science Foundation has
23 taken a position on intelligent design?
- 24 A The same answer as I gave the National Academy of
25 Sciences.

00058

- 1 Q But that's not something you've consulted in rendering
2 your opinion?
- 3 A Correct.
- 4 Q And the National Research Council?
- 5 A Correct, again, the same thing.
- 6 Q When I say AAAS, do you know what that means? What does
7 that stand for?
- 8 A I don't know.
- 9 Q So you don't know what AAAS stands for?
- 10 A Correct.
- 11 Q How about the American Association for the Advancement
12 of Science, did you ever hear of them?
- 13 A By name, yes.
- 14 Q Did you look at whether they have any position on the
15 teaching of intelligent design?
- 16 A No.
- 17 Q Can you point me to any science foundations, academies,
18 societies that support the teaching of intelligent
19 design?
- 20 A No.
- 21 Q You cannot?
- 22 A No.
- 23 Q Did you consult any science education societies or
24 academies or organizations?
- 25 A By consult?

00059

- 1 Q Did you look to see what their positions were on the
2 teaching of intelligent design, on teaching gaps and
3 problems in evolution, or in discussing the so-called
4 controversy in the scientific community?
5 A Insomuch as the National Science Education Standards
6 were crafted, I guess, by members of various
7 organizations, some of which we've mentioned.
8 Q Have you ever heard of NSTA?
9 A National Science Teachers Association.
10 Q Do you know if they have a position on the teaching of
11 evolution?
12 A Again, only in what I read through the Alters report.
13 Q So you didn't look at what the NSTA position was on the
14 teaching of evolution before preparing your opinions?
15 A Other than reading what I read in the report, Alters'
16 report, of course, which was after my initial report.
17 Q I thought they were contemporaneous.
18 MR. WALCZAK: Your reports weren't due after ours.
19 MR. THOMPSON: His report came in after, I think,
20 Alters' report.
21 MR. WALCZAK: Ours went out on the deadline.
22 MR. THOMPSON: I'm not positive.
23 BY MR. WALCZAK:
24 Q But you have not gone, for instance, to look at the NSTA
25 web site?

00060

1 A Are you asking me have I visited their web site?
2 Q Yes.
3 A Well, certainly I've visited their web site.
4 Q And on their web site, they have various publications?
5 A Um-hmm. Correct, sorry.
6 Q And they have a publication about the teaching of
7 evolution. Did -- I'm telling you they do.
8 A Okay.
9 Q Did you look at that publication?
10 A Is there a specific publication? I mean, was there a
11 title to it?
12 Q It's a publication about the teaching of evolution.
13 It's called The Teaching of Evolution.
14 A Just as you said.
15 Q Did you read that position statement?
16 A No.
17 Q Have you read it since you read Dr. Alters' report?
18 A No.
19 Q Have you read it ever?
20 A No.
21 Q So you don't know what position the National Science
22 Teachers Association takes on intelligent design?
23 A Insomuch as what was reported in the Alters report.
24 Q But you don't know firsthand --
25 A Correct.

00061

- 1 Q -- from having --.
- 2 Is the National Science Teachers Association a
- 3 prestigious organization in your view?
- 4 A Prestigious meaning?
- 5 Q Is it a respected association?
- 6 A Presumably.
- 7 Q It's not somebody you work with in your line of work?
- 8 A No.
- 9 Q Are you familiar with the NABT?
- 10 A National American -- or Association of Biology Teachers.
- 11 Q Are you aware of whether they have taken an official
- 12 position on the teaching of intelligent design?
- 13 A Not firsthand.
- 14 Q They have a publication about the teaching of evolution.
- 15 Did you look at that publication?
- 16 A No.
- 17 Q Do you know what position the NABT takes about so-called
- 18 teaching the controversy?
- 19 A I do not.
- 20 Q Or teaching that there are gaps and problems with
- 21 evolution?
- 22 A No.
- 23 Q Can you point to any science education organizations,
- 24 societies, academies, that support the teaching of
- 25 intelligent design?

00062

- 1 A No.
- 2 Q So every major science academy, foundation,
3 organization, and every important science education
4 organization opposes the teaching of intelligent design?
5 MR. THOMPSON: Objection. A fact not in evidence.
6 You used the word "every." We don't know if that
7 includes every, just the ones that you've mentioned.
- 8 BY MR. WALCZAK:
- 9 Q Well, let me ask you.
10 Please identify any science organizations,
11 associations, academies that support the teaching of
12 intelligent design?
- 13 A Well, I think you already asked me that, and I said --
14 Q And you couldn't?
15 A Correct.
- 16 Q And can you identify any science education
17 organizations, associations, societies that support the
18 teaching of intelligent design?
- 19 A Again, isn't that the same question?
20 Q No. One is science. Okay?
21 A Okay. So you're saying a teaching association?
22 Q Well, we talked at the beginning that there is this
23 specialty in science education, the teaching of science?
24 A Sure, I understand.
25 Q So the first question is about --

00063

1 A Broader.

2 Q -- the scientists.

3 A Sure, sure, sure.

4 Q The other is about the science teachers.

5 A The sub-discipline, correct.

6 Q Right.

7 A Gotcha.

8 Q And you're not aware of any science education
9 organization, societies, academies, that support the
10 teaching of intelligent design?

11 A Correct.

12 Q Now, given that you are in this case opining that
13 schools should teach intelligent design or that teaching
14 intelligent design is good pedagogically, how do you
15 reconcile your opinion --

16 MR. THOMPSON: Objection. He has never opined that
17 teaching intelligent design is good pedagogy. That's
18 not the policy.

19 MR. WALCZAK: We're going to come back to that.

20 BY MR. WALCZAK:

21 Q You have opined that teaching problems and gaps in the
22 theory of evolution, making students aware of
23 alternative theories such as intelligent design, and
24 making resources available to students to pursue
25 independent inquiry promotes legitimate pedagogical and

00064

1 educational goals.

2 So exposing students to intelligent design is not
3 supported by any of the science or science education
4 academies, so how do you reconcile your opinion with
5 their positions?

6 A By "exposing to," how are you defining "exposing"?

7 Q Well, let's talk about Dick Thompson says that they're
8 not teaching intelligent design. What's your
9 understanding of what they're doing with intelligent
10 design in Dover?

11 A My understanding is based on what we have here in front
12 of us in terms of the statement that's being read and so
13 forth, that, number one, they're making students aware
14 of the fact or the idea that evolution is a developing
15 theory, not a fact or a law. Number two, that there are
16 other theories or ideas in discussion about it, and one
17 of those is so identified as intelligent design. And
18 number three, they're telling them that they could find
19 more information about that in the library.

20 Q And how are they exposing students to that?

21 A My understanding is they have a statement that they read
22 prior to the lessons on evolution.

23 Q And who reads those?

24 A Again, my understanding is it's the school principal or
25 AP or somebody who works in the school.

00065

- 1 Q And do you know how it actually was implemented in
2 January, do you know what happened?
3 A Again, I'm just -- from what I've been told --
4 Q Was is it that you know about what happened in January?
5 A Presuming you're talking about that's when the statement
6 was read to the students?
7 Q Do you know?
8 A I was told that a statement was read to the students
9 prior to the evolutionary lessons.
10 Q And who told you that?
11 A The counsel for the defense.
12 Q Have you talked to any of the teachers in this case?
13 A No.
14 Q Have you talked to any of the School Board members?
15 A No.
16 Q Have you talked to any of the Dover administrators?
17 A No.
18 Q Have you talked to any Dover parents?
19 A No.
20 Q Have you talked to any Dover students?
21 A No.
22 Q Have you ever been to Dover?
23 A No.
24 Q You're really missing out.
25 So if a teacher or administrator stands up at the

00066

- 1 front of the class and reads this four-paragraph
2 statement, is that teaching?
- 3 A Not in the classic definition of teaching.
- 4 Q What's the classic definition of teaching?
- 5 A It would be that there is some systematic, deliberate,
6 coordinated effort, if you will, to instruct students
7 about X.
- 8 Q And so what would go into that systematic, deliberate
9 effort?
- 10 A There would be a printed, slash, published curriculum
11 approved by the School Board and those who work within
12 the school. That the curriculum is implemented by the
13 instructional staff, teachers, aides, whomever. That
14 there is -- or that there are assessments aligned with
15 that instruction. And in our age of state standards,
16 that that instruction is aligned with state standards
17 and that it would prepare students to complete the state
18 assessments.
- 19 Q So what part of what Dover is doing doesn't satisfy the
20 systematic, deliberate effort?
- 21 A Well, the students aren't tested on it in either the
22 classroom or the school, they're not tested on it in the
23 state assessments. It's not something that's woven into
24 the school curriculum.
- 25 Q It's in the school curriculum.

00067

1 A That's why I'm saying it's not woven into the school
2 curriculum.

3 Q What does "woven into" mean?

4 A Well, the ideal in the school curriculum is that you
5 start from an end, whatever your end is, objectives,
6 what is it you want the students to know and be able to
7 do, and that you work backwards from there, and that
8 throughout your lessons, your units in your lessons,
9 that you're designing very specific, systematic
10 activities and instruction to help students know and be
11 able to do whatever it is that you've identified in your
12 objectives and state standards, presumably.

13 Q So if you don't do those things, then is that good
14 teaching?

15 A If you don't do the things that I just mentioned?

16 Q Yeah. Is that good pedagogy to --

17 A Yeah, I think I understand your question. I think I
18 understand it. Are you saying the omission of something
19 is bad pedagogy?

20 Q Well, as I understand it, it's woven into the
21 curriculum, it's done by instructional staff, there are
22 assessments, it's aligned with standards, it's tested,
23 and it directly correlates with some objective.

24 So that's how you would properly construct a
25 curriculum?

00068

1 MR. THOMPSON: Objection. He was responding to
2 your question as to what he meant by teaching, not in
3 constructing a curriculum, but what does teaching mean,
4 the definition of teaching, and now you're asking him a
5 different question, how would you construct a
6 curriculum.

7 BY MR. WALCZAK:

8 Q Certainly I'm not trying to mislead you, and if I'm
9 confusing, I apologize.

10 To construct a unit on any topic or to teach
11 students whatever the School Board decides to teach,
12 presumably there's a right way and a wrong way or a
13 better way and a worse way?

14 A I go back to the word, I think, that kind of got us down
15 this trail, and that was the classic definition of
16 teaching. There are multiple understandings of teaching
17 and learning, so that's --

18 Q Of what?

19 A Teaching and learning.

20 Q Teaching and learning?

21 A Yeah.

22 Q Okay.

23 A So when I say "classical definition," that's kind of
24 what I was describing, is a classical definition of
25 teaching.

00069

- 1 Q And did it include the components that I just mentioned?
- 2 A Correct.
- 3 Q Any others?
- 4 A Well, there's now -- I don't want to make it seem as if
- 5 it's just within the past year, within some years, the
- 6 past some years, there's been discussion around shifting
- 7 from this classical definition of teaching to encourage
- 8 more ownership amongst students in their learning.
- 9 Q Is this the constructivist school that --
- 10 A Correct, right, yes, correct. So now there's a lot of
- 11 discussion about how does one, recognizing that we live
- 12 in this kind of standards world, how does a school
- 13 balance what we've done for years and years with a more
- 14 contemporary understanding of wouldn't it be nice to do
- 15 this. Does that make sense? So anyway.
- 16 Q So you say what Dover is doing with intelligent design
- 17 is not the classic definition of teaching.
- 18 Is it some form of teaching?
- 19 A I would classify it more as some form of learning.
- 20 That's why I said teaching and learning.
- 21 Q Explain that. You're getting the idea of what a
- 22 deposition is like?
- 23 A No, I'm just thinking about what my classroom is like.
- 24 Q Are your students really learning anything,
- 25 Mr. Carpenter?

00070

- 1 A That is the critical question for any teacher, honestly.
2 For years it's -- we've thought about what we do in the
3 classroom as what a teacher says and does and so on and
4 so forth, but the critical question has always been does
5 that equal learning and is it the same as learning. So
6 now there's contemporary discussion that kind of
7 separates one from the other, and not separates them as
8 in a complete isolation, but as in kind of defining one
9 from the other and understanding that teaching doesn't
10 always produce learning and learning doesn't always
11 result from direct teaching.
12 Does that make sense?
- 13 Q Yeah, but if -- I mean, a teacher has some stature in
14 the classroom and probably regardless of the classroom,
15 right, regardless of the grade or the school?
- 16 A In most cases.
- 17 Q Unless the teacher has completely lost control?
- 18 A Right.
- 19 Q Ideally, the teacher has some stature?
- 20 A Right.
- 21 Q And if the teacher passes gas repeatedly, is that
22 something that the students would learn from? Or
23 hopefully not?
- 24 A Potentially.
- 25 Q What the teacher does in the classroom is something that

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- 1 students would -- at least some students would observe?
- 2 A They would observe it.
- 3 Q And they might learn from that?
- 4 A Potentially.
- 5 Q And certainly what a teacher says in the classroom
- 6 students might learn from?
- 7 A Presumably.
- 8 Q And if a teacher really would not want students to learn
- 9 something, should he or she ever say that in a
- 10 classroom?
- 11 A If they don't want students to learn something?
- 12 Q Right. I mean, anything that the teacher says the
- 13 students could potentially learn from, is that a fair
- 14 assumption?
- 15 A I don't know if I'd say "anything."
- 16 Q What could a teacher say that a student wouldn't learn
- 17 from?
- 18 A In the course of a day, teachers say all kinds of
- 19 things, both that are related to instruction and not,
- 20 and potentially a teacher might talk about something
- 21 that's not instructionally related that students
- 22 discount or ignore or don't necessarily cognate.
- 23 Q Can you give me an example of something that's
- 24 instructionally related that wouldn't be teaching?
- 25 A Directions in a classroom aren't necessarily always

00072

- 1 teaching as much as they are just instructions.
- 2 Q Directions such as go to the blackboard?
- 3 A Go to the blackboard, get --
- 4 Q Sit down?
- 5 A -- a pencil, right.
- 6 Q Is the four-paragraph statement read during classroom,
- 7 is that instructional?
- 8 A It's instructionally -- yeah, it's motivated by
- 9 instruction, I suppose, is what it's --
- 10 Q So it's motivated to do what?
- 11 A Well, as we talked about before, it's motivated to,
- 12 number one, raise some awareness amongst the students
- 13 about the nature of evolution. Number two, encourage
- 14 them to think critically about what they're going to
- 15 hear over the next X number of lessons. Number three,
- 16 encourages them to explore this further on their own.
- 17 And that's where I was trying to draw a delineation
- 18 between teaching and learning.
- 19 Q So are students in the Dover School District learning
- 20 about the information conveyed in this four-paragraph
- 21 statement?
- 22 A What they're learning -- I mean, presumably they could,
- 23 yes, they're encouraged to learn about that by going and
- 24 reading about it further.
- 25 Q I mean, the goal of this policy presumably is to

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1 transmit the information in these four paragraphs to the
2 students?

3 A Right.

4 Q And so the goal is to teach students that there is an
5 alternative to evolution known as intelligent design?

6 MR. THOMPSON: Objection. Again you're using the
7 word "teach," and we've defined teach in a totally
8 different way than what you're talking about now.

9 BY MR. WALCZAK:

10 Q Well, I'd like you to answer that question.

11 So is it not safe to say that the goal of this
12 policy is to teach students that there is an alternative
13 to evolution known as intelligent design?

14 A I think it's fair to say that the goal, if we can take
15 it at face value, is to encourage students to learn as
16 much as possible about this thing that we're talking
17 about here.

18 Q About intelligent design?

19 A No, not necessarily. Not limited to intelligent design,
20 no.

21 Q Intelligent design and evolution?

22 A Certainly evolution, that's the focus of the class, is
23 that's what the students are going through in a
24 systematic fashion, but also that they would understand
25 that it's an incomplete, developing theory, and that

00074

1 there are other alternatives that are discussed within
2 the science community and --

3 Q So will you agree that a goal of this policy is that
4 students learn what is read to them in these four
5 paragraphs?

6 MR. THOMPSON: Objection. Again, it's conflicting
7 with the policy itself, the question that you've asked.

8 MR. WALCZAK: How is that?

9 MR. THOMPSON: The policy itself says that no
10 teacher will teach intelligent design, creationism, or
11 present his or her or the Board's religious beliefs.

12 MR. WALCZAK: That's fine, I --

13 MR. THOMPSON: That's the goal. The goal is not to
14 teach intelligent design.

15 MR. WALCZAK: That's what the Board says.

16 BY MR. WALCZAK:

17 Q If this four-paragraph statement is read to students by
18 either a teacher or a principal, would it make any sense
19 to read it if you didn't want the students to learn
20 that?

21 A To learn what?

22 Q What's read to them?

23 A If by learning you mean understand what they're saying,
24 well, obviously, the goal is that the students would
25 understand what they're saying, but that doesn't

00075

1 necessarily mean that the goal is that students -- the
2 goal isn't necessarily to teach intelligent design.

