Socrates on Reading Mastery

Scene: Campus coffee shop

Characters: Socrates and Dr. Baram Rosenthal, educational guru

Topic: Teaching beginning reading

Rosenthal: The more effective beginning reading programs have distinct characteristics: They present phonemic awareness exercises; they teach phonics, they have decodable texts, and the instruction explicitly focuses on vocabulary, comprehension and fluency.

Socrates: So if I wanted to design an effective reading program for young children, would the program I create be effective if it had all these components?

Rosenthal: Well, yes, of course. These are the guidelines we provide teachers to follow.

Socrates: Am I to understand that the teacher designs the instruction?

Rosenthal: In most cases, teachers use instructional programs that provide the general framework the teacher follows, but the teacher augments and supplements the core instruction with additional instruction and practice.

Socrates: Are you saying that this process of the teacher fine-tuning the program, leads to effective outcomes, even if the program being fine tuned has strong evidence of effectiveness?

Rosenthal: Yes, this process permits individualizing instruction for the specific children the teacher works with.

Socrates: And I presume there is research that supports this process?

Rosenthal: A great deal. It has been shown that each of the factors is correlated with reading success. There are studies showing the improvements that result from phonemic awareness instruction, phonics, decodable texts and all the other features.

Socrates: No, you misunderstand. Is there any data that shows that fine tuning of an effective program by the teacher creates improved student learning?

Rosenthal: Why wouldn't the fine tuning improve the program? Doesn't it make sense for the teacher to tailor instruction to the needs of the individual children?

Socrates: I don't know how much sense it makes. That's why I asked the question about data. Are there studies that show that the teacher adjustments of effective programs lead to better student performance?

Rosenthal: I'm sure there are such studies, but offhand I can't cite any.

Socrates: Let me see if I understand your formula: If I want to create a successful beginning reading program, I simply provide for phonemic awareness instruction, phonics, decodable texts and the other features. Here's my question: If I faithfully design the program so it follows all these specifications, will the program I design be highly successful?

Rosenthal: Well that is certainly what the research shows. Each of those components correlates with higher student performance. So the expectation would be that—yes, the program would be successful.

Socrates: You said that these components "correlate" with high performance. I'm not asking about correlations. I am asking about causes.

If I follow the formula for effective reading instruction will that *cause* the program I write to be highly successful?

Rosenthal: Well, it seems to me you're splitting hairs. If the correlation is as strong as it is, how could your program be unsuccessful?

Socrates: I suppose you're right, but I have one reservation, and that has to do with the eyesight of those who analyze the highly successful programs. What if there are more specific variables that cause effective programs, but the analysts are unable to see them?

Rosenthal: I'm afraid I don't follow you at all.

Socrates: Perhaps a story will clarify the issue. A man has gone to an undiscovered gold field with two other men. Here's what he said about the location of the field. "We left Tucson and drove for several hours in the valley. Then we switched to dirt roads and made a sharp left turn. The road kept winding up the hills until we came to a flat place by a small stream. That's where the gold was." Here's the question: If everything he said is true, does that make his directions clear enough to cause somebody to find the gold?

Rosenthal: In the first place, if he knew how to get there, why would he provide such a cryptic and useless set of directions?

Socrates: He's blind so he could not attend to some details that are essential for someone being able to take the route he described. But here's the point: If we knew exactly how to get to that gold field, we would see that the blind man's directions *correlated* perfectly with the more-detailed directions. We would see that we did drive several hours from Tucson in the valley, switched to dirt roads and so forth. The only difference between the blind man's directions and those that articulate which road we take first, which direction, how far, and so forth is that the clear directions have the *technical* detail that is needed to cause someone to find the gold field.

Rosenthal: I don't think there's a parallel between that allegory and the analysis of the features of effective beginning reading programs.

Socrates: If the parallel is weak, you should have no trouble discrediting it. Where do you wish to start?

Rosenthal: In the first place, the components of effective reading are not directions about what you do first and next. They are a set of observable properties.

Socrates: But don't both the directions and the components of beginning reading function as guidelines for causing the desired outcome?

Rosenthal: I am not comfortable with your notion of causing something. Another problem is that the blind man's directions left out important detail, and the analysis of beginning reading doesn't do that.

Socrates: How do you know that the blind man left out important detail?

Rosenthal: Because you can't find a place without information about which roads you take and how far you go.

