I was interested to read "The Classic Socratic Method." As I read it, I was impressed by what Socrates was doing, but I became increasingly critical of how he was doing it. The initiative in the lesson clearly resides with Socrates as teacher, but I was surprised to see how much of the intellectual work is also done by Socrates as well. In fact, the boy has little opportunity to say more than "Yes" or "No." Look closely at the dialogue. Only once does the boy have a response that takes more than one line, and most of his responses are mere assent to some statement by Socrates. Could this teaching be done better? Imagine that Xanthippe (the wife of Socrates) has been watching this dialogue and chiming in at the end. (X, Xanthippe; S, Socrates; M, Meno; G, girl. The reader should compare this with the early portion of Plato's version.)

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S: Yes, well, I rather like it too, Meno.

X: Of course you like it, you egotistical so-and-so. You always like listening to yourself talk.

S: Why, Xanthippe, light of my life, whatever do you mean?

X: Socrates, you have done all the talking, and consequently you have done most of the thinking. All you have let this boy do is say yes or no. Why don’t you let him show what he knows?

S: I suppose you think you can do better?

X: I know I can.

S: Fine, then let Meno summon another boy, and show us what you mean.

M: I would be pleased to, Xanthippe, but there is only a girl who works in the kitchen here at present, and of course she would know nothing of mathematics.

X: Have you missed the whole of Socrates’ point then, Meno? Ask her here, and let us begin.

(Xanthippe draws a figure in the sand.)

X: Young woman, what is this figure called?

G: That’s a square.

X: What is special about this figure that it should be given a special name?

G: I suppose that it is because all the sides are the same length.

X: Very good. Now watch. I draw lines across the square from middle to middle and the same from top to bottom. How do these lines compare?

G: They are in different directions, but they are the same length.

X: Very good. How do they compare to the sides of the square?

G: I think they are the same length as the sides.

X: Well done. Now let’s consider the areas of the various figures here. Suppose each side of the square is two feet. Consider all the possible figures bounded by these lines. Would you show me each figure and tell me it’s area?

G: Well, here is a small square, and its sides must be half, so that’s one foot on the side, so I guess it would be one square foot.

X: Yes....

G: And this one would be one square foot also, and this and this.

X: Good. Are there any other figures here?

G: Well, there is a piece here that is half the big square, and it is, I guess, one foot here and two feet there, so that makes two square feet.
X: Continue....

G: Um, let's see, the whole big square would be twice that, so that makes it twice which is four square feet.

M: (aside to S) Socrates, I think I see what she means. You were merely getting the boy's assent to your ideas, but Xanthippe has led this young woman (who I would not have thought had the knowledge) to say more and think more than the boy did.

etc.

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I could go on, and in fact I have sketched out a revised version of the whole dialogue, but I think it is more instructive for you, dear reader, to do this for yourself. Try to focus on creating questions that will put the greatest responsibility on the student, while still directing the argument along the lines that Socrates takes. You may then wish to try the actual experiment with a student (my younger son was my subject) to see how your model of the dialogue compares with a real test (my test went fairly well with only a few small surprises).

To belabor the point, I think it is very easy for us as teachers to recite our own knowledge, get assent at each point from students, but never let the students think even a bit on their own. Compare the approach Xanthippe takes to the question about the area. In the piece of dialogue above, Xanthippe puts significantly more responsibility on the girl. Note that after Xanthippe's initial question about area, the long lines in the dialogue belong to the girl, as Xanthippe now lets her work out on her own the areas of several of the possible figures. The construction of the ideas is still motivated by Xanthippe, but the girl is required to supply more of the words and sentences. I would be interested to know which version others would prefer as a model of what we mean by Socratic Method. An interesting experiment, which I have not yet tried, would be to videotape yourself teaching a lesson in physics to a class, and then critique it from the point of view I have taken in this note—how do you stack up against Socrates and against Xanthippe?

Besides observing the technique of teaching, we should think carefully about what Socrates asserts he is doing. His argument is that he is only pulling out of the student the knowledge that the student already possesses. However, an essential part of Socrates' technique is drawing the figures in the sand. In doing so, and in referring to them, he is in fact presenting the boy with the opportunity to make experimental observations, and he uses these observations to force the boy to contradict his initial prediction about the effect on the area of doubling the side of a square. The boy is required to perform a measurement! Thus we can see that the knowledge that Socrates asserts the boy already possesses actually had to be constructed by the boy during the lesson. Questioning alone would not have been sufficient without the construction and measurement (by eye) of the squares under discussion.

Finally, those who are interested in pursuing the philosophical and scientific questions about the nature of knowledge and of thought that Plato was addressing in the *Meno* might wish to start with the interesting account by Howard Gardner.

References