3 Q What is it?

4 A It's pretty self-evident. The goal is that students
5 would, as it says here, understand that it's a
6 developing theory.

7 Q So "understand," is that --

8 MR. THOMPSON: Evolution is a developing theory.

9 THE WITNESS: Yes. Well, intelligent design --

10 BY MR. WALCZAK:

11 Q Isn't learning another -- a synonym for understanding?

12 A Not necessarily.

13 Q You want students to know these things, right, is that a
14 goal of the policy, for students to know that this --

15 A You want them to understand what they're saying, what
16 they're -- you want students to cognitively understand
17 what is being read to them.

18 Q And that's different than learning?

19 A Potentially, yes.

20 Q How?

21 A Just because I understand something that is said doesn't
22 necessarily mean that I take ownership over what's
23 contained within it.

24 Q If you teach something, do you expect that students will
25 take ownership of it, is that a goal?

00076

1 A That is a goal and an expectation.

2 Q And would you want to teach things that you did not
3 expect or hope that students would take ownership of?

4 A There are things that are taught every day that students
5 don't necessarily take ownership of.

6 Q But would you teach something where that was not a goal
7 and an expectation?

8 A I mean, realistically, yeah, that does happen.

9 Q Like what, give me an example?

10 A In my class, I may talk about certain concepts or ideas
11 that I know students aren't going to be tested on. In
12 my case, I deal with graduate students, so I'm always
13 cognizant of the fact that as adult learners, they're
14 always thinking about how am I going to use this
15 tomorrow in my classroom or next week or next month. So
16 I know that there are times that we'll talk about things
17 in my class that are not going to apply immediately and
18 maybe even ever, so I'm not necessarily expecting them
19 to be able to apply -- learn it to a point of being able
20 to apply it.

21 Q So what's the point of introducing them to it?

22 A Well, number one, that whatever it is we're talking
23 about, it's a -- it's something that may be related to
24 something else that we're talking about and so it kind
25 of plays a part of understanding whatever it is.

00077

- 1 Q So you've made some judgment that this is important
2 enough for you to take class time on?
- 3 A Well, yeah, but that doesn't necessarily -- we're
4 getting at this point of does that necessarily equal
5 learning.
- 6 Q We must have just very different understandings of what
7 learning -- so is learning different than understanding?
8 Learning is the process?
- 9 A I would put it the other way, understanding is different
10 than learning.
- 11 Q Okay. Explain.
- 12 A Well, specifically here, if I read this four-paragraph
13 statement to you, I would hope you would understand what
14 it is I'm saying. Right? The message is conveyed and
15 received. But that doesn't necessarily mean that I
16 expect that as a result of what I've read and what
17 you've heard that some learning is, has, or will take
18 place.
- 19 Q But it's likely to take place?
- 20 MR. THOMPSON: Objection, no foundation for that.
- 21 MR. WALCZAK: Well, I'm asking him.
- 22 BY MR. WALCZAK:
- 23 Q Is it likely to take place?
- 24 A That's a huge speculation.
- 25 Q Well, if I was a teacher and I stood up at the front of

00078

1 the classroom and I said homosexuality is a biological
2 trait and people are born that way and so that's -- they
3 really can't change, would I be teaching?
4 A Potentially.
5 Q Why?
6 A Presumably you have a motivation in mind in saying such.
7 It's not a direction, if that makes sense.
8 Q No, that doesn't make sense.
9 A Meaning go to the blackboard, pick up your pencil.
10 Q Is that any different than the four-paragraph statement
11 in Dover? I mean, substantively, of course it's
12 different, but is that any different than this statement
13 here?
14 A I would classify this more as direction or instruction,
15 or directions rather than teaching. Instructions in the
16 sense that we were talking about earlier, pick up your
17 pencil, go to the blackboard.
18 Q Because Darwin's theory is a theory, it is still being
19 tested as new evidence is discovered, the theory is not
20 a fact. Gaps in the theory exist for which there is no
21 evidence. A theory is -- blah, blah, blah. Intelligent
22 design is an explanation of the origin of life that
23 differs from Darwin's view. The reference book Of
24 Pandas and People is available for any student to see if
25 you would like to explore this view in an effort to gain

00079

1 an understanding of what intelligent design actually
2 involves.

3 So if I read a statement that said, "Homosexuality
4 has biological origins. Now, there is another view that
5 in fact homosexuality is not biological, there is a book
6 that you could read about this in the library," if I
7 said that at the beginning of class, is that teaching?

8 A I'd say that's more of an admonition and encouragement.

9 Q And what's the admonition or encouragement?

10 A The admonition is to try to encourage students to learn
11 about this presumably on their own if you're telling
12 them to go to the library and get a book and so forth.

13 Q And is that any different than what Dover is doing?

14 A That's what I'm saying, this is more of an admonition,
15 an instruction.

16 Q And is it reasonable to expect that students will learn
17 this?

18 A Reasonable to expect?

19 Q Is it reasonable to expect that -- well, you wouldn't
20 say it if you wouldn't expect students to hear it,
21 right? And upon hearing it, they're going to process it
22 in some way?

23 MR. THOMPSON: I object again. This is far afield,
24 this is speculation as to what some student is going to
25 do with that particular four-paragraph statement. I

00080

1 mean, they don't even talk about what intelligent design
2 is other than to say it's an alternative theory, they
3 don't even explain it.

4 BY MR. WALCZAK:

5 Q Do you know what the goal of the policy is?

6 A Are you asking me was I in -- or am I privy to School
7 Board discussions and so forth?

8 Q Do you as we sit here right now know what the School
9 Board's goal was in passing this policy?

10 A That's what I'm asking, are you asking me was I -- am I
11 privy to the discussion that precipitated this policy?

12 Q Well, we'll start there.

13 A Okay. No, I was not privy to what premeditated it.

14 Q Have you talked to anybody within the School District
15 about the goal for this policy?

16 A No.

17 Q Has anybody told you what the goal of the policy is?

18 A No.

19 Q So in your report when you talk about how this policy
20 promotes critical thinking and raises student awareness,
21 you don't know that that was the Board's goal?

22 A Not necessarily.

23 Q But if you in your report opine that this policy will
24 raise student awareness, introduce students to the idea
25 of multiple ways of knowing, establish critical

00081

1 thinking, have students assume more responsibility for
2 their learning, teach them something that is a simple
3 matter of accuracy, that there are weaknesses, gaps, and
4 problems, then that must be what this policy does, or
5 are you not saying the policy does those things?

6 A So what are you asking exactly?

7 Q So you do not know what the Board's goal is in teaching
8 this?

9 MR. THOMPSON: That's been asked and answered. He
10 says he doesn't know, he's --

11 MR. WALCZAK: He does not know.

12 MR. THOMPSON: Right.

13 BY MR. WALCZAK:

14 Q So you do not know that a goal is to promote critical
15 thinking?

16 MR. THOMPSON: He doesn't -- objection again. I
17 think it's getting confusing here. He knows -- he's
18 looked at the policy, and he says these, based upon the
19 facial reading of the policy, these are the laudable
20 goals of that policy. He doesn't know what the
21 motivation of the Board was to pass it. The distinction
22 is what was in the mind of the board members when they
23 passed it. He doesn't know that. But he can look at
24 the face of the policy and say these are laudable
25 pedagogical goals, there's no inconsistency there.

00082

1 BY MR. WALCZAK:

2 Q So you're inferring what the goals might be?

3 MR. THOMPSON: Objection. Again, he can't answer,
4 it's pure speculation as to what was in the minds --

5 MR. WALCZAK: That's not what I'm asking.

6 BY MR. WALCZAK:

7 Q So you're inferring what -- your report essentially
8 infers the District's goals?

9 MR. THOMPSON: Objection again.

10 BY MR. WALCZAK:

11 Q Go ahead, you can answer that.

12 A I'm looking at the policy and thinking about it and
13 analyzing it based on what I read both in the policy and
14 those sources that we've talked about outside of, and
15 then as I do with any policy, I'm looking at the policy
16 on its face and what's incentivized by it and so forth,
17 not necessarily who motivate -- who was motivated and
18 why they were motivated by it and so forth. All I can
19 know is what I see there. And then analyze it.

20 Q So how does reading this four-paragraph statement
21 promote critical thinking?

22 A As stated, it says with respect to any theory, students
23 are encouraged to keep an open mind. So starting from
24 that point, the idea is that in any learning, in this
25 case with respect to the theory of evolution, students

00083

1 are instructed to keep an open mind about what they
2 hear, to analyze it, to weigh evidence one against the
3 other or weigh multiple types of data, to think
4 critically about that, and come to some conclusion.
5 Q What about the rest of -- so that sentence --
6 A That's what I'm saying, with that as a starting point,
7 and the rest of it kind of dovetails in with that.
8 Q So how else does -- so the only way this promotes
9 critical thinking is by telling students to keep an open
10 mind?
11 A No, that's not what I'm saying. I'm saying from that
12 point for -- not literally forward, but also the idea it
13 says theories are tested as new evidence is discovered,
14 so it's again telling students, encouraging students to
15 keep in mind that this is a theory, that as scientists
16 do, that you need to test this, weigh the evidence,
17 weigh the data and so forth.
18 Q What else does it promote critical thinking on?
19 A Critical thinking also -- a part of critical thinking is
20 that tying in with this idea of owning your learning,
21 that students or learners would consider multiple
22 definitions and understandings and explanations, if you
23 will, so it is encouraging students to consider that
24 there may be alternatives, to weigh the alternatives and
25 so forth.

00084

- 1 Q And does it direct the students to any alternatives?
2 A The policy -- the referenced statement itself directs
3 them to a book. It says there are alternatives, but it
4 references one in particular.
5 Q Does it reference an alternative theory?
6 A By name, yes.
7 Q So does this promote critical thinking about intelligent
8 design?
9 A It promotes critical thinking about several things
10 generally, but also several things, as well, specific to
11 the science classroom.
12 Q Does it promote critical thinking about intelligent
13 design?
14 A Presumably, yes.
15 Q Does it promote critical thinking --
16 A Hold on, I want to go back. I wouldn't say promote as
17 much as I would say encourage.
18 Q But it encourages critical thinking about intelligent
19 design?
20 A And evolution and theories and science and so forth.
21 Q Do you know whether the Miller and Levine textbook
22 encourages any of the aforementioned critical thinking
23 areas?
24 A Meaning do they have a chapter on critical thinking?
25 Q Do they in the Miller and Levine textbook, do they

00085

1 promote critical thinking about evolution, about what a
2 scientific theory is? Do you know what Miller and
3 Levine says about those things?
4 A Implicitly, yes.
5 Q What do you mean, implicitly?
6 A The fact that they have this page in their text that
7 talks about the developing nature of evolution.
8 Q What was that -- I'm sorry, what was that page?
9 A 386.
10 Q And what did that page talk about?
11 A Well, I'd have to pull it up.
12 Q Oh, it's on your computer.
13 A Which I can if we want to wait.
14 Q Maybe we can do that later.
15 A Actually, I think I may have -- oh, here. This is
16 quoting from the text: Like any scientific theory,
17 evolutionary theory continues to change as new data are
18 gathered and new ways of thinking arise. Researchers
19 still debate such important questions as precisely how
20 new species arise and why species become extinct. There
21 is also uncertainty about how life began.
22 Q And so how is the statement that Dover reads different
23 than what's in the book already? I mean, it sounds to
24 me pretty similar.
25 A Um-hmm. I'm sorry, yes.

00086

1 Q So what does the Dover statement add to what's already
2 in the book?

3 MR. THOMPSON: Objection. You're assuming that
4 that section, that page, is covered in the text -- in
5 the lessons that the teachers give, because I know that
6 they don't -- excuse me -- I understood that they don't
7 teach the whole book.

8 BY MR. WALCZAK:

9 Q Do you know what they teach?

10 A From the book?

11 Q Um-hmm.

12 A Not from the book, no.

13 Q Assuming they teach that, is this policy not redundant,
14 this statement?

15 A That assumes -- let's assume that for a moment. That
16 would assume redundancy is a bad thing.

17 Q Well, is it -- assuming that is taught, is the statement
18 duplicative without any value judgments?

19 MR. THOMPSON: The documents speak for themselves.
20 The text speaks -- states one thing and the policy
21 states, again, something else.

22 MR. WALCZAK: Well, in terms of the concepts that
23 Dr. Carpenter has pointed to that we're encouraging
24 critical thinking about.

25 BY MR. WALCZAK:

00087

1 Q Isn't that duplicative, isn't the Miller and Levine
2 textbook chapter, assuming it's taught, duplicative of
3 the statement that the Board has required the school to
4 read to students?

5 MR. THOMPSON: The text doesn't say anything about
6 a fact, that the theory is not a fact.

7 MR. WALCZAK: You know what? I'm asking him the
8 questions.

9 MR. THOMPSON: I know, but the two documents speak
10 for themselves.

11 MR. WALCZAK: Well, you know, can he answer the
12 questions?

13 A They are not exact representations one of the other, if
14 that's what you're asking.

15 BY MR. WALCZAK:

16 Q So what's different? What does the Dover statement add
17 to the Miller and Levine lesson plan?

18 A Well, number one, it says that students are going to
19 learn -- or students will be taught and will be tested
20 on evolution specifically. That's not in the Miller and
21 Levine. This statement talks about -- talks a bit more
22 about what a theory is. This statement talks about
23 issues around alternatives, in the Dover statement.

24 Q What alternatives?

25 A Well, what it lists here, intelligent design.

00088

1 Then it has various, kind of going back to what we
2 were talking about earlier, instructions, admonitions,
3 so forth.
4 Q About discussions with parents?
5 A Correct.
6 Q So do we need to promote critical thinking about
7 students being tested on evolution, is that something
8 you need to promote critical thinking about?
9 A That's what I'm saying, there is some of that that's
10 admonition or instruction.
11 Q So the only thing that I heard you say, and correct me
12 if I'm wrong, the only thing I heard you say that this
13 statement adds to what is already in Miller and Levine
14 is to encourage critical thinking about intelligent
15 design?
16 A Are you saying that Miller and Levine aren't encouraging
17 critical thinking?
18 Q I'm saying they are encouraging critical thinking about
19 different things.
20 A Implicitly.
21 Q Well, and that's the only page you've read in the book,
22 right?
23 A Specific to this.
24 Q Specific to --
25 A The issue of critical thinking.

00089

- 1 Q What other pages have you read in Miller and Levine?
2 A As I mentioned, I just skimmed through the text.
3 Q But you haven't read it?
4 A No, not read it as in a verbatim --
5 Q Have you read the chapter on the science of biology?
6 A No.
7 Q That's Chapter 1.
8 A Um-hmm.
9 Q So you don't know what it is that Miller and Levine
10 actually teaches about biology?
11 A As I said, I only skimmed through it just to get an
12 understanding.
13 Q And what was your understanding about what it says on
14 encouraging critical thinking about scientific theories?
15 A My understanding is that's not a central focus of the
16 book necessarily.
17 Q And what is that understanding based on?
18 A In looking at the table of contents and so forth.
19 Q From the table of contents?
20 A Right.
21 Q But you have no idea what the book says about critical
22 thinking other than from that page?
23 A Correct.
24 Q So the big addition of this reading this statement to
25 the students is that it encourages students to think

00090

1 critically about intelligent design?

2 A That's one of the things addressed in the statement.

3 Q And I can tell you that there's no mention of
4 intelligent design in the Miller and Levine textbook,
5 you can just take my word for it.

6 So this statement does introduce students to a new
7 concept of intelligent design, is that correct?

8 A If I'm -- if what you said is true.

9 Q If it's not in Miller and Levine, then this is
10 introducing a new concept to them?

11 A Potentially. We don't know. I mean, they may have
12 already known about it from somewhere else.

13 Q But now they will definitely know about it, right?

14 A Well, they'll -- know in what sense?

15 Q They'll definitely know about the concept of intelligent
16 design?

17 MR. THOMPSON: Objection, that's speculation. We
18 don't know if they even hear the statement or if it even
19 registers. It would be a historical fact that after
20 you've read this statement whether they really know
21 anything about intelligent design.

22 BY MR. WALCZAK:

23 Q Would it make sense to have passed this without having
24 the hope and expectation that students would now
25 recognize that there is an alternative theory to

00091

1 Darwin's called intelligent design, would it have made
2 sense for the School Board to have passed that policy?
3 A Would it have made sense for them to pass the policy --
4 Q Unless they had the hope and expectation that students
5 would come to understand that intelligent design is an
6 alternative explanation to Darwin's theory?
7 A That there are alternatives, one of them being
8 intelligent design?
9 Q Yes.
10 A Presumably. I don't know because I haven't -- I wasn't
11 there, I haven't had discussions with them.
12 Q But from a pedagogical sense, it wouldn't make sense,
13 would it?
14 A Make sense to what?
15 Q Be a sensible thing to do? Is that a pedagogically
16 valid -- would you pass a policy identifying some
17 concept that you're going to share with the students
18 without having the hope and expectation that students
19 would learn or understand or at least be aware of it?
20 A Presumably the idea is here that students would
21 understand, cognitively understand that there are
22 alternatives to what they are going to hear over the
23 next X lessons.
24 Q And presumably, this statement promotes that?
25 A Promotes what?