Socrates: Very good. Would it be fair to say that you know this is true because you're familiar with the requirements of what it takes to construct adequate directions?

Rosenthal: Certainly.

Socrates: Would it be fair to say that if you were not familiar with the requirements of adequate directions you could not draw the conclusion about the inadequacy of the blind man's directions?

Rosenthal: Of course. I would have no basis for comparison. But I have a basis for comparison, and so does anyone else who is familiar with giving directions.

Socrates: Let me ask a different question: If you read a set of directions for constructing a rocket engine, could you tell whether the directions were adequate?

Rosenthal: Of course not. I am not a rocket scientist.

Socrates: What would you have to know before you could evaluate the directions?

Rosenthal: These seem like painfully elementary questions. I would have to know the essential requirements of rocket engines before I could assess any design.

Socrates: So for both the directions for finding the gold and constructing rocket engines, you need technical understanding of adequate directions before you can evaluate directions that may not be adequate. Is that correct?

Rosenthal: Yes, that's correct. What's your point?

Socrates: Wouldn't it follow from what you said that the only way you would know whether your directions for configuring reading instruction are adequate would be to compare them to a set of directions that are used to *create* effective reading programs?

Rosenthal: You lost me. I don't see the parallel.

Socrates: Perhaps a more concrete example will help clarify the parallel. Are you familiar with the reading program, Reading Mastery?

Rosenthal: Yes.

Socrates: Is it considered one of the more successful reading programs?

Rosenthal: It has some shortcomings, but yes, it has some data of effectiveness.

Socrates: Are you suggesting that there are other programs that have more data of effectiveness?

Rosenthal: No. It's just that teachers don't like it because it micromanages the teacher with a verbatim script the teacher has to follow.

Socrates: But isn't it true that it has far more data of effectiveness than any other reading program?

Rosenthal: There are people who would debate that, but Reading Mastery definitely has data of effectiveness.

Socrates: Doesn't the fact that the program is effective clearly imply that the authors of the program follow design principles that are technically adequate to design effective reading programs?

Rosenthal: You could say that, but I can't see where you're going with this.

Socrates: Did you ever design a highly effective reading program?

Rosenthal: No, but I am familiar with the literature on effective designs.

Socrates: Did you ever teach low performing children effectively?

Rosenthal: No.

Socrates: Would you say that the prima facie evidence is that somebody who has successfully taught low-performing children to read knows more than you do about the technical details of what is needed to be effective?

Rosenthal: Of course. But that doesn't mean that they have a broad enough perspective to see what the common factors are for effective programs.

Socrates: But they know how to cause effective outcomes. So if authors of a program also taught low-performing children effectively, wouldn't they have a far more detailed technical understanding of the design requirements for effective programs than you have?

Rosenthal: But they only know about one program. They don't know what's needed to describe any effective program.

Socrates: But by your own admission, neither do you. You have no data that following your formula will always result in a highly effective

program. Also, you agree that it is not possible to judge whether directions are adequate unless you compare them with standards that are known to be adequate. Wouldn't it follow that you can't possibly assess the adequacy of your specifications unless you either obtain data about their validity or show that your formula is technically consistent with the formula used by authors to create highly successful programs?

Rosenthal: I don't see how that follows.

Socrates: Would the authors of Reading Mastery agree that their program has all of the components you specify-- phonemic awareness, phonics, and the rest?

Rosenthal: I would imagine that they would.

Socrates: Would they concur that your description of these components is sufficient for someone to design an effective program?

Rosenthal: I don't know.

Socrates: What would the authors say is needed for an effective program?

Rosenthal: I don't know.

Socrates: If you don't know answers to these questions, how can you be sure that your directions are not as inadequate as those the blind man provided?

Rosenthal: But what reason would we have for assuming that the authors have a valid conception of what technical detail is needed beyond the components we identify?

Socrates: Well, if they agree that their program has the components you identify, wouldn't it seem reasonable to assume that any additional technical detail they provide *could be* valid?

Rosenthal: Yes, *could be*, but would it be valid?

Socrates: Isn't there a simple way of finding out?

Rosenthal: Do you mean by testing what they say?

Socrates: Yes.

Rosenthal: I don't know that testing would be practical.

Socrates: Apparently you have never contacted the authors to discuss the technical details they believe account for the success of their programs.

Rosenthal: That is correct.