00092

- 1 Q This kind of understanding about this concept of
2 intelligent design?
- 3 A Are you asking me does it promote intelligent design?
- 4 Q Does it encourage students to think critically about
5 intelligent design?
- 6 A Well, first it encourages students to think critically,
7 period. And to think critically about what they're
8 going to read and hear. And then presumably, if they go
9 and read a text in the library, to think critically
10 about what they read there.
- 11 Q Does it encourage the students to read that text?
- 12 A It makes them aware of the text.
- 13 Q And do teachers often make references to things that
14 they don't want students to do? Would you identify,
15 say, extra reading material without some hope and
16 expectation that at least some students would take
17 advantage of that?
- 18 A I do it all the time.
- 19 Q Without any hope and expectation that students will take
20 advantage of it?
- 21 A Exactly.
- 22 Q Why do you do it?
- 23 A As I tell the students in class, the reason I include
24 bibliographies and other readings on a syllabus or
25 reference them in class is if you are interested in

00093

1 this, this is where you may find more information about
2 X, Y and Z, but the reaction of the students make it
3 very clear that we all know that they're not going to
4 necessarily go out and do extra reading and so forth.
5 Q Is there some implicit value judgment that you transmit
6 to the students by making that statement?
7 A Not necessarily. It's a service that I provide.
8 Q So there's no implicit message that this would be a good
9 thing for you to do?
10 A I say very explicitly in class that I think students
11 ought to read very broadly, that they ought to read,
12 number one, and then number two, read very broadly
13 outside of their discipline and outside of their own
14 kind of sub-discipline, so forth. But beyond that,
15 that's about as explicit as I get. I provide those
16 things as a service.
17 Q Have you talked to any, quote, unquote, experts on
18 intelligent design?
19 A "Talked to," what does that mean?
20 Q Spoken with?
21 A In preparation for the report and so forth?
22 Q Ever.
23 A Ever?
24 Q Ever.
25 A I'm hesitating over the word "expert."

00094

1 Q Let me narrow it. About intelligent design. I mean, if
2 you said hello to Michael Behe, then that doesn't count,
3 but talked to a self-proclaimed expert on intelligent
4 design about the theory of intelligent design?
5 A I want to say no, but I don't want that to --
6 Q Not that you can remember?
7 A Yeah, right. I'm not here to commit perjury, but no, I
8 think.
9 Q Have you ever attended any conferences where intelligent
10 design was discussed?
11 A No.
12 Q Have you ever attended any conferences where evolution
13 was discussed?
14 A No, not that I remember.
15 Q Have you ever attended any science conferences?
16 A "Science" meaning?
17 Q Science.
18 A I think there are a whole lot of people who would debate
19 you on what science is, but are you meaning what we're
20 talking about here as science? As opposed to political
21 science or economics or --
22 Q What's your definition of science?
23 A As I typically talk about it in class, I term it -- I
24 put it in terms of research, is how does one define the
25 nature of reality. So if we're talking about science

00095

1 in -- kind of in this milieu, no.
2 Q And how is this milieu different from your understanding
3 of science?
4 A What I'm saying is if you're talking about this milieu
5 of science, this understanding of science, no, I haven't
6 attended a conference --
7 Q What understanding? I'm not sure -- I want to make sure
8 we're on the same wavelength here.
9 What's your understanding of the science that I'm
10 asking about?
11 A We're talking about biological science, that kind of --
12 Q Not political science.
13 A Not political science, not economics, not psychology --
14 Q The natural sciences?
15 A Yeah, I guess one could define it that way.
16 Q Is that a fair definition?
17 A I think that's the common --
18 Q Biology, chemistry, physics, astronomy, geology,
19 paleontology. Have you ever attended any science
20 conferences as we've just defined that term?
21 A No.
22 Q Have you ever attended any science education
23 conferences?
24 A Not that they were specific to science education.
25 Q So what -- well, tell me what you did attend?

00096

- 1 A Something like the American Education Research
2 Association, for example, would have science education
3 as a sub-discipline.
- 4 Q And were you an attendee or a presenter?
- 5 A Both.
- 6 Q And how often have you attended those?
- 7 A That specific one or other conferences of that nature?
- 8 Q Well, American Educational Research Association?
- 9 A I've gone to that one once.
- 10 Q When was that?
- 11 A April of 2004, I think.
- 12 Q Last year?
- 13 A I think. It could have been two years ago, but --.
- 14 Q Did you attend any programs that discussed science as
15 we've defined it?
- 16 A No.
- 17 Q Did you present on any programs that discussed science?
- 18 A As we define it, no.
- 19 Q What did you present on?
- 20 A Two things. One was on education policy. And the
21 second one was on -- well, I guess they were both
22 education policy related. One was on school discipline
23 and one was on presidential education policy.
- 24 Q Presidential educational policy?
- 25 A Correct.

00097

- 1 Q Like the No Child Left Behind stuff?
2 A Well, it wasn't that specifically, but in that kind of
3 venue.
4 Q So you didn't hear any discussion of science content as
5 we've defined it?
6 A Correct.
7 Q Did you hear any discussion of intelligent design?
8 A No.
9 Q Any other science education type conferences that you've
10 been to?
11 A No.
12 Q Do you know what, if any, instruction Dover School
13 District has given teachers about what to do or not to
14 do with this statement?
15 A No.
16 Q So you don't know if there's any limitations on the
17 teachers, whether the school administration has placed
18 any limitations on what teachers can and cannot say in
19 addition to this statement?
20 A Well, insomuch as what it says here, no teacher will
21 teach intelligent design, creationism, or present his or
22 her or the Board's religious beliefs. So that seems to
23 be pretty clear.
24 Q Do you know whether the teachers have gotten any
25 instructions about what they are supposed to do if they

00098

1 get a question about intelligent design?
2 A No. Is it -- I didn't see it in here. Is it in here?
3 Q I'm asking if you know.
4 A Oh, no.
5 Q Have you read any of the fact witnesses' depositions in
6 this case?
7 A What is that?
8 Q You're an expert, Brian Alters is an expert, you are
9 people who have some expertise in a field and are --
10 A Rendering an opinion.
11 Q Right, rendering an opinion. Fact witnesses are people
12 who are players in --
13 A Oh, those involved.
14 Q -- the movie.
15 A I see. No.
16 Q Have you looked at anything related to the history of
17 how this policy came into place?
18 A Does that count the Complaint and the Answer?
19 Q If that's -- I mean, have you looked at -- you've looked
20 at the Complaint and the Answer?
21 A Right.
22 Q Have you looked at anything else?
23 A No.
24 Q Have you gone back and looked at news clips?
25 A Not from this case.

00099

1 Q Have you read Of Pandas and People?

2 A The book itself?

3 Q Yes.

4 A No.

5 Q So you haven't looked at a whole bunch of -- you haven't
6 looked at a lot of literature either about intelligent
7 design or evolution and you've mentioned a few things
8 here and I want to go over those.

9 You haven't consulted the science academies and
10 societies except for the science education standards.
11 You have not consulted science societies and academies
12 or science education societies and academies. You
13 haven't talked to any self-proclaimed experts about
14 intelligent design. You haven't attended any
15 conferences where intelligent design or evolution has
16 been discussed.

17 You have not talked to anybody in the School
18 District?

19 A Correct.

20 Q You have not read fact witness depositions. You have
21 not looked at the history of the passage of this policy
22 other than it's referenced in the Answer or the
23 Complaint.

24 Did your counsel at any time instruct you not to do
25 any of these things?

00100

1 A No.

2 MR. WALCZAK: I'll tell you what. This is actually
3 a good time for a break for me.

4 (Deposition recessed for lunch at 12:22 p.m.)

5 * * *

6 (Deposition resumed at 1:13 p.m.)

7 BY MR. WALCZAK:

8 Q I have had a chance to scan your rebuttal report and I
9 have a few questions about it. You talk about this
10 controversy in the scientific -- inside and outside the
11 scientific community.

12 Now, other than Doctors Dembski, Minnich, and Behe,
13 who else can you point to for the proposition that there
14 is a debate in the, quote, scientific community?

15 A Well, I quote a couple here, at least reference a couple
16 here.

17 Q And that would be the Steel, Sober and Steel?

18 A The discussion amongst those folks.

19 Q And so the universe of people who you took into account
20 in this assessment are Behe, Minnich, Dembski, Sober and
21 Steel? And Penny, Poole, the law firm --

22 A Et al. And others that Dr. Behe, for example,
23 references or others that reference -- that they
24 reference.

25 Q Did you read the reports that they reference?

00101

1 A Only insomuch as what they included in their report.
2 Q You didn't read the referenced-to reports?
3 A Correct.
4 Q So you don't have any independent knowledge --
5 A Other than what -- Behe includes some of those in his
6 report.
7 Q And did you read those?
8 A Correct.
9 Q You did?
10 A Yes.
11 Q You're not aware of any other reports that -- beyond
12 those that are mentioned in the Behe, Dembski, Minnich
13 reports?
14 A If you're asking me anything in addition to what we've
15 already discussed, no.
16 When we say "reports," are we including all of the
17 expert witness reports other than what you and I just
18 said?
19 Q Yes.
20 A Okay.
21 Q So the debate in the scientific community about
22 alternatives to evolution, including ID, what scientific
23 community do you point to? Is it just these scientists
24 who have submitted expert reports on behalf of the
25 School District or are there other scientists?

00102

- 1 A And those that I reference here and others that they
2 reference, as well.
- 3 Q How would you define the scientific community?
- 4 A In this case, it would be those who are teaching and/or
5 researching in the field under question.
- 6 Q So that would be intelligent design?
- 7 A No, I would expand it beyond that.
- 8 Q What would you expand it to?
- 9 A When we say the scientific community, the community is
10 greater than those -- just those who are researching and
11 are teaching about intelligent design.
- 12 Q You've never attended any science conferences, so you
13 haven't heard any debate or discussion at a science
14 conference, right?
- 15 A Not firsthand.
- 16 Q Are you aware of any publication by the National Academy
17 of Science that talks about this controversy?
- 18 A By publication, do you mean --
- 19 Q Well, anything that they put out or endorse or sponsor,
20 are you aware of any?
- 21 A I'd have to look into what I have on my laptop, but at
22 least one site that I visited, and this is under
23 question, which site was it, that's what I'm not
24 remembering, is it the National Association of Science
25 or is it the -- whatever else I visited, there were

00103

1 postings or web documents that referenced the
2 discussion, debate, controversy, however you want to
3 classify it.
4 Q And do you know what they said?
5 A They were -- it was essentially a publication about it
6 or a web posting about it, this is what's going on, kind
7 of a look at contemporary events.
8 Q When we take a break, I'm going to ask you to identify
9 that for me, okay?
10 A Okay.
11 Q We'll wait until we take a break.
12 Are you aware of any publications by AAAS that
13 recognize this controversy?
14 A No.
15 Q Are you aware of any publications within or emanating
16 from the National Science Teachers Association?
17 A Again, that may be the web site I'm referencing, but --
18 Q So you can only think of one in all the things you
19 looked at that has referenced this controversy over
20 intelligent design?
21 A Um-hmm. I'm sorry, yes.
22 Q You say that intelligent design has been published in
23 peer-reviewed scientific journals. Can you identify
24 those?
25 A I'd have to look at the expert report to tell you which

00104

- 1 ones.
- 2 Q Are you aware of any other than what may be referenced
- 3 in the other Dover Area School District's experts'
- 4 reports?
- 5 A No.
- 6 Q And you say IDT researchers have a clear scientific
- 7 research agenda.
- 8 What's your basis for saying that?
- 9 A Again, the expert report.
- 10 Q So you have no independent knowledge apart from what the
- 11 other experts have said?
- 12 A Correct.
- 13 Q You say IDT principles inform the work of research
- 14 scientists?
- 15 A Um-hmm.
- 16 Q What's your basis for saying that?
- 17 A The same sources.
- 18 Q So you have no independent knowledge about any of those
- 19 things?
- 20 A Correct.
- 21 Q Do you know if Sober and Steel's article is a
- 22 peer-reviewed article?
- 23 A I believe it is.
- 24 Q Do you know it is?
- 25 A The fact that it appears in a peer-reviewed journal

00105

1 would lead me to conclude that it is.
2 Q Evolution is just one scientific theory, correct?
3 A In the grand scheme of things?
4 Q Yeah. I mean, there's other scientific theories?
5 A And there are other -- and there are multiple ways of
6 understanding evolution, as well.
7 Q I'm just asking you, there are other scientific theories
8 besides the theory of evolution?
9 A Sure, yeah.
10 Q There's the theory of relativity, the theory of gravity,
11 the theory of plate tectonics, correct?
12 A Et cetera, right.
13 Q Are all of those theories subject to the same, shall we
14 say, admonition that they are being tested as new
15 evidence is discovered?
16 A Presumably, yes.
17 Q Well, yes or no?
18 A Presumably, yes.
19 Q Why do you say presumably?
20 A Because as -- because, as you read, as new data is
21 entered, discovered, or whatever.
22 Q Well, is that the definition of a scientific theory,
23 that it's constantly updated?
24 A In the real working world, that's typically how it
25 works.

00106

1 Q Define scientific theory for me?
2 A Are you asking me is there a single scientific theory?
3 Q How would you define scientific theory?
4 A It's somewhat similar to what we talked about earlier,
5 and that is a way to describe or define observed data
6 and maybe not observed data.
7 Q And does science as that term is commonly understood,
8 does that limit how we can look at things?
9 A Does it or should it, which are you asking me?
10 Q I'm asking does it?
11 MR. THOMPSON: I'll object. That's a pretty
12 ambiguous and vague question. I don't know what the
13 relevancy of it is.
14 BY MR. WALCZAK:
15 Q Go ahead.
16 A Not necessarily.
17 (Exhibit Number 2 was marked for identification.)
18 BY MR. WALCZAK:
19 Q I show you what's been marked as Exhibit 2.
20 Do you recognize this?
21 MR. THOMPSON: I need a magnifying glass here.
22 MR. WALCZAK: I was anticipating that.
23 BY MR. WALCZAK:
24 Q If you turn to the last page, I have blown up a section
25 of the first page.

00107

1 A It appears to be the course text or something looking
2 like it.

3 Q But you don't know for sure?

4 A Well, based on what I see here, I assume -- it looks
5 like the course text.

6 Q Have you read this before?

7 A As we talked about earlier, I would classify it more as
8 a skim.

9 Q I'd like you to take a minute and turn to that last
10 page, and I have enlarged only the text that says "What
11 is Science," and perhaps you could read what science is
12 and is not to yourself and then tell me when you've
13 finished doing that?

14 A Okay.

15 Q Do you agree with that definition of science?

16 MR. THOMPSON: Objection. I think it's an
17 ambiguous question. Can you get more particular as to
18 what "that" means, "that definition"?

19 BY MR. WALCZAK:

20 Q You just read a definition in this exhibit. Do you
21 agree with the definition that you just read?

22 MR. THOMPSON: Objection, calls for a legal
23 conclusion.

24 MR. WALCZAK: Objection noted.

25 BY MR. WALCZAK:

00108

1 Q Do you agree with this definition?

2 A I agree that it is a definition.

3 Q Is this a definition of science?

4 MR. THOMPSON: He just answered the question, it is
5 a definition of science.

6 BY MR. WALCZAK:

7 Q Give me another definition of science?

8 A The reason I say it's a definition is it's a definition
9 specific to a discipline.

10 Q Okay. Which discipline?

11 A When it says "the natural world," we're talking about
12 what you and I defined earlier as the natural sciences,
13 biology, chemistry, physics, et al.

14 Q So you would say this is not a definition, but the
15 definition as applied to the natural sciences?

16 MR. THOMPSON: Objection, calls for a legal
17 conclusion.

18 MR. WALCZAK: You know what? This has nothing to
19 do with legal conclusions.

20 MR. THOMPSON: Sure it does.

21 MR. WALCZAK: This is not a legal --

22 MR. THOMPSON: Yes. The courts have defined what
23 science is in the McLean case and that was Judge
24 Overton's definition of what science is, and that's been
25 disputed now, and ultimately, Judge Jones is going to

00109

1 have to come to a decision as to what the definition of
2 science is.

3 MR. WALCZAK: But he's going to come to that
4 conclusion with the aid of your expert and supposedly,
5 you know, whether this is good pedagogy when we're
6 talking about science education. I have every right to
7 ask him about his understanding of the definition of
8 science.

9 MR. THOMPSON: Certainly you have a right to ask
10 him, but the question is, is he qualified to respond.
11 He is not a scientist, and these are questions for
12 scientists, what is science.

13 MR. WALCZAK: But he has opined that this is
14 appropriate science education. So if he can't answer
15 this, he can tell me that, but I think it's fair for me
16 to assume that he should be able to answer this if he's
17 opining on the material that's at issue here.

18 MR. THOMPSON: And that is an ultimate conclusion
19 that a judge is going to have to decide.

20 MR. WALCZAK: That's fine.

21 MR. THOMPSON: That's all I'm saying, is
22 because -- okay. I don't want to --

23 BY MR. WALCZAK:

24 Q So you can still answer the question unless your counsel
25 is going to instruct you not to.

00110

1 MR. THOMPSON: No, I mean, I just think it's
2 important to note that you're asking him for a legal
3 conclusion as to what is science. That's a part of the
4 controversy that exists in this case.

5 BY MR. WALCZAK:

6 Q I want to know as you would define science, in your
7 understanding of science and the understanding that you
8 have brought to bear on your opinion, is this the
9 definition of science, is this an accurate definition of
10 science as applied to the natural sciences?

11 A It is a definition of science applying to the natural
12 sciences.

13 Q Give me another definition, what would you add to this
14 or how would you change this? I need the other -- I
15 need alternative definitions of science if this isn't
16 it.

17 A There are some who work in the theoretical world of
18 science, that is, they're unable to directly examine
19 natural evidence and events and factors.

20 Q And are these people scientists?

21 A Most certainly.

22 Q And give me examples of who those people are?

23 A By name? Well, initially, Einstein was one. But
24 contemporary, I'd have to -- I don't have them committed
25 to memory. The String Theory might be one example.

00111

1 Q And how does this definition not apply? I mean, they're
2 looking for natural causes of certain phenomena. I
3 mean, Einstein was looking for natural causes of certain
4 phenomena.

5 A Correct.

6 Q Is your dispute the natural causation aspect of this?

7 A Well, that's implied in it in the sense -- that's
8 implied, but more specifically to the idea
9 of explanations that could be attested by examining
10 evidence, for example. That implies that the students
11 or the scientists would be able to examine evidence
12 directly and weigh evidence one against the other and
13 thereby theories one against the other, but somebody
14 working in the world of the theoretical, unable to
15 directly examine the evidence.

16 Q Well, directly examine, do you mean -- if you're
17 studying dinosaurs, you can't directly examine
18 dinosaurs, but you're still looking for natural causes
19 there?

20 A Right.

21 Q I guess I want to try to understand where the
22 differences are here.

23 Science is an explanation or is an attempt to
24 explain the natural world, do you agree with that?

25 A As they define it here?

00112

- 1 Q No. I'm asking do you agree that science looks to
2 explain things in the natural world?
- 3 A That's one branch, slash, definition of science, yeah.
- 4 Q What else would it look at, what's another definition?
- 5 A Some scientists aren't concerned with the natural world.
- 6 Q What are they concerned with?
- 7 A Some scientists might be interested in the sociological,
8 for instance.
- 9 Q Sociological what?
- 10 A Sociological interactions between people, sociologists,
11 anthropologists, that kind of thing.
- 12 Q Those would not be the natural sciences.
- 13 In terms of the natural sciences, they are looking
14 at explaining what's going on in the natural world,
15 right?
- 16 A Yes, I suppose so.
- 17 Q But is it broader than that, are they looking to explain
18 supernatural causes?
- 19 A I don't know that I could say one way or the other.
- 20 Q In your definition of science, does it allow for
21 supernatural causation?
- 22 A "Supernatural" defined as?
- 23 Q Not of this world.
- 24 A I mean, Jupiter is not of this world. I mean, what --
- 25 Q A non-material explanation, a non-naturalistic

00113

1 explanation?
2 A So your question is?
3 Q Does science as commonly understood today allow for
4 non-natural causation or supernatural causation?
5 A That I don't know.
6 Q You don't know?
7 A No.
8 Q Why?
9 A Because I can't possibly know every person's and
10 sub-discipline's understanding of the definition of
11 science.
12 Q So you say science may entail supernatural causation?
13 A I'm saying I don't know, that's what I'm saying.
14 Q Does your definition of science include the ability to
15 test hypotheses?
16 A Yes.
17 Q So it's got -- whatever the hypothesis is, for it to be
18 scientific, it must be testable?
19 A What you said before was does it include the ability to
20 test the hypothesis.
21 Q Is an essential element of science testability?
22 MR. THOMPSON: This is where my initial objections
23 were, and that was Judge Overton had a definition of
24 science in his case and that definition now has been a
25 point of controversy, and so testability then becomes an

00114

1 issue that involves evolution, as well.

2 MR. WALCZAK: Thank you.

3 BY MR. WALCZAK:

4 Q Is your understanding or your -- would your definition
5 of science be that in order for a process to be
6 scientific, it must be testable?

7 A Some definitions of science, yes, and some, not
8 necessarily.

9 Q Can you name scientists who would say that it does not
10 need to be testable in order to qualify as science?

11 A Again, are we talking -- what realm of science?

12 Q Natural sciences.

13 A Okay, I'm sorry, I was talking outside of --

14 Q Assume all of my questions are natural sciences.

15 A Okay. Perhaps, but I don't know that. Again, I can't
16 possibly know everyone's definition.

17 Q Now, it's not okay to just teach students anything,
18 correct?

19 MR. THOMPSON: Objection, vague, ambiguous
20 question.

21 BY MR. WALCZAK:

22 Q There are limits on -- there must be limits and
23 standards on what should be taught to students?

24 MR. THOMPSON: Again, same objection.

25 BY MR. WALCZAK:

00115

- 1 Q Go ahead and answer it.
- 2 A Well, there are limits to what students are taught,
3 certainly.
- 4 Q You know, in assessing what is good pedagogy, certainly
5 there are things that guide that assessment, correct?
- 6 A Typically, yes.
- 7 Q So for instance, one would be that what is being taught
8 is accurate?
- 9 A Yes and no. If one were to talk about thesis and
10 antithesis, black versus white, one might teach about
11 something that one might classify as inaccurate.
- 12 Q Give me an example?
- 13 A If you were to make a statement about -- this is
14 extremely elementary --
- 15 Q Please, that's about my level.
- 16 A -- you know, what two plus two is, you might also talk
17 about what it is not.
- 18 Q What would be inaccurate in that?
- 19 A What would be inaccurate in that?
- 20 Q Right. If you're telling them two plus two is four and
21 two plus two is not five, where is the inaccuracy there?
- 22 A The latter.
- 23 Q But you're telling them it's not five, so you're
24 teaching them accurately that two plus two is not five?
- 25 A Yeah, that's what I'm saying, you might present the

00116

- 1 inaccurate to elucidate the accurate.
- 2 Q Would you teach two plus two is five, would that be good
3 pedagogy?
- 4 A Going back to what I said before, you might present it
5 in your teaching as a way to --
- 6 Q No, but you said you might present two plus two does not
7 equal five. I said would you teach students that two
8 plus two equals five, would that be good pedagogy?
- 9 A No, I think we would agree no.
- 10 Q Why?
- 11 A Because two plus two equals four.
- 12 Q And so why would it be bad to teach students that two
13 plus two is five?
- 14 A I mean, I think we've already established that, it's not
15 five.
- 16 Q So it's because it's not accurate?
- 17 A Because two plus two is four and not five.
- 18 Q So two plus two equals five would be inaccurate, so it
19 fails the test of good pedagogy because it's not
20 accurate?
- 21 A I don't know that it's an issue of pedagogy as much as
22 it's accuracy versus inaccuracy.
- 23 Q So accuracy is an element of good pedagogy?
- 24 A It is an element.
- 25 Q So in your opinion that you have advanced in this case,

00117

1 you've made some assumptions, and for instance, one of
2 the assumptions is that intelligent design is a
3 scientific theory, is that correct?
4 A Correct.
5 Q If intelligent design was not in fact a scientific
6 theory, just assume for the moment if intelligent design
7 was not a valid scientific theory, then would your
8 opinion be different?
9 A So now you have to go all the way back to the beginning
10 of the question.
11 Q You've said that teaching this policy is good pedagogy,
12 fair summary?
13 A I don't know if I'd say teaching as much as this policy.
14 I mean, this statement, this policy.
15 Q So whether it's teaching or exposing students to the
16 concept of intelligent design as an alternative
17 scientific theory to evolution, you've made an
18 assumption there that intelligent design is a scientific
19 theory, correct?
20 A Correct.
21 But can we take a break? I'm sorry.
22 Q Take a break as in?
23 A Correct. Lunch did not agree with me.
24 Q Okay, sure.
25 A Thank you.

00118

1 (Short recess.)

2 BY MR. WALCZAK:

3 Q Let me try to recapture where we were.

4 Your opinion is that the Dover policy, whether it
5 teaches or introduces students to intelligent design and
6 says that it is a scientific alternative to evolution is
7 good pedagogy rests on the assumption that intelligent
8 design is a scientific alternative, correct?

9 A Are you asking me do I think intelligent design is
10 science?

11 Q I'm asking you is that an assumption that you have made,
12 that intelligent design is a scientific theory?

13 A I don't know if I'd say an assumption as much as it is
14 looking at what others have presented who work in
15 intelligent design, what they've presented about their
16 work and so forth.

17 Q Well, if intelligent design were not a scientific
18 theory, then your conclusion that this policy is good
19 pedagogy would be different, wouldn't it?

20 MR. THOMPSON: Objection, calls for speculation,
21 assuming facts not in evidence.

22 BY MR. WALCZAK:

23 Q Go ahead.

24 A The policy is raising awareness amongst students that
25 there are other alternatives.

00119

- 1 Q But it mentions only one. I mean, it doesn't mention
2 Raelism, does it?
- 3 A Obviously not.
- 4 Q Does it mention Lamarckism?
- 5 A Clearly not.
- 6 Q So what's the only alternative it mentions?
- 7 A Well, it's in writing. Obviously, the only one they
8 mention is intelligent design. But they can't possibly
9 list all alternatives. It is an alternative.
- 10 Q But for something to be good pedagogy, it's got to be
11 accurate, correct? I mean, you don't want to teach
12 something that's inaccurate?
- 13 A As we said before, you might present something else.
- 14 Q Right. But then you're going to say that this is
15 inaccurate, right, so you're not teaching an inaccuracy?
- 16 A That assumes that you are teaching it.
- 17 Q Would you introduce to students the concept, for
18 instance, that, you know, just the teacher would stand
19 up at the front of the class and say, "Two plus two
20 equals five. We're now going to resume our mathematics
21 lesson"?
- 22 A I --
- 23 Q Is that teaching, would that be teaching?
- 24 A I wouldn't -- going back to what we talked about
25 earlier, I don't know that I would call that teaching.

00120

- 1 Q So not everything that a teacher says in class during
2 instructional period is teaching?
- 3 A That's what we said earlier.
- 4 Q But the example you gave about teaching an inaccuracy,
5 you were not allowing students to come away from that
6 believing that it was accurate, you were pointing out
7 the inaccuracy, right? In the two plus two equals five
8 model, you were saying you would teach two plus two
9 equals four, two plus two does not equal five, so you're
10 not teaching something that's inaccurate?
- 11 A It's included as part of your teaching.
- 12 Q Right. But the accuracy of the content is an element of
13 good pedagogy?
- 14 A It is an element.
- 15 Q So if what you were teaching was inaccurate, that would
16 not be good pedagogy?
- 17 A Again, you could include it in your teaching, but if
18 you're trying to at the end of the day have students
19 walk away understanding that two plus two is five,
20 obviously, that would be a problem.
- 21 Q So it's got to be taught in a way that ultimately the
22 student is told whether it's accurate or not accurate?
- 23 A Clearly indicating or thereabouts, yeah.
- 24 Q Yes. So I mean, if what is being taught or introduced
25 to students is misleading, that too would not be good

00121

- 1 pedagogy?
- 2 A If what is being taught is represented as accurate, that
3 would be a problem.
- 4 Q If it was in fact inaccurate?
- 5 A If it's inaccurate and being taught as accurate.
- 6 Q And if what is being taught is misleading, is that good
7 pedagogy?
- 8 A I guess you'll have to -- what do you mean by
9 misleading?
- 10 Q Well, let's say you taught students that man once walked
11 with dinosaurs. Would that be good pedagogy?
- 12 A How is it being included?
- 13 Q In a biology class if you said to students reviewing a
14 chapter on dinosaurs, "Man once walked with dinosaurs"?
- 15 A If you taught that as accurate or fact, is that what
16 you're saying? That would be questionable.
- 17 Q So would that be good or bad pedagogy to tell students
18 that man walked with dinosaurs?
- 19 A Again, if you're including it as a thesis/antithesis as
20 one model or another model as representing something as
21 fact, representing something as unquestioned, accurate,
22 to use your word, that would be problematic.
- 23 Q So if you taught in science class that some people
24 believe that man walked on the earth with dinosaurs,
25 that would be good pedagogy, that would be appropriate?

00122

- 1 A So much of this is contextual. That particular one is
2 very contextual.
- 3 Q We're talking about science class, we're having a
4 discussion of dinosaurs, and there's -- they teach that
5 dinosaurs walked the earth millions of years before man
6 arrived. If you then also added to that "And some
7 people believe that dinosaurs walked on this earth with
8 man," would that be appropriate in a science class?
- 9 A Again, it's contextual. I mean, one would have to ask
10 why are you including that, what's the objective,
11 et cetera, et cetera. That's what I mean by contextual.
- 12 Q To promote -- encourage critical thinking.
- 13 A Potentially.
- 14 Q So that would be okay?
- 15 A Potentially.
- 16 Q And that wouldn't -- would that be -- would it be
17 misleading to introduce in a science class the notion
18 that man and dinosaurs walked on the earth at the same
19 time?
- 20 A No, no, no, what you said was -- you've just presented
21 two different things.
- 22 Q I know, I've changed it.
- 23 MR. THOMPSON: Objection. You asked -- the
24 question the first time is if some people thought that,
25 and the next time you used, instead of "some people,"

00123

1 you used "notion." There's two totally different
2 hypothetical situations there.

3 MR. WALCZAK: Right. I've changed it.

4 BY MR. WALCZAK:

5 Q So instead of saying some people believe, now you say
6 that there's another school of thought that dinosaurs
7 walked on the earth at the same time as people.

8 A And your question would be?

9 Q Is that appropriate, is that --

10 A Potentially. Again, that's what I mean, it's
11 contextual.

12 Q What does it depend on?

13 A Well, I think it depends on what are your objectives,
14 what is your purpose for introducing that content, what
15 points are you trying to make, what is it you want
16 students to know, what pedagogy are you trying to use
17 here, things like that.

18 Q I guess there must be some standards or judgments made
19 about whether it's appropriate to teach something? Are
20 there standards that exist to decide whether something
21 should be taught?

22 A Yeah. Well, now all states teach to their own
23 standards.

24 Q So would it be appropriate in a science class to teach
25 the earth is flat, would that be good pedagogy?

00124

- 1 A I guess we're going over the same ground.
- 2 Q Right, let me give you some hypotheticals. Would that
3 be good pedagogy?
- 4 A If you're teaching the earth is flat as an accurate
5 statement, as a fact, probably not.
- 6 Q Probably not or definitely not?
- 7 A Again, as you said it, "Boys and girls, the earth is
8 flat," one would say no.
- 9 Q And that's because? Why would that not be appropriate?
- 10 A There appears to be pretty wide consensus that that is
11 not an accurate or true representation of the world.
- 12 Q How about if you -- the teacher taught that the universe
13 revolves around the earth, would that be good pedagogy?
- 14 A Again, are they presenting this as fact or are they
15 saying this is what some people think or --
- 16 Q No, as fact.
- 17 A It certainly wouldn't be consistent with state
18 standards.
- 19 Q How about if a science teacher presented the theory of
20 cold fusion and said there is this theory of cold
21 fusion?
- 22 A Okay.
- 23 Q Would that be good science pedagogy?
- 24 A Well, I don't know that I could answer that.
- 25 Q Why?

00125

1 A Because I'm not a cold fusion -- that's not something I
2 know much about.

3 Q There are scientists who believe in cold fusion.

4 A Okay. Well, again, I couldn't --

5 Q Would it be -- so would it be good pedagogy, for
6 instance, to say there are scientists who believe in
7 cold fusion who may --

8 MR. THOMPSON: He's answered he doesn't know much
9 about it, so he couldn't answer the question, and you're
10 asking the same question over again.

11 BY MR. WALCZAK:

12 Q If you said -- I mean, assume the truth of what I'm
13 saying, that there are scientists out there who have
14 said cold fusion is a valid theory. If it was taught,
15 if a teacher said there are scientists out there who
16 believe in cold fusion, here's a book you can read to
17 learn more about it, would that be appropriate?

18 A Well, you've got a couple different things working
19 there. You asked me before is it appropriate for
20 teachers to teach cold fusion or even to tell students
21 that some believe in cold fusion. That's one thing. If
22 I'm a practicing school principal, I may go back and
23 look at our state and district standards and ask is this
24 something that we have to teach or should teach
25 consistent with what the students need to know or be

00126

1 able to do.

2 Q So one of the places you'd look would be the state
3 standards?

4 A Inevitably.

5 Q What about if a teacher said homosexuality is a matter
6 of genetics and not life-style, would that be
7 appropriate for a teacher to say that in class?