Socrates: As I understand your position then, you have never tested whether your formula for effective programs universally causes effective programs, and you have reservations about either identifying or testing the technical detail that people who have created successful programs say is necessary. Does that sound like a scientific approach?

Rosenthal: You make it sound as if the components we identify have no scientific basis, and that's false.

Socrates: Again, you miss the point. Certainly your description is adequate as an overview for one who needs general information about reading instruction—just as the blind man's description is adequate for a general understanding of where the gold is. But does the information you provide serve as adequate guidelines for someone to create effective instruction?

Rosenthal: This discussion seems to be going in a circle. I think we simply disagree.

Socrates: True. But let's approach the issue another way. If I could identify one technical detail that you have not identified but that is necessary for effective instruction would you acknowledge that your formula is inadequate?

Rosenthal: If your detail is compelling, yes.

Socrates: Here's a question involving that detail. How much practice do you think students need on something new that is being taught?

Rosenthal: I would say that it all depends on the ability of the students and the nature of what is being introduced.

Socrates: Very good observation. Let's make it more specific. Let's say you're teaching the phonemic awareness skill of identifying words that the teacher says a sound at a time. The children are at-risk kindergarteners. How much daily time do you devote to working on this skill, and how many school days do you work on it?

Rosenthal: That's an unreasonable question, because it's the kind of detail the program designer must address. In the abstract, I could see the work appearing in many lessons.

Socrates: So the guideline simply tells the designer to do oral blending, with no specific detail about how to do it or how much to do. Is that correct?

Rosenthal: It's up to the designer to configure the instruction and assure that there is adequate practice.

Socrates: Let's say that we have an untalented designer who does not know how much practice is adequate. Isn't it possible for that designer to provide far too little practice for the children to master oral blending?

Rosenthal: Yes, I suppose it is.

Socrates: And isn't it possible for the designer to provide far, far more practice than is needed for the children to master the skill?

Rosenthal: Yes, but the designer should consult with teachers and others to evaluate the instruction.

Socrates: If this is an important variable, why wouldn't you either provide some information about how extensive the work should be or require designers to field test the material to get information about the children's success, and then "evaluate the instruction?"

Rosenthal: Our objective is not to manage the details of program development, simply to identify the essential components.

Socrates: Are you saying that the program would be highly effective even if the designer provided far more practice than was needed to teach the blending skill?

Rosenthal: Well, that all depends…

Socrates: Are you saying that the program would be highly effective if the designer provided far less practice than was needed to teach the skill adequately?

Rosenthal: That would be up to the teacher to evaluate and remedy.

Socrates: But you indicated that you had no knowledge of studies that demonstrated the teachers' ability to fix up effective instruction. And according to your conception, the program would be effective regardless of the amount of practice.

Rosenthal: No I said that these issues lie outside the realm of what data on effective reading instruction suggests.

Socrates: Let me put the issue more bluntly. Let's say an evil person set out to design a program that had all the components you specified but that would be a categorical failure. Wouldn't that person be able to do it simply by providing perfectly inadequate practice on some components and far too much practice on others?

Rosenthal: Well, yes, but that person would be evil indeed. We would assume that nobody who teaches children would purposely distort the components.

Socrates: But if it is *possible* to follow your specifications with fidelity and produce a program that is not excellent or even good, doesn't that fact expose great inadequacies in your formula?

Rosenthal: This may be true in extreme cases, but on the whole, the components predict successful instruction.

Socrates: Not really. If it is possible to design a failed program on purpose, isn't it possible for some program designers to create a failed program because of bad judgment about the amount of practice the program provides?

Rosenthal: Well, I suppose that would be possible.

Socrates: Doesn't that mean that this possible cause of failure would need to be corrected for these designers to create effective instruction?

Rosenthal: Possibly, yes.

Socrates: Your formula provides no information about how to correct it, which means that your formula is not technically adequate to guarantee excellent programs.

Rosenthal: I'm not comfortable with that conclusion, but possibly some caveat on the amount of practice would be helpful.

Socrates: The amount of practice is not the only variable that must be controlled to create highly successful programs. If you're going to put in a caveat for practice, wouldn't you have to include one for each of these other variables that could affect the program's effectiveness.

Rosenthal: I am not familiar with these other variables you refer to.

Socrates: One of them is that each set of examples in the program generates only one inference.

Rosenthal: I don't know what that means.