8 A Again, going back to what does the district and what
9 does the state say students need to know and be able to
10 do about this.

11 Q Let's say that it's silent, let's say the standards are
12 silent on homosexuality and a teacher decides that I'm
13 going to tell the students that homosexuality is an
14 issue of orientation, it's biological, not a life-style
15 choice, is that appropriate for -- is that good pedagogy
16 for teachers to say that?

17 A I think good pedagogy is what do the students need to
18 know and be able to do. The time span that students
19 have in class and teachers have with students is
20 remarkably limited given all the things that students
21 have to know and be able to do and will be tested on, so
22 very often I tell and used to tell teachers that they
23 need to be parsimonious.

24 Q Okay. But would it be good pedagogy for a teacher to
25 teach that?

00127

- 1 A Again, if it's something the students need to know and
2 be able to do and it's consistent with content standards
3 and they're going to be tested on it, then that would be
4 something that a teacher would need to do. But if it's
5 not, then --
- 6 Q But I'm saying if it's -- you know, intelligent design
7 is not required to be -- is not tested.
- 8 A Nor is it taught.
- 9 Q But you're spending time, even if it's only a minute,
10 they've made a decision to spend time in the classroom
11 alerting students to intelligent design?
- 12 A Alerting them to its existence, but certainly not its
13 definition.
- 14 Q But alerting them to the whole concept --
- 15 A No. What do you mean by "whole concept"?
- 16 Q Well, the concept of intelligent design. I mean, you
17 have introduced the concept of intelligent design into
18 students' lives there. They may pick it up somewhere
19 else, but but for this policy, students would not be
20 exposed to this in school?
- 21 A I don't know that I'd agree with either one of those.
- 22 Q Why?
- 23 A Number one, you've introduced the term. That doesn't
24 necessarily mean you've introduced the concept.
- 25 Q You've introduced the term and you've introduced a book

00128

1 that you've told them is in the library.

2 A As are many books.

3 Q So how have you not introduced the concept?

4 A You haven't defined it for them, they haven't -- you've
5 not told them what it is, just that there is this term.

6 Q So what's the purpose of doing that?

7 A That students understand that there are other
8 alternatives.

9 Q So you're teaching -- you're telling students that there
10 are alternatives to evolution and one of them is
11 intelligent design, we're not going to tell you any
12 more, you've got to go find out on your own, but you
13 have introduced the concept that there is an alternative
14 to evolution and it's called intelligent design?

15 A You've --

16 MR. THOMPSON: Objection. I think the confusion
17 here is what do you mean by the term "concept." The
18 concept can be defined in different ways. He's just
19 saying it's the term, it's not the concept.

20 BY MR. WALCZAK:

21 Q Well, how would you define a concept?

22 A To me, concept denotes more than simply the term. Some
23 level of understanding about what it is.

24 Q Behind the term is there a concept?

25 A Yeah, behind all terms there are concepts.

00129

- 1 Q Right. So by alerting -- I mean, how do you label any
2 concept?
- 3 A How do you label the concept?
- 4 Q Yeah. How do you designate a concept, how do you refer
5 to a concept? You use a term, right?
- 6 A Obviously.
- 7 Q Right.
- 8 A But in introducing a term, that doesn't necessarily mean
9 you've introduced the concept. They're not synonymous.
10 One is a metaphorical symbol or representation of
11 something else. Just because you know the words doesn't
12 necessarily mean you know the referent.
- 13 Q You've encouraged students to explore the concept?
- 14 A Okay.
- 15 Q Yes?
- 16 A Okay.
- 17 Q In the Dover policy, is that right?
- 18 A That's pretty clear, they encouraged them to -- they
19 tell them their alternatives and to keep an open mind
20 and so on and so forth. If you want more understanding,
21 you can find out at the library.
- 22 Q Let me give you another hypothetical. Let's say we're
23 in health class and what they teach is that abortions
24 are medically safe, and if you need one but are afraid
25 to tell your parents, you can probably still get one

00130

1 without telling your parents by going to a judge and
2 here's a telephone number for a legal aid lawyer who can
3 help you.

4 Is that pedagogically appropriate?

5 A I'm going to sound redundant, but if that's something
6 that students need to know and be able to do according
7 to district and state standards, then you decide from
8 there.

9 Q It's about sexual -- it's about reproductive health.
10 Say the standard says students should know about health
11 and they're teaching and it's sort of vague and
12 they're -- I mean, the standards are vague, right?

13 A The state standard -- well, it depends. Some state
14 standards are far more detailed. But what you typically
15 find is state standards can be general, district-adopted
16 standards are far more specific.

17 Q Students should be familiar with reproductive health.

18 Is it appropriate to teach what I just read?

19 A Again, what is the School Board adopted, what is the
20 approved curriculum?

21 Q So there's no pedagogical standards outside what the
22 school decides?

23 A That may be true. There are other schools, other
24 districts, other states, other associations --

25 Q Does every school district necessarily teach well?

00131

- 1 A If only it were so.
- 2 Q Right. And how do you decide whether -- I mean, because
- 3 a school district decides to teach something in a
- 4 certain way doesn't make it right, is that correct?
- 5 A Well, again, teachers are employees of the school
- 6 district. They teach what they are told to teach.
- 7 Q But is there some independent standards about whether a
- 8 school district's pedagogy or curriculum is good, or is
- 9 it just up to every school district to decide for
- 10 themselves?
- 11 A Every school district is bound, at a minimum, to state
- 12 standards.
- 13 Q But are there standards in the field of education as to
- 14 what is the right way and the wrong way or a good way or
- 15 a bad way to teach?
- 16 A There are opinions, yes.
- 17 Q But there's no hard and fast rules?
- 18 A Well, somebody might call their opinion a rule.
- 19 Q How do you decide what gets taught in science class?
- 20 A How does one decide how it gets taught in science class?
- 21 Q Yeah. Is there a right way and a wrong way? What's the
- 22 process by which a school should decide what gets taught
- 23 in science class?
- 24 A Again, schools are bound to state standards. That's
- 25 what they have to include in their -- their district

00132

1 standards, their curricula and so forth.

2 (Exhibit Number 3 was marked for identification.)

3 BY MR. WALCZAK:

4 Q I've shown you what's been marked as Exhibit 3.

5 Do you recognize this?

6 A Yes.

7 Q What is it?

8 A It appears to be the Pennsylvania state standards.

9 Q And in fact, you opined that the Dover policy is good
10 pedagogy because it's consistent with the Pennsylvania
11 state standards?

12 A Correct.

13 Q Please show me in here where it mentions intelligent
14 design?

15 A It does not.

16 Q It doesn't?

17 A Correct.

18 Q Oh. So if it's not in the standards, how is it good
19 pedagogy for the school to teach it?

20 A It's not teaching it, it's teaching evolution.

21 Q How is it good pedagogy to spend a minute of time in the
22 classroom introducing students to the concept?

23 A It's consistent with the standard that I referenced in
24 my report.

25 Q Is that on page 10?

00133

- 1 A It's on page 10 of the standards?
- 2 Q Yeah.
- 3 A Thank you. To critically evaluate the status of
- 4 existing theories. It includes several in that list.
- 5 Q Do you know if the Dover School District reads a
- 6 statement similar to the one on evolution when it
- 7 teaches germ theory?
- 8 A I do not know.
- 9 Q Do you know if they read it when they teach wave theory?
- 10 A I do not know.
- 11 Q Epidemiology?
- 12 A I don't know.
- 13 Q I hate that word. But nowhere in these standards does
- 14 it mention intelligent design?
- 15 A Correct.
- 16 Q And so really, there's no reason to teach students
- 17 intelligent design?
- 18 A And the students are -- and the school is not.
- 19 Q Why is the school not teaching intelligent design?
- 20 A Well, I think it kind of harkens back to what I was
- 21 talking about earlier, time is limited and students are
- 22 tested on certain things, and the school needs to spend
- 23 its time on things that students will be tested on
- 24 according to state standards.
- 25 Q But intelligent design is not one of those?

00134

- 1 A One of those being taught?
- 2 Q One of those being tested?
- 3 A Correct.
- 4 Q So this is not a justification for teaching intelligent
5 design, "this" being the Pennsylvania state standards?
- 6 A No, it's a justification for critically evaluating the
7 existence of certain theories.
- 8 Q So the state standards may support telling students
9 about the need to think critically, but the standards do
10 not support that part of the statement that introduces
11 students to intelligent design?
- 12 A The standards are supporting the idea of telling
13 students the present status of a theory, in this case,
14 evolution.
- 15 Q But it doesn't suggest telling students about
16 intelligent --
- 17 A It doesn't name intelligent design.
- 18 Q So the part of the statement that -- the third paragraph
19 which talks about intelligent design is not supported by
20 the Pennsylvania state standards?
- 21 A It's supported in the sense that they're alerting
22 students to the fact that there are alternatives.
- 23 Q Where does it say alternatives -- to teach students
24 about alternatives to evolution?
- 25 A It's implicit in the idea of the status of an existing

00135

1 theory.

2 Q It says "critically evaluate."

3 A Um-hmm.

4 Q It doesn't say anything in here -- does it say anything
5 anywhere in the standards about introducing alternatives
6 to evolution?

7 MR. THOMPSON: Objection, asked and answered.

8 BY MR. WALCZAK:

9 Q Just humor me one more time.

10 There's nothing in here about introducing students
11 to, quote, all alternatives to evolution?

12 A There is not specific language.

13 Q Are you aware of any state standards that require
14 students to learn about intelligent design?

15 A None that I know of.

16 Q Have you reviewed any?

17 A Have I reviewed any what?

18 Q Any state standards besides Pennsylvania's?

19 A Certainly.

20 Q Which ones?

21 A Ohio, Colorado, Michigan, California, Texas, Florida.
22 Arizona.

23 Q In any of the ones that you've reviewed, none of them
24 require that students learn about intelligent design?

25 A That I read, correct.

00136

- 1 Q Are you aware whether the achievement test in biology
2 questions students about intelligent design?
- 3 A You mean the state assessment, is that what you're
4 talking about?
- 5 Q Are there state and national tests?
- 6 A Well, that depends. There is absolutely a state test.
7 Q For like when you get advanced placement, correct?
- 8 A The AP is the national, and then a school may
9 participate in the NAEP, so that's a national.
- 10 Q What's NAEP?
- 11 A National Assessment of Educational Progress. So they
12 may participate in that. Depending on -- and I don't
13 know if Dover has different programs, but there are
14 other programs that have state tests -- or national
15 tests, as well, but for sure they will do state tests.
- 16 Q Are you aware of any national or state tests that test
17 students on intelligent design?
- 18 A Not that I know of.
- 19 Q So I want to come back and make sure I understand -- I'm
20 coming back to the question of who and how do you decide
21 what is appropriate to teach in science class. So
22 you've mentioned the standards, state standards, and
23 we've just established that Pennsylvania does not
24 introduce the concept of intelligent design.
- 25 MR. THOMPSON: Explicitly.

00137

1 MR. WALCZAK: Explicitly.

2 MR. THOMPSON: But implicitly, he said it does.

3 BY MR. WALCZAK:

4 Q So are you saying that these standards support the
5 reference to intelligent design?

6 A Through the idea of critically evaluating theories, it
7 supports the idea of -- in evaluating the theory talking
8 about where the theory stands, alternatives, et cetera,
9 et cetera.

10 Q Now, is it good pedagogy to throw out an idea and then
11 not discuss it?

12 A I think we talked about this earlier, as well. There
13 will be times that you will introduce a topic that you
14 may not discuss or discuss at length.

15 Q Or discuss at all?

16 A Potentially.

17 Q So give me an example?

18 A So when I'm teaching statistics and I talk about
19 analysis of variants and I teach that at length, I also
20 tell students about other related procedures like
21 MANOVA, MANCOVA, ANCOVA, and in the process, I introduce
22 them to the fact that there are these things, but I
23 don't necessarily teach them.

24 Q And what grades do you teach?

25 A Graduate students.

00138

1 Q You teach at the university level?

2 A Correct.

3 Q You said you hadn't read Of Pandas and People?

4 A Correct.

5 Q Do you know whether it is an accurate depiction of
6 intelligent design?

7 MR. THOMPSON: Objection. He just said he didn't
8 read it, so how would he be able to answer that
9 question?

10 MR. WALCZAK: Well, he can answer that he doesn't
11 know.

12 A I don't know.

13 BY MR. WALCZAK:

14 Q So if Of Pandas and People were an inaccurate or a
15 misleading explanation of intelligent design, would that
16 change your opinion?

17 MR. THOMPSON: Objection, speculation, assuming
18 facts not in evidence.

19 BY MR. WALCZAK:

20 Q Go ahead and answer.

21 A I would hesitate to answer because I don't know.

22 Q Well, I mean, the policy says the reference book Of
23 Pandas and People is available for any student to see
24 if you would like to explore this view in an effort to
25 gain an understanding of what intelligent design

00139

1 actually involves.

2 Let's say that Of Pandas and People was, for
3 instance, outdated and had errors in it. Would sending
4 students to that book be good pedagogy?

5 MR. THOMPSON: Objection, again, assuming facts not
6 in evidence, speculation.

7 MR. WALCZAK: You can have a standing objection.

8 A Pedagogy connotes teaching, deliberate instruction.
9 That isn't going on here.

10 BY MR. WALCZAK:

11 Q So why are you telling -- okay.

12 So there's no problem telling students that
13 homosexuality has a biological basis?

14 MR. THOMPSON: Objection. It's irrelevant to the
15 issues at hand.

16 BY MR. WALCZAK:

17 Q I mean, just getting up at the beginning of health class
18 and saying homosexuality has a biological basis and
19 abortions can be performed safely in medically safe
20 procedures and you can get them even when you're 14 and
21 15 years old by going to a judge --

22 MR. THOMPSON: Objection, irrelevant, ambiguous
23 questions, vague.

24 BY MR. WALCZAK:

25 Q So would that be teaching if a teacher just stood up and

00140

1 said that?

2 A In the classic definition that we talked about earlier,
3 it's not teaching.

4 Q Should a teacher do that, make those two statements?
5 Would you object if you learned that a teacher made
6 those statements?

7 MR. THOMPSON: Objection. Again, it's vague,
8 speculative, ambiguous, irrelevant to the issues at
9 hand.

10 BY MR. WALCZAK:

11 Q Would you be upset if you knew that a teacher said those
12 things in class?

13 A Again, I go back to what I talked about earlier, is this
14 part of our district-approved curriculum, are these
15 according to standards, et cetera, et cetera.

16 Q The curriculum says to teach about reproductive health
17 and to teach about people in our society, it doesn't say
18 anything specifically, but the teacher is not really
19 teaching this, she's just saying these things at the
20 start of class. Is that objectionable?

21 MR. THOMPSON: Again --

22 MR. WALCZAK: I'm giving him a hypothetical. I
23 understand, but I'm giving him --

24 MR. THOMPSON: But it's not -- it's irrelevant to
25 anything we're talking about.

00141

1 MR. WALCZAK: Okay, fine.

2 BY MR. WALCZAK:

3 Q Answer the question.

4 A Again, is it relevant to district standards, state --

5 Q Yes.

6 A -- standards and the approved curriculum?

7 Q Yes, it's relevant, but it's not expressly required.

8 A If it's not required and it's not part of the approved
9 curriculum, then it's not something that teachers ought
10 to spend time on. They have limited time.

11 Q But you're applying a different standard now for
12 intelligent design because it's not mentioned in these
13 standards.

14 A And they don't teach it in class.

15 Q But my teacher is not teaching it either, she's simply
16 making the statement that homosexuality has biological
17 origins, that's it. She's not teaching -- maybe she'll
18 say there's a book in the library that you might want to
19 check out that will explain all that, but we're not
20 going to discuss that anymore here.

21 Is that objectionable?

22 A It may be to some, but to others it will not be.

23 Q Is that good pedagogy?

24 A That is a matter of a district's and a school's opinion
25 and practice. Some districts would clearly subscribe to

00142

1 it, while others would not.

2 Q Can you tell me how Darwinian evolution is different
3 from evolution?

4 A Darwinian evolution as opposed to all evolution or what
5 evolution?

6 Q I mean, I use the term "evolution," but I repeatedly see
7 in writings by the experts that you've cited who have
8 done reports in this case and they talk about Darwinian
9 evolution.