Socrates: Let's say that we taught the beginning reader the letters b and d at the same time. Let's say that we always presented them in the same display, b to the left, d to the right. Let's say the children became very firm on naming these letters. Does that mean they know how to identify b or d in other contexts?

Rosenthal: Yes, why wouldn't they?

Socrates: Because the only information they have is that the left symbol is called bee and the right dee. So let's say after this arrangement has been presented for quite a few days, we present this pair: d b. Would at least some of the children say the first letter is bee and the other dee?

Rosenthal: I don't really see why.

Socrates: Most of them have never encountered an object that changes its name when it faces the opposite direction. These children know that a couch is a couch no matter which way it faces, a door is a door, a cat is a cat, and a piece of paper is a piece of paper. So if b and d are simply the same shape, the children wouldn't necessarily know that their names have to do with the direction each symbol faces.

Rosenthal: I'm not sure I understand why they wouldn't learn the names from the presentation of: b d.

Socrates: Because the arrangement presents two inferences: one is that one is called b because of the direction it faces. The other is that one is called b because it is to the left of the other symbol.

Rosenthal: That's ridiculous.

Socrates: If it's ridiculous you should be able to identify something in the procedure that would rule out the inference that b is called b only because it is to the left of the other member.

Rosenthal: Well, this is a contrived procedure for teaching b and d.

Socrates: It may be contrived, but that's not the central issue, which is whether it is *possible* to create instruction that generates false inferences. If it is possible and it can lead to confusion, the student's progress will be retarded, as the teacher tries to correct the misconception, and the program will not be excellent.

Rosenthal: Yes, but this kind of confusion is certainly not common.

Socrates: Do you have information about how common it is?

Rosenthal: Well, not at the moment.

Socrates: So how can you possibly make an assertion about how common it is?

Rosenthal: (No response.)

Socrates: I'll present another example that generates more than one inference. See if you can identify the problem some children will have. A reading program introduces different word types to the beginning reader. The first type consists of words that are most common in simple texts. These are words that have three sounds in the same order: consonant, vowel, consonant. After children sound out and identify words of this type for several weeks, the teacher introduces two-sound words that begin with vowels: at, am, an, on, in and others. Does this sequence generate any false inferences?

Rosenthal: (Thinks.) …I'm not sure.

Socrates: Yes, it generates a false inference. The long period of work on the initial CVC words implies that all words that are sounded out have three sounds.

Rosenthal: That seems absurd. Certainly children say words that have two sounds, three sounds, or more.

Socrates: Yes, but the only words they have ever sounded out have three sounds. Therefore, some would have trouble with the two-sound words because they came in much later.

Rosenthal: What kind of trouble would they have?

Socrates: They would either not be able to say the word after sounding it out, or they would try expand it into a three-sound word. They might identify *at* as hat, mat, or bat.

 Rosenthal: You're saying that these mistakes are caused by the program?

Socrates: Yes, and they can be corrected by changing the program.

Rosenthal: How would you change it?

Socrates: Introduce two sound words very early in the sequence. Also, introduce some three-sound words like *and* that don't begin with a consonant.

Rosenthal: Well your observations are interesting, but I don't know that they are really relevant to identifying components of effective beginning reading programs.

Socrates: But you acknowledged that practice is a variable that affects effectiveness, and I presume you can see that programs that convey many false inferences could not be excellent programs. You even acknowledged that a person could purposely design a program that met all your requirements, but that would fail. That means you acknowledged that your set of variables is not adequate to guarantee excellent programs. What possible reason could you have for not accepting the conclusion that your formula is far too general to serve as guidelines for creating effective instruction?

Rosenthal: Well from your viewpoint, our analysis is flawed, but from our perspective, it is sufficiently detailed to lead to the development of effective instruction, even if not all of the programs are totally effective. It's certainly better than formulas for creating sight-reading programs, or whole-language programs.

Socrates: Isn't what you are saying now parallel to the blind man justifying his directions by saying, "Well, my directions are a lot better than my brother Alex could give you. He's not only blind; he has trouble remembering things?"

Rosenthal: I don't think that comparison deserves a response.

Socrates: Possibly not. In any case, the responses you have provided imply that your analysis is blind to technical details that cause

effective instruction. Possibly the major difference between this analysis and the blind man's description is that the blind man is perfectly aware of his description's limitations.

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