10 How is Darwinian evolution different from
11 evolution, do you know?

12 A Well, from the general understanding of evolution being
13 change over time, is that what you mean?

14 Q I don't know, I'm asking you, I'm looking for help.

15 A I bet you are. It fits within kind of this umbrella of
16 change over time.

17 Q Darwinian evolution?

18 A Yes.

19 Q But how is it different, what -- I mean, if it fits
20 within, then it's smaller than.

21 What distinguishes Darwinian evolution from
22 evolution?

23 A My understanding is that Darwinian evolution is more
24 specific or is specific to issues around natural
25 selection, for example, which the greater umbrella term

00143

1 of "evolution" doesn't necessarily or specifically
2 connote.
3 Q And what is Darwinism, how does that differ?
4 A I think that would be the same.
5 Q So Darwinism and Darwinian evolution are the same?
6 A That's my guess. I don't know for a fact.
7 Q And explain for me what is intelligent design?
8 MR. THOMPSON: Objection. I think you asked that
9 question early on.
10 MR. WALCZAK: I don't think I did, actually.
11 A Intelligent design proposes that certain aspects of
12 living things indicate or were as a result of
13 intelligent design or design principles rather than
14 self-organization.
15 BY MR. WALCZAK:
16 Q In the book Pandalas, it says -- I'll show it to you so
17 you don't have to believe me.
18 (Exhibit Number 4 was marked for identification.)
19 BY MR. WALCZAK:
20 Q This is from Of Pandalas and People. On the bottom of the
21 first page, the last paragraph there.
22 A Are you asking me to read it?
23 Q Let me read that first sentence and I'll ask you if I
24 read it correctly. "Evolutionists object to the view of
25 intelligent design because it does not give a natural

00144

1 cause explanation of how the various forms of life
2 started in the first place."

3 Is that your understanding of intelligent design?
4 A What I gave you is my understanding of intelligent
5 design. I couldn't speak at great length about all of
6 the intricacies about what Evolutionists believe about
7 intelligent design, for example.

8 Q Well, let's look at that next sentence. "Intelligent
9 design means that various forms of life began abruptly
10 through an intelligent agency, with their distinctive
11 features all ready intact, fish with fins and scales,
12 birds with feathers, beaks and wings, et cetera."

13 Is that your understanding of intelligent design?
14 A I will take the book at face value that that's how it's
15 being defined by those in the field.

16 Q So you don't independently know whether that's right or
17 wrong?

18 A Correct.

19 Q Is that consistent with your understanding of
20 intelligent design?

21 A Again, I'll have to take that at face value that that's
22 how they define it.

23 Q Are there better descriptions of intelligent design than
24 what is presented in Pandas?

25 A I don't know.

00145

- 1 Q You don't know?
2 A No.
3 Q So you haven't read any other books about intelligent
4 design, in fact, you --
5 MR. THOMPSON: He hasn't read Of Pandas and People,
6 as well.
7 MR. WALCZAK: Right.
8 A Correct, I did not read that.
9 BY MR. WALCZAK:
10 Q So you haven't read any books about intelligent design?
11 A Only what we talked about earlier.
12 Q Which was Behe's report, I believe?
13 A Behe's report and --
14 Q And some news articles?
15 A Right, and other sources.
16 Q Do you know what version of the book the Dover School
17 Board is using?
18 A No idea.
19 Q Do you know if there are newer versions of the book?
20 A I don't know.
21 Q Do you know if there have been changes in ID theory
22 since the Pandas book was written?
23 A I suspect so, but I don't know that for a fact.
24 Q Who or what is the intelligent agent in intelligent
25 design?

00146

- 1 A I have no idea.
2 Q You don't know?
3 A No.
4 Q Is it God?
5 MR. THOMPSON: He just said he didn't know. Asked
6 and answered.
7 A I don't know.
8 BY MR. WALCZAK:
9 Q I think you mentioned there was research going on into
10 intelligent design.
11 Are you aware of any research being done to test
12 who the -- who or what the designer is?
13 A I don't know that.
14 Q Can you think of a way to test that?
15 A To test the existence of the source of intelligent
16 design?
17 Q To test the identity of the designer?
18 A Are you asking me are they doing that or are you asking
19 me --
20 Q Do you know if they're trying to --
21 A Oh, I don't know that.
22 Q And you wouldn't know how to construct a test for the
23 identity of the designer?
24 A Given that it's not my field.
25 Q Do you know how old the earth is under intelligent

00147

1 design theory?

2 A No.

3 THE WITNESS: Do we need to take a break?

4 MR. THOMPSON: We should probably.

5 (Short recess.)

6 BY MR. WALCZAK:

7 Q Does intelligent design promote a supernatural cause
8 agent or a natural cause agent?

9 A I don't know.

10 Q You don't know?

11 A Correct.

12 Q Is intelligent design religious?

13 A I don't think so.

14 Q But do you know?

15 A I mean, I've not read anything that would indicate it
16 is.

17 Q Are you familiar with something called The Wedge?

18 A Can you be more specific?

19 Q Are you familiar with the name Phillip Johnson?

20 A Um-hmm. I'm sorry, yes.

21 Q What do you know about Phillip Johnson?

22 A I think he's a professor emeritus at -- I think he's in
23 the UC system. He's an attorney.

24 Q Does he have something to do with intelligent design?

25 A My understanding is he speaks about it.

00148

1 Q Do you know if he's involved in research on it?

2 A I don't know that.

3 Q Do you know if he was involved in the formulation of the
4 theory?

5 A I don't know that.

6 (Exhibit Number 5 was marked for identification.)

7 BY MR. WALCZAK:

8 Q I show you what's been marked as Exhibit 5. This is
9 actually an article out of Touchstone Magazine in 1999
10 entitled The Wedge by Phillip Johnson.

11 MR. THOMPSON: Is there a question to that?

12 MR. WALCZAK: Yeah. The question I had asked is
13 are you familiar with The Wedge, and Dr. Carpenter asked
14 if I could give him --

15 A More specifics.

16 BY MR. WALCZAK:

17 Q Right.

18 A Correct. I'm familiar with it in the sense that I think
19 one of the experts talked about it in this -- in
20 relation to this.

21 Q And do you know what it is?

22 A From what the expert said, as she defined it, it was a
23 way to introduce the topic of intelligent design, I
24 think is what she said. If I'm misrepresenting her, I
25 apologize.

00149

- 1 Q So you don't have any independent knowledge other than
2 what you read in one or more of the expert reports?
3 A Correct.
4 Q Do you know what is irreducible complexity?
5 A My understanding is that it's the idea that an organism
6 has to have a certain collection, configuration, group
7 of component parts, and without those component parts,
8 it doesn't operate or function.
9 Q And is that an element of intelligent design?
10 A That's my understanding from reading the reports.
11 Q Do you know how you get from irreducible complexity to
12 intelligent design?
13 A Not in detail, no.
14 Q What do you know?
15 A There's a discussion about probabilities around
16 self-organization creating those component parts as you
17 see them as opposed to the likelihood of intelligent
18 design.
19 Q Now, if, for instance, there was an example used for
20 intelligent design that said here's an irreducibly
21 complex object, and then science as they keep learning
22 new things found in fact that this was not an
23 irreducibly complex thing, would that refute intelligent
24 design?
25 A Well, it's a refutation of some part of intelligent

00150

1 design.
2 Q Do you know anything about bacterial flagellum?
3 A Only that there is such a thing.
4 Q So are you familiar with Professor Behe's explanation of
5 intelligent design using bacterial flagellum?
6 A Familiar?
7 Q Have you learned it? Has he taught it to you?
8 A He certainly didn't teach it to me personally.
9 Q Do you understand it?
10 A Insomuch as what I read in his report. And others, I
11 think others referenced it, as well.
12 Q But you don't have any kind of background of cell
13 biology?
14 A No.
15 Q In your report you talk about different ways of knowing,
16 right?
17 A Correct.
18 Q You also said that you don't know whether intelligent
19 design has a natural or a supernatural causation model?
20 A I don't know that for a fact. I assume it was natural,
21 but I don't --
22 Q You assume that it's natural?
23 A From what I've read, that's my understanding.
24 Q Assume for a moment that intelligent design is
25 supernatural causation. Is it appropriate to teach in

00151

1 science class?

2 MR. THOMPSON: I'll object as vague. When you say
3 "appropriate," under what -- you know, what standard,
4 appropriate constitutionally, appropriate pedagogically?

5 MR. WALCZAK: Pedagogically.

6 MR. THOMPSON: Okay.

7 A I think we're back to where we were before in the sense
8 that what is the District's curriculum, what are their
9 standards, what is the approved curriculum.

10 BY MR. WALCZAK:

11 Q So you're -- and I'm sorry because maybe I'm just
12 hearing what I want to hear or I'm not understanding
13 what I'm hearing.

14 So there are no standards outside of a school
15 district's as to what is good or bad pedagogy for a
16 science curriculum?

17 A If we define standards as a list of what students should
18 know and be able to do, is that how we're defining
19 standards?

20 Q How do you want to define standards? How are standards
21 defined? I mean, I know there's the state standards.
22 Is there -- I mean, I'm looking for a normative
23 benchmark against which to judge something in the
24 science curriculum. In prison litigation, the American
25 Correctional Association has standards for a well-run

00152

1 prison.

2 Are there any standards to judge whether a science
3 curriculum is good or bad?

4 A Yes, there are multiple standards. The districts have
5 theirs, the state has theirs, each state has theirs, and
6 then associations have theirs, one of them being the
7 National Science Education Standards, and there may be
8 others that I'm unaware of.

9 Q And do you know whether any of the national
10 associations, societies, academies' standards talk about
11 supernatural causation?

12 A I don't know that.

13 Q So you don't know whether they talk about them or you
14 don't know what they say?

15 A I don't know whether they talk about them.

16 Q So you haven't consulted those?

17 A I consulted the ones that I listed or referenced.

18 Q Would you consider those national associations
19 societies, academies, would you consider any standards
20 they put out to be authoritative?

21 A Authoritative in what sense?

22 Q Would you consider them to be a good guide as to whether
23 or not a particular curriculum is good pedagogically?

24 A They are a guide and probably a respected guide, but
25 schools are bound only to their specific states and

00153

1 districts.

2 Q Now, are we distinguishing -- are you making a
3 distinction between legal standards and pedagogical
4 standards here? Clearly, a school is bound
5 by -- legally bound by the standards that are passed by
6 the district or are passed by the state. I'm talking
7 about pedagogical, not legal standards here.

8 A I do understand what you mean. I was speaking
9 specifically for sure of the legal, in print, published
10 standards. But many districts -- not so much states,
11 but many districts, maybe even most districts, will also
12 have standards around pedagogy, as well.

13 Q And who is in a better position to decide standards on
14 particular topics, is it each individual school district
15 or might it be the national societies, academies,
16 organizations?

17 A That's a value judgment you're asking me to make.

18 Q I am.

19 A In some ways, it's -- I think it's the locality informs
20 us some way by the larger discussion.

21 Q What larger discussion?

22 A The larger community, if you will.

23 Q You mean the community where the schools are located?

24 A Well, most certainly that, but I was thinking beyond
25 that, as well, that school districts take into account a

00154

1 discussion greater than just what's going on in their
2 district. So within their community, within their
3 state, et cetera.

4 Q Are you aware of national standards in other subject
5 areas besides the sciences?

6 A Am I aware of them?

7 Q Yeah.

8 A Um-hmm. I'm sorry, yes.

9 Q What other topic areas have national standards?

10 A Practically every one of them. English, math, social
11 studies, dance. I mean --

12 Q And I'm trying to educate myself.

13 A Sure.

14 Q Let's take social studies, who puts out the standards on
15 social studies?

16 A The process looks very similar across disciplines in
17 that there will be various national organizations that
18 are dedicated to that discipline who either will work by
19 themselves or in concert with other like organizations
20 to produce standards, and then there are the states that
21 produce their standards and the districts that produce
22 their standards. I mean, the process is very similar
23 across these disciplines.

24 Q And is the expertise relied on at each level the same?

25 A Do you mean --

00155

- 1 Q Well, is there a qualitative difference in kind of the
2 standards and the process that goes into developing the
3 standards, is there a state, national, local?
- 4 A Perhaps in some disciplines there might be some notable
5 differences.
- 6 Q And so the differences would be what? I mean, the
7 standards would be more sophisticated, more informed at
8 the national level than the state level?
- 9 A Often it's a matter of who, who is involved or what type
10 of person is involved at what level. Some states will
11 align closely with professional organizations, others
12 won't.
- 13 Q And do you look to national standards in other
14 disciplines outside the natural sciences as a benchmark
15 for good or bad pedagogy?
- 16 A Not necessarily. I mean, when I teach a class, I teach
17 a class on program evaluation, and in the class I
18 often -- not often, I do talk to students and we discuss
19 aligning curricular activities with standards and how
20 does one measure effectiveness and so on and so forth,
21 and in that class we spend most of our time looking at
22 alignment between curricular issues, lessons and so
23 forth, with district standards and then with state
24 standards.
- 25 Q So the ones that are legally binding?

00156

1 A Absolutely.

2 Q So you look at them from whether the curriculum is legal
3 more so than whether it's pedagogically good?

4 A Boy, there's a lot in that. Certainly the short answer
5 would be yes, we look at them from the legal perspective
6 because that's what students have to know and that's
7 what they want to know. They're not big on theory. But
8 we also talk beyond legal, as well. I wouldn't want to
9 leave the impression that it's just a legalistic view of
10 program evaluation, it's not that.

11 Q And do the national standards inform what is a good
12 programmatic model?

13 A In our discussion? Again, not as often. I would be
14 surprised if you would find that -- in the type of class
15 I teach, I would be surprised if you'd find that.

16 (Exhibit Number 6 was marked for identification.)

17 BY MR. WALCZAK:

18 Q I'll show you what's been marked as Exhibit 6.

19 Have you seen this document before?

20 A No.

21 Q It's a newspaper article from The Seattle Times from
22 March 31st.

23 Do you know who Stephen Meyer is?

24 MR. WALCZAK: Is it Meyer, Mayor (ph), Dick?

25 MR. THOMPSON: I say Meyer, but I'm not -- I've

00157

1 never talked to him, so I don't know.

2 A It says here that he's the Director of the Center for
3 Science and Culture.

4 BY MR. WALCZAK:

5 Q Had you ever heard his name before?

6 A I have heard of his name, yes.

7 Q Have you ever met him?

8 A Never.

9 Q You never talked to him?

10 A No.

11 Q Do you know anything about the Discovery Institute?

12 A Only just very briefly.

13 Q I want you to look on page 3 of 4. I want you to go to
14 the ninth paragraph, full paragraph, it starts "Meyer,
15 however."

16 A Okay.

17 Q The second sentence. "His goal, a big one, is to change
18 the very definition of science so that it doesn't rule
19 out the possibility that an intelligent designer is
20 actively at work." And "Science should be open to
21 whatever cause ... can best explain the data."

22 Does that accord with your understanding of
23 intelligent design, that you really need to change the
24 definition of science to be able to teach intelligent
25 design?

00158

- 1 A Again, I don't know that firsthand.
2 Q You don't know?
3 A Correct. Because I don't know -- I --
4 Q If in fact intelligent design is predicated on
5 supernatural causation, is it appropriate to teach or to
6 even introduce the subject in a biology class?
7 MR. THOMPSON: Objection. That calls for a legal
8 conclusion. In what context?
9 BY MR. WALCZAK:
10 Q Go ahead and answer.
11 A Why don't you repeat it for me.
12 Q Assuming here, as it seems Mr. Meyer is, that
13 intelligent design is predicated on supernatural
14 causation, would it be pedagogically appropriate, not
15 legally, but pedagogically appropriate to introduce
16 intelligent design into a biology course?
17 A It could be, yes.
18 Q And explain that?
19 A Well, it's -- if you're -- if you tell students that
20 there are alternatives, intelligent design is one of
21 those, you're not telling the students that it's good or
22 bad.
23 Q But if, as Mr. Meyer says, you have to change the
24 definition of science for intelligent design to be
25 considered science, is it good pedagogy to tell students

00159

1 that this is a valid scientific alternative to
2 intelligent -- to evolution?

3 A I hesitated to answer because we don't know that -- I
4 don't know that is in fact what Meyer says. This is
5 what Linda Shaw says Meyer believes.

6 Q Let's assume that intelligent design includes a
7 supernatural causation, okay? Is it appropriate to
8 introduce that in a biology class?

9 MR. THOMPSON: Objection, assuming facts not in
10 evidence, calls for a speculative answer.

11 BY MR. WALCZAK:

12 Q Go ahead.

13 A Potentially.

14 Q And potentially under what circumstances?

15 A When you're introducing alternatives, intelligent design
16 is one of those alternatives.

17 Q If, assuming again, if it is based on supernatural
18 causation, is it appropriate to tell students that it is
19 a scientific alternative to evolution?

20 A Potentially, yes. And continuing with the
21 potentialities, there is a very -- there is a chance
22 that as a result of reading what they read, students
23 walk away with a better and perhaps a strong conviction
24 about evolution.

25 Q Or maybe they walk away thinking that intelligent design

00160

1 is science?

2 A Correct.

3 Q And if intelligent design is predicated on supernatural
4 causation, is that a good thing to leave students with,
5 is that a good idea to leave students with?

6 MR. THOMPSON: I'll object to that. That's a
7 pretty vague question, good idea to leave students with.

8 BY MR. WALCZAK:

9 Q Is that sound pedagogically, to leave students with the
10 notion that a theory predicated on supernatural
11 causation is a scientific alternative to evolution?

12 A I mean, that's -- we're asking students to examine the
13 evidence and weigh alternatives one against the other,
14 asking students to assume some measure of control over
15 their learning. That strikes me as a good practice.

16 Q Are you aware of or can you identify any secular high
17 school science textbooks that teach intelligent design?

18 A That's a tall order. I mean, there are a lot of --

19 Q You just have to give me one.

20 A There are a lot of science textbooks.

21 Q Are you familiar with a single science textbook, high
22 school science -- secular high school science textbook
23 that discusses intelligent design?

24 A No.

25 Q Are you familiar with any secular college or university

00161

- 1 biology textbook that discusses intelligent design?
- 2 A No.
- 3 Q Can you identify any evolutionary biologists who support
4 intelligent design?
- 5 A No.
- 6 Q Can you identify any scientists as opposed to
7 mathematicians, philosophers of science, or theologians
8 who support intelligent design, that is, another way to
9 say it, I think, are natural scientists?
- 10 A My understanding is there are some of the expert
11 witnesses who are scientists or practicing natural
12 scientists.
- 13 Q Do you know who they are?
- 14 A My understanding is Professor Behe is a professor of
15 biology. Dr. Minnich is a cell biologist or molecular
16 biologist.
- 17 Q Behe is a cell biologist. I don't know what Minnich is.
18 Can you name any others?
- 19 A No, not off the top of my head.
- 20 Q Can you identify any secular high school science
21 textbooks that discuss this controversy over evolution?
- 22 A No.
- 23 Q Can you identify any secular college or university
24 biology textbooks that discuss this controversy over
25 evolution?

00162

- 1 A No.
- 2 Q Can you identify any science academies or societies that
3 embrace this controversy over evolution?
- 4 A "Embrace," what does that mean?
- 5 Q That recognize this controversy over evolution?
- 6 A I think they recognize it, they see it, they acknowledge
7 it. Is that what you --?
- 8 Q Yeah. Who can -- can you tell me which --
- 9 A As we referenced earlier and now have forgotten twice to
10 pull that page up, I had mentioned a moment ago that --
- 11 Q Okay. We'll need to do that. And do you recall what it
12 is specifically they say about the controversy? They
13 say there's one out there?
- 14 A Correct, it's a discussion of this is what's going on.
- 15 Q Do they say it's out there in the scientific community
16 or it's out there in the political community?
- 17 A Not to be quoted, but I think it's the community at
18 large.
- 19 Q So not -- that wouldn't be the scientific community?
- 20 A Correct.
- 21 Q Are you familiar with any other science academies or
22 societies or organizations that believe that there is a
23 controversy within the scientific community over
24 evolution?
- 25 A I've not seen them firsthand in a published account, so

00163

- 1 no.
- 2 Q So you're not aware of any?
- 3 A Other than what I've read in expert reports.
- 4 Q Can you identify any science education academies,
5 societies, organizations that recognize or acknowledge
6 that there is a controversy over evolution within the
7 scientific community?
- 8 A How is that different than --
- 9 Q Science education.
- 10 A Thank you. Again, the people that I'm referencing, it
11 could be science education, but it could be just
12 science.
- 13 Q Do you want to boot -- I don't know how long that takes
14 to boot up your computer.
- 15 A It takes just a minute or two.
- 16 Q And then we can come back in a minute or two here.
- 17 Can you identify any science education conferences
18 that have discussed this alleged controversy over
19 evolution?
- 20 A In the literature review search that I did, I came
21 across two presentations, two conference presentations
22 that reference the debate or controversy or discussion.
23 I'm not saying that the whole conference was devoted to
24 it, but --
- 25 Q Do you know who sponsored those conferences?

00164

1 A Not off the top of my head, I'd have to go back and
2 look.

3 Q Could you provide me with that, provide your counsel
4 with that information and then let me know?

5 A Okay.

6 Q Can you identify any peer-reviewed publications or
7 journals that recognize this controversy over evolution?

8 A I think Scott Campbell -- Angus Campbell, is that one of
9 the experts?

10 THE WITNESS: Which is it, Scott or Angus?

11 MR. THOMPSON: Angus.

12 A His report includes a paper, I believe, he published in
13 a peer review journal talking about the controversy.

14 BY MR. WALCZAK:

15 Q You talk about gaps in the theory, in Darwin's theory.
16 Or I'm sorry, the policy talks about gaps in Darwin's
17 theory.

18 What gaps do you believe need to be taught to
19 students?

20 A We talked about that a little bit earlier in the sense
21 of macroevolution, how there appear to be gaps in the
22 evolution from one species to another and so forth.

23 That was the National Science Teachers Association.

24 Q Can you tell me what the document is? Wait. We're now
25 talk -- this is not the conference, this is the document

00165

1 that acknowledges the controversy?

2 A Yeah. There's a web page on the National Science
3 Teachers Association.

4 Q Okay.

5 A The web page is under a tab, I think this is called
6 education news, and they have a subcategory called
7 curriculum.

8 Q Um-hmm.

9 A And they have various links talking about -- these
10 appear to be talking about events in Kansas.

11 Q So this is a news account?

12 A Correct.

13 Q Is there any mention in there of the science community
14 discussing the controversy, this alleged controversy, or
15 is it just about the Kansas Board's debating whether
16 to --

17 A Well, it's talking about the Kansas Board, and
18 inevitably they're talking about inviting members of the
19 science community to come in and be part of the hearings
20 and so on and so forth. So insomuch as it talks about
21 that, it references the science community.

22 Q But that's it, that's the only thing you can point to in
23 everything you've looked at that the mainstream science
24 community recognizes a controversy over evolution?

25 A This and those things that were referenced as we talked

00166

- 1 about earlier.
- 2 Q What's in the other experts' reports?
- 3 A Right.
- 4 Q So coming back, so the gap, you think the gaps and
5 problems that need to be taught deal with
6 macroevolution?
- 7 A That's my understanding.
- 8 Q And where do you get that understanding?
- 9 A Just from, again, what I've read in preparation for
10 this.
- 11 Q And what is it that should be taught to fix those gaps
12 and problems?
- 13 A I beg your pardon?
- 14 Q Do you know what it is -- how should the teaching be
15 improved?
- 16 A Specific to those gaps?
- 17 Q Um-hmm.
- 18 A I think at issue is helping students understand that
19 those gaps exist.
- 20 Q Should students suspect whether macroevolution actually
21 takes place?
- 22 A "Suspect," what does that mean?
- 23 Q Do you disagree that macroevolution is a fact?
- 24 A Well, that seems to be the central feature of our -- or
25 a central feature of this argument.

00167

- 1 Q What do you think?
- 2 A I think various people have weighed in, the National
3 Science Education Standards, the course text, et cetera,
4 et cetera.
- 5 Q Are you aware of any science foundation or academy that
6 believes that macroevolution has not -- does not occur
7 or has not occurred or that refutes the notion of
8 macroevolution?
- 9 A "Refutes," that's a pretty strong word. Not firsthand.
- 10 Q There is a -- scientists continue to study the tempo and
11 mechanisms of evolution.
- 12 The question is can you point me to any science
13 organization, academy, society that has taken the
14 position that macroevolution does not occur?
- 15 A No.
- 16 Q Can you point me to any science education organization,
17 academy, society that encourages or that has set out
18 standards that students should be taught that
19 macroevolution has not occurred?
- 20 A Not specifically macroevolution. I mean, the National
21 Science Education Standards -- the National Science
22 Education Standards characterize evolution, details of
23 human evolution as incomplete, but they don't
24 necessarily identify macroevolution specifically.
- 25 Q But that's a far cry from saying macroevolution itself

00168

1 is suspect?
2 A "Suspect" is quite the word.
3 Q Or did not occur?
4 A I don't think anybody is saying that it did not occur in
5 the classroom.
6 Q I want to come back to critical thinking here. I don't
7 mean to beat a dead horse.
8 What are the elements of critical thinking? Is
9 that the Petress elements?
10 A Those are some elements, um-hmm.
11 Q So some elements of critical thinking or some activities
12 involved in critical thinking would include discussion?
13 A Can, yes.
14 Q Exchange of ideas?
15 A Yes.
16 Q And what are some things you would do to promote
17 critical thinking in a classroom setting?
18 A Well, ask questions like you see listed here in the
19 report, asking questions --
20 Q Asking questions of whom, asking questions of the
21 students?
22 A Students asking -- well, yeah, that's pretty broad.
23 Students asking questions of other students, of the
24 teacher, the teacher asking of the students, the
25 students asking questions to themselves. Teachers could

00169

1 ask students to pose and answer questions in
2 assignments. So I don't know if that answers your --
3 Q So is that done alone or is that facilitated by the
4 teacher?
5 A Both.
6 Q Can it be done just alone?
7 A Um-hmm. I'm sorry, yes.
8 Q Is it better done as a group?
9 A Yes and no. Probably more on the no side.
10 Q It's not better done as a group?
11 A I think it's modeled in the group, but ultimately --
12 Q What do you mean, modeled?
13 A Modeled. The teacher models how one might think
14 critically about something and then asks students to act
15 likewise on their own.
16 Q So is it -- I mean, is it good pedagogy to just throw
17 out an idea and then not discuss it and say, "Here, go
18 think about this critically"?
19 A Potentially.
20 Q It is?
21 A Potentially.
22 Q Give me an example?
23 A You've modeled critical thinking to your students and
24 now you're asking them to apply it on their own. And
25 you do that for two, if not more, reasons, two that come

00170

1 to mind specifically. One is you want to be able to
2 assess their ability to do it, so it's a form of
3 assessment. And then the second is you want them to be
4 able to do in this case critical thinking, but you
5 eventually want them to be able to habituate certain
6 skills and behaviors, and if they never do it on their
7 own, then they don't -- or they may not reach that level
8 of habituation.

9 Q How do you know if they've done it, how do you know if
10 they've done it at all?

11 A Well, that's what I mean, that's why you'd want them to
12 do it on their own. To do it at all, they would have to
13 complete some sort of analysis. Typically, in the
14 classic sense, that's done through a written document,
15 sometimes it's a presentation, sometimes it's an
16 experiment, whatever, but --

17 Q This is the modeling, or this is the --

18 A No, no. This is the on their own so that you can assess
19 it. So you can --

20 Q So they give you something back?

21 A Some product that indicates they can or have done it.

22 Q So it's a test or a paper or --

23 A Or a presentation or an experiment or something.

24 Q And how do you do that if you don't get anything in
25 response from the students?

00171

- 1 A One way could potentially be a discussion. That's
2 called -- that's -- we call that informal assessment.
3 Teachers often will use informal assessment in the
4 classroom as a way to know whether or not students can
5 defend a position or analyze something critically and so
6 forth.
- 7 Q So there has to be some follow-up by the teacher to
8 assess, one, whether the student has done it, two, if
9 they have done it and if they have employed appropriate
10 methodology?
- 11 A Ideally, right.
- 12 Q So if you need an assessment aspect, how is the Dover
13 policy good pedagogy? Because there's no assessment
14 aspect to that.
- 15 A They're assessing what they're teaching in class, that's
16 what they're assessing.
- 17 Q But here they've introduced this label for a concept and
18 then there's no follow-up.
- 19 Now, how is that good pedagogy?
- 20 A To encourage students to think critically doesn't mean
21 that you assess it in every single domain.
- 22 Q So they could go out and do all sorts of wacky things?
- 23 A All sorts of insidious critical thinking.
- 24 Q And there's nobody to correct them? Or the school is
25 not correcting them?

00172

- 1 A Right, I was about to say, I wouldn't say nobody.
2 Q So it's you're sort of letting out this idea and not
3 guiding the students in the learning process after that?
4 A That's no different than all -- or not all, but a
5 multitude or a host of other things that kids are
6 reading and analyzing and critiquing on their own and
7 that they may have heard in the classroom or read in a
8 curricular context that is not taught explicitly and
9 tested, but they hear it or they read about it and they
10 go out and find out more information about it on their
11 own, and that may have originated at the school.
12 Q I think I asked you before if you were familiar with the
13 Discovery Institute?
14 A Right, you did.
15 Q And they are one of the chief proponents of intelligent
16 design theory, do you know that, or --
17 A If you say so, I understand that that's --
18 Q You don't know that or --
19 A I understand that that is a part of their -- what they
20 do.
21 (Exhibit Number 7 was marked for identification.)
22 BY MR. WALCZAK:
23 Q I show you what's been marked as Exhibit 7.
24 Have you seen this before?
25 A No.

00173

1 Q Do you want to take a moment and read it to yourself?

2 A Okay.

3 Okay.

4 Q How would you reconcile this with your opinion that this
5 policy is good pedagogy?

6 MR. THOMPSON: That's a very vague question.
7 Reconcile what?

8 BY MR. WALCZAK:

9 Q This seems to say that the Dover policy is the wrong way
10 to go about it, it has a number of problems, lacks
11 clarity. The policy is incoherent. Should be withdrawn
12 and rewritten.

13 MR. THOMPSON: This is a press release.

14 MR. WALCZAK: Right. By the Discovery Institute.
15 I don't have to tell you the Discovery Institute's
16 relationship to intelligent design and what we're
17 talking about in this case.

18 BY MR. WALCZAK:

19 Q So I'm just asking if you have any reaction to this
20 criticism of the Dover policy and how you would rebut
21 it?

22 A Well, I hesitate to rebut a press release. I would be
23 much more interested in having some extended discussion
24 with him about it.

25 Q Well, do the best you can.

00174

1 MR. THOMPSON: Again, I object to this because it
2 is -- you're asking him to rebut something that's in a
3 press release that's hearsay that's quoting a particular
4 member of the Discovery Institute. We really don't know
5 the context of how those statements were made and why
6 they were made.

7 BY MR. WALCZAK:

8 Q Well, forget that this is in a document. The charge is
9 that Dover's policy lacks clarity. At one point it
10 appears to prohibit Dover Schools from teaching anything
11 about the origins of life, and at another point it
12 appears to both mandate as well as prohibit the teaching
13 of the scientific theory of intelligent design.

14 What's your response to that criticism?

15 A Well, obviously, I would disagree with some of it.

16 Q Explain that?

17 A In the sense that I don't -- I don't know what they mean
18 by mandate the teaching of intelligent design, I don't
19 know what they mean by that. So that would be a
20 criticism. Again, they say we don't think intelligent
21 design should be required. It's not required.

22 Q The sources you cited in your report, in your first
23 report, not the rebuttal report, and you cite what, six
24 or seven sources there?

25 A Um-hmm.

00175

- 1 Q Those are all what I'll call general educational
2 sources, kind of what is good education, standards for
3 good education, is that a fair assessment?
- 4 A The Pennsylvania standards, I don't know if I'd
5 classify -- the standards are the standards.
- 6 Q Right. Besides the Pennsylvania standards, the other
7 citations are to folks who worked generally in the
8 education field as opposed to science education?
- 9 A Assuming the science educators would be included under
10 that general, yes.
- 11 Q But the folks you cited are not science educators?
- 12 A I don't know that for a fact. I don't know all of their
13 backgrounds.
- 14 Q Do any of those sources specifically support introducing
15 the concept of intelligent design to students?
- 16 A Not by name.
- 17 Q Do any of those sources encourage teaching the
18 controversy around evolution?
- 19 A I don't think so.
- 20 Q One of your sub-opinions is that the policy is
21 educationally sound because it is in accordance with the
22 Santorum Amendment.
- 23 Do you know what the Santorum Amendment is?
- 24 A Yes.
- 25 Q What is it, legally speaking?

00176

1 A A sense of the Senate.

2 Q Was that adopted by the Senate, was there a vote on
3 that?

4 A It was entered into the Congressional Record.

5 Q Was there a vote on it?

6 A I don't believe so.

7 Q So when you say in your report "as adopted by the United
8 States Senate," is that correct?

9 MR. THOMPSON: I think the record will speak for
10 itself. I don't want him to go astray and --

11 MR. WALCZAK: Well, I want him to answer that
12 because he's saying something in his report that I'm not
13 sure is accurate, and I'd like to --

14 MR. THOMPSON: I know what the accurate statement
15 is, and he may be inaccurate about saying it was not
16 voted on --

17 MR. WALCZAK: I'd like to give him an opportunity,
18 since this is all under oath, to be able to make a
19 correction there.

20 BY MR. WALCZAK:

21 Q So is that really accurate to say "as adopted by the
22 United States Senate"?

23 A I don't know that to be accurate or inaccurate.

24 Q You worked as -- what was your position in Focus on the
25 Family?

00177

- 1 A A policy analyst.
- 2 Q And you did a lot of work in Washington?
- 3 A That would be a stretch.
- 4 Q You did a lot of work on federal legislation?
- 5 A "A lot" would be a stretch, too.
- 6 Q You did some work on federal legislation?
- 7 A "Some" might be a better description.
- 8 Q And you have written about the No Child Left Behind law?
- 9 A A little bit.
- 10 Q And you have some familiarity with how Congress works?
- 11 A Correct.
- 12 Q And a sense of the Senate or an entry in the
- 13 Congressional Record is not a law?
- 14 A It was --
- 15 Q Correct?
- 16 A Correct, it was not signed into law.
- 17 Q It's not a statute, correct?
- 18 A Correct.
- 19 Q It's not a federal regulation, correct?
- 20 A Correct.
- 21 Q It has absolutely no force and effect of law, correct?
- 22 A Um-hmm. I'm sorry, yes.
- 23 Q So it's a reflection of a view by one, sometimes more,
- 24 members of Congress?
- 25 A A sense of the Senate.

00178

- 1 Q Is it a sense of the Senate or is it --
2 A That's my understanding.
3 Q And are you familiar with the No Child Left Behind Act?
4 A Am I familiar with its existence?
5 Q Yeah.
6 A Correct.
7 Q And you've written about No Child Left Behind?
8 A A little bit, as I said earlier.
9 Q Are you familiar with the contents of the legislation?
10 A Well, it's 1,400 pages, so I don't know every bit of it.
11 Q Do you know whether it mentions intelligent design?
12 A I do not believe it does.
13 Q Do you know whether it mentions evolution?
14 A I don't know that for a fact whether it does or does
15 not.
16 Q Do you know whether it mentions biology?
17 A The word "biology"?
18 Q Yeah.
19 A It might. But --
20 Q You don't know that?
21 A I'd have to go back and look.
22 Q Are you aware of any federal statute that either
23 requires or encourages the teaching of intelligent
24 design?
25 A No.

00179

- 1 Q Are you aware of any federal regulation that requires or
2 encourages the teaching of intelligent design?
- 3 A No.
- 4 Q Are you aware of any federal statute or regulation that
5 encourages or requires teaching the, quote, unquote,
6 controversy around evolution?
- 7 A No.
- 8 Q Is there anything else that you think needs to be done
9 for you to -- between now and when you testify at trial?
- 10 A Well, I don't think my answer is substantively different
11 than what we talked about before. Because I haven't
12 done that, I don't know how to answer that. So
13 inevitably, I'm sure that I will be doing some more
14 reading and whatnot, but --.
- 15 Q Do you feel there's other things you need to do to
16 support your opinion in this case?
- 17 A Again, it's similar to what I've already said. I assume
18 you mean in preparation for trial.
- 19 Q Right.
- 20 A It's not -- again, it's not different than what I talked
21 about earlier in the sense that --
- 22 Q Well, we've now had many hours and you've heard the
23 questions that I've been asking.
- 24 Are there things that you feel it would be prudent
25 for you to investigate in order to support your

00180

1 testimony?

2 A Well, as I said earlier, I think it would be helpful to
3 read other depositions.

4 Q Depositions or reports?

5 A Well, if there are more reports coming, that would be
6 helpful, but depositions, as well.

7 Q The depositions of the experts?

8 A Yes.

9 Q Anything else?

10 A There probably will be, but I would be speculating at
11 this point.

12 Q So as we sit here right now, you can't think of anything
13 else that you really think should be done to support
14 your opinion?

15 MR. THOMPSON: I'll object to that, that's a pretty
16 vague, ambiguous question.

17 MR. WALCZAK: That was pretty clear.

18 MR. THOMPSON: Support his opinion where?

19 MR. WALCZAK: His opinion in this case. He has
20 rendered an expert opinion.

21 BY MR. WALCZAK:

22 Q Is there anything else that you can think of as you sit
23 here right now that you feel that you should or will do
24 to buttress your opinion in this case?

25 A Well, I may re-read things that I've read, facts about

00181

1 the case, so forth.
2 Q Anything that you haven't read that you're going to
3 read?
4 A Potentially, but I have no way of knowing what it would
5 be.
6 Q Can you advise your lawyer when you finish doing
7 whatever additional work you're going to do and advise
8 him what it is that you've done, and then I would ask
9 him to advise us within the Rule 26(b)(4) framework so
10 we can decide whether we need to resume this deposition
11 to assess your additional work?
12 A Are you asking me can I?
13 Q Will you let him know what it is --
14 A If that's the procedure, certainly.
15 MR. WALCZAK: Is that okay?
16 MR. THOMPSON: Yes.
17 (Exhibit Number 8 was marked for identification.)
18 BY MR. WALCZAK:
19 Q I show you what's been marked as Exhibit 8.
20 Does this look familiar?
21 A Yes.
22 Q Did you have anything to do with this?
23 A The vita?
24 Q Yeah.
25 A Yes.

00182

- 1 Q What did you do with it? Is this your vita?
- 2 A Correct.
- 3 Q Let's start with your education. Can you identify for
- 4 me anything in your education that relates to science
- 5 education?
- 6 A It would include courses on curriculum and pedagogy,
- 7 assessment --
- 8 Q Let's get a little more detail here.
- 9 A Sure. Courses around curriculum and pedagogy --
- 10 Q Where are we talking about here?
- 11 A Oh, I'm sorry. Well, all three of them. I mean, there
- 12 were classes and courses related to curriculum and
- 13 pedagogy in all three of those degree programs.
- 14 Q But specifically about science education?
- 15 A It would be about education generally.
- 16 Q Generally?
- 17 A Correct.
- 18 Q And is there a discussion of science education?
- 19 A Occasionally there will be.
- 20 Q Did you take courses in any of these places specifically
- 21 on science education?
- 22 A On science, yes. Science education, no.
- 23 Q What science courses did you take and where? I didn't
- 24 think there was a whole lot of them.
- 25 A Let's see. Certainly biology in the --

00183

- 1 Q Where was that?
2 A -- undergraduate program.
3 Q How many semesters of that did you take?
4 A Two semesters of that.
5 Q Was that an intro or an advanced course?
6 A I think it was the 100 series, you know, probably the
7 intro and then the follow-up to it. I think that's it.
8 Q So two semesters of biology at University of Colorado?
9 A Correct.
10 Q What's BME there?
11 A Bachelor of Music Education.
12 Q So you were a music education major?
13 A Um-hmm, in my first degree.
14 Q I'm sorry?
15 A In the first degree.
16 Q Is that like homicide in the first degree?
17 A It seemed like it at times.
18 Q What does that mean, in the first degree?
19 A The first degree as opposed to the Master's and the
20 Ph.D.
21 Q Did you have a minor?
22 A In which one of those?
23 Q Undergraduate?
24 A No.
25 Q Did you take any science classes at Colorado Springs in

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1 your Master's program?
2 A No.
3 Q Did you take any science education classes?
4 A No.
5 Q How about in the Ph.D. program?
6 A No.
7 Q No to both science and science education?
8 A Correct.
9 Q I want to work up from the -- under professional
10 experience starting with the oldest.
11 Did you teach at Cheyenne Mountain High School any
12 science classes?
13 A No.
14 Q Were you involved in any science clubs?
15 A No.
16 Q Did you have anything to do with science there?
17 A No.
18 Q How about as a school administrator at Cheyenne Mountain
19 Charter Academy, anything to -- did you teach any
20 science classes?
21 A No.
22 Q Were you involved with the science curriculum at all?
23 A I was involved with all the curriculum.
24 Q And what did you do?
25 A Well, it was a little bit of a lot of things. One was

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1 working with teachers to ensure that the curriculum was
2 aligned with standards. Making sure that assessments
3 were aligned with lessons, making sure that lessons were
4 clear in objectives, evaluating teachers as they taught
5 lessons.
6 Q What kind of school is Cheyenne Mountain Charter
7 Academy?
8 A That's a charter -- public charter school.
9 Q It's not a parochial school?
10 A No.
11 Q Did they teach intelligent design there?
12 A No.
13 Q Why not?
14 A It's not in the Colorado standards.
15 Q When you were Assistant to the Vice Chancellor for
16 Economic Affairs at University of Colorado, did you
17 teach any science classes?
18 A No.
19 Q Did you have anything to do with the science curriculum?
20 A No.
21 Q How about as an adjunct professor at Colorado Christian
22 University, did you teach any science classes?
23 A No.
24 Q What did you teach?
25 A As it says there, a little bit of technology, higher

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1 education, assessment, program evaluation.
2 Q So you didn't teach science.
3 Did you teach any science education classes?
4 A No.
5 Q As an education policy analyst at Focus on the Family,
6 were you involved in any science-related issues?
7 A No.
8 Q Were you involved in any science education issues?
9 A No.
10 Q What kind of organization is Focus on the Family?
11 A Focus is a Christian ministry.
12 Q And your current job, I assume, is still at University
13 of Colorado, Colorado Springs?
14 A Correct.
15 Q Have you ever taught any science education classes?
16 A No.
17 Q And I note on the course listing there are thirteen
18 science education classes at Colorado Springs, and you
19 don't teach any of those?
20 A Correct.
21 Q And you've never taught any of those?
22 A That's right.
23 Q Have you talked to any of the professors who teach those
24 courses about intelligent design?
25 A No.

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- 1 Q Do you know whether any of those professors teach
2 intelligent design as part of the science education
3 curriculum?
4 A I don't know
5 Q Did any of your lawyers tell you not to speak to those
6 folks?
7 A Not -- no, they did not.
8 Q Let's look at related experiences. Anything you can
9 point to that relates to science?
10 A No.
11 Q Science education?
12 A No.
13 Q Rather than go through these publications one by one,
14 can you point me to any that relate to science
15 education?
16 A No.
17 Q Can you point me to any that discuss intelligent design?
18 A No.
19 Q Can you point me to any that discuss the teaching of
20 evolution?
21 A No, I don't think so.
22 Q Let's look at presentations. Is it easier if I take all
23 of the presentations together because the answer is
24 going to be the same?
25 A That would be best.

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- 1 Q Okay. Is there anything in peer-reviewed, invited, or
2 non-peer-reviewed that relates to science education?
3 A No.
4 Q Anything that relates to science?
5 A No.
6 Q Have you ever made a presentation at a science academy,
7 society, organization?
8 A No.
9 Q Have you ever made a presentation at a science education
10 organization, academy, society?
11 A No.
12 Q I note in some of the introductions of you, notably in
13 this Love Won Out program, it refers to you as an
14 award-winning teacher, principal, public policy analyst,
15 and college professor.
16 A Um-hmm.
17 Q What awards did you win as a teacher?
18 A They're talking specifically about teacher. The award
19 does not apply to the whole string of things.
20 Q What does the award apply to?
21 A Teaching.
22 Q Teaching?
23 A Correct. That's what I'm saying, it doesn't apply to
24 all the things that come after it.
25 Q It doesn't?

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- 1 A Correct.
- 2 Q But it applies to teacher?
- 3 A Teacher.
- 4 Q And so what award did you win as a teacher?
- 5 A To be named amongst Who's Who of America's Teachers.
- 6 Q When was that?
- 7 A '99, '98, '97, '95, and '94.
- 8 Q Is that on your CV here?
- 9 A It is.
- 10 Q So you have not won awards for being a principal?
- 11 A Correct. Or any of the others, right.
- 12 Q Have you ever taught science teaching methods to
- 13 pre-service teachers?
- 14 A No.
- 15 Q Have you ever taught science teaching methods to
- 16 in-service teachers?
- 17 A No.
- 18 Q Have you ever done any research on science education?
- 19 A No.
- 20 Q What can you point to in your background that helps you
- 21 to decide what should be taught in science classes?
- 22 A It would be training in and experience in educational
- 23 leadership, curriculum, pedagogy, and so forth.
- 24 Q So the general educational background?
- 25 A Right. People who work in educational leadership,

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1 people who are principals, are by necessity generalists.

2 MR. WALCZAK: Let's take a five-minute break. I
3 think I'm done.

4 (Short recess.)

5 BY MR. WALCZAK:

6 Q I want to go back. I don't think I covered this minor
7 point. I asked the follow-up questions, but not the
8 initial question.

9 Implicit in your report is that it is good to alert
10 students to the fact that there is a controversy in the
11 science community, is that correct?

12 A I'm sorry, ask it again.

13 Q Let me direct you to page 3 of your initial report, the
14 fourth paragraph. "Fourth, drawing students' attention
15 to weaknesses, gaps, and problems in evolutionary theory
16 is a simple matter of accuracy, a basic premise of any
17 instruction. The course text itself acknowledges the
18 controversy surrounding evolution under a section
19 entitled 'Strengths and Weaknesses of Evolutionary
20 Theory.'"

21 When you say "course text," what do you mean by
22 that?

23 A The book that's used in the course.

24 Q The one page that you read?

25 A The book, right.

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- 1 Q What is the controversy in the scientific community?
- 2 A The science standards called it incomplete, this -- the
3 authors that I reference, Sober and Steel, this
4 discussion of testing assumptions, that issue that they
5 raise.
- 6 Q I don't think that it's controversial that evolution is
7 incomplete. I mean, no theory is complete and may ever
8 be complete, no scientific theory.
- 9 Is that the controversy that you're referring to?
- 10 A That's at the center of the controversy in addition to
11 the fact that there are other alternatives, people
12 proposing other alternatives, and should these
13 have -- these alternatives have cache and so on and so
14 forth.
- 15 Q And the alternatives involve -- how are they
16 alternatives?
- 17 A Alternative explanations to natural organisms, the
18 development therein.
- 19 Q So natural versus supernatural?
- 20 A No, I'm just using the terms that we've used all day.
21 Natural versus sociological.
- 22 Q What's sociological?
- 23 A What is sociological?
- 24 Q Yeah, what does that mean?
- 25 A Sociologists, anthropologists, educational researchers,

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1 they do research on the interactions, the actions and
2 interactions between people typically, and
3 they're -- and sometimes the interactions as a result of
4 environment and so on and so forth.

5 Q But that doesn't sound like a controversy in the
6 scientific community.

7 A What?

8 Q What you just described.

9 A Sociology?

10 Q Well, what you just described did not sound like
11 a -- what is it there that's controversial about
12 evolution?

13 MR. THOMPSON: I think he was trying to describe
14 what he meant by natural. Is that --

15 THE WITNESS: Yeah.

16 A Right, you had asked me what do you mean by natural, and
17 I'm saying --

18 BY MR. WALCZAK:

19 Q Actually, I asked what you meant by sociological. It's
20 been a long day and we're all tired.

21 I'm trying to understand the controversy that you
22 allude to in the scientific community, what precisely is
23 that controversy?

24 A At issue is, as I referenced several people, this idea
25 of -- I think Sober and Steel talk about the idea of

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1 assumptions, there are these assumptions that are
2 engrained within the scientific community and there are
3 others who challenge those assumptions.
4 Q And the assumptions that are being challenged are what,
5 that science has to be naturalistic or materialistic?
6 A No. They're challenging the assumptions, particularly
7 assumptions about evolution that are kind of central.
8 Q And what are those assumptions?
9 A Well, Sober and Steel talk about common ancestry as the
10 example.
11 Q So the controversy in the scientific community that you
12 refer to is about common ancestry?
13 A The controversy is the idea of challenging assumptions
14 implicit in evolution and the various subcategories
15 within evolution.
16 Q And the one specific that you've identified is common
17 ancestry?
18 A Correct, that's the one I referenced with Sober and
19 Steel.
20 Q I'm sure I've missed things, but I'm too tired to go on.
21 And I want to catch my flight. So we'll see you in
22 September, although you're going to get me information
23 about the conferences that recognize the controversy?
24 A Correct.
25 Q And you're going to let your counsel know, who will let

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1 me know, if you do a substantial amount of additional
2 reading or work to prepare your testimony?

3 A Correct.

4 Q And to the extent your opinion changes, you'd have to
5 modify it.

6 A A report? Okay.

7 Q I know you look forward to that.

8 MR. WALCZAK: Do you want to talk about signing?
9 Do you want to sign or waive?

10 MR. THOMPSON: That's up to you. I'm not --

11 MR. WALCZAK: You know what? It's the witness's
12 prerogative.

13 MR. THOMPSON: Do you want to waive the reading and
14 signing of the deposition?

15 It would probably make it faster, right?

16 MR. WALCZAK: It does make it faster. You can't
17 make substantive changes, but if there's something -- in
18 the unlikely case that our court reporter made a
19 mistake --

20 THE WITNESS: That if Beth is a slacker.

21 MR. THOMPSON: We can always -- it's not going to
22 change what's put down on the paper.

23 MR. WALCZAK: Right. I mean, it's certainly your
24 prerogative to waive that. Okay. We're done.

25 (Deposition concluded at 4:13 p.m.)

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1 State of Michigan)
2 County of Oakland)
3 Certificate of Notary Public - Court Reporter
4

5 I do hereby certify that the witness, whose attached
6 testimony was taken in the above-entitled matter, was first
7 duly sworn to tell the truth; the testimony contained herein
8 was reduced to writing in the presence of the witness by
9 means of stenography; afterwards transcribed; and is a true
10 and complete transcript of the testimony given by the
11 witness.
12

13 I further certify that I am not connected by blood or
14 marriage with any of the parties; their attorneys or agents;
15 and that I am not interested, directly or indirectly, in the
16 matter of controversy.
17

18 In witness whereof, I have hereunto set my hand at Troy,
19 Michigan, County of Oakland, State of Michigan.
20 Dated: May 21, 2005
21

22
23 Elizabeth G. LaBarge, CSR-4467
24 Certified Shorthand Reporter
25 Notary Public, Wayne County, Michigan