

Script	Comments
<p>JS: You make comments to kids in the context of explaining things to them that create a classroom climate where the kids are really willing to struggle even if they don't get it the first time. So I am going to show you this clip and then I am going to ask you what are other things that you do that are in your head about how to create this climate.</p>	

Clip 1

Script	Comments
<p>PG: I hope you guys realize that learning is messy, so . . . it's gonna be. . . It is OK to make some mistakes, so there is nothing wrong with that. So let's see what we have. . . Now, I do have one issue in here with number 12. What is the formula to find axis of symmetry?</p> <p>Student: All right, see, we have to fix that.</p>	Normalizing error.

Script	Comments
<p>PG: You have to use that always. Why don't you write that down, Louie? If I was you before I start looking for the axis of symmetry, write down the rule for that. How do we find the axis of symmetry? What's the rule we have to use? It is right here—number one.</p> <p>Student: $X = -b$</p>	<p>Advice.</p> <p>Pressing for specifics.</p>
<p>PG: Right, write it down. And look at number 12 and tell me what's wrong in number 12.</p> <p>Student: B is 8 . . . 8 divided by 2 is 4.</p>	<p>Asking for self-evaluation.</p>
<p>PG: Look at the axis of symmetry again—read it out. $X = -b$, minus b, negative b.</p> <p>Student: Oh, it is supposed to be negative . . .</p>	<p>Cueing.</p>
<p>PG: All right, if I was you when I was doing it . . . because if you don't have the right axis of symmetry, most likely the graph will be wrong. So use the axis . . . write it down. Do it as practice, before you start looking for it just always write it down.</p>	<p>Advice.</p>

Conference

Script	Comments
<p>JS: And the essence is that first time, "I hope you guys realize that learning is messy. . . . Yeah, it's all right, don't worry about it when you make mistakes. . . ."</p> <p>PG: Here is what I was thinking about—the kid gets so uptight when they make a mistake that the teacher will start yelling at them. The philosophy is if you know what you are doing, you aren't supposed to be here. . . . It is because you don't know it and therefore by trying it is OK to make mistakes. So that's the reason I told them, learning is messy, so you're not going to be able to get it the first time you try, you have to keep trying over and over until you get it.</p> <p>JS: There's another one coming up here; I think you may have still been with these boys. I saw this as part of the climate too—the way you responded. This has to do with the way you correct errors when something is wrong or incomplete.</p>	

Script	Comments
<p>Student: That's 13.</p> <p>PG: That's 13, opens down. Let me look at the example. OK, guys, let's pick up the pace, please.</p> <p>Student: It's y equals negative x to the second plus $4x$ plus 3.</p> <p>PG: Now we know it is going down, very good. So that would be 2 for the axis of symmetry. Do you have -2? I am looking at -2 here.</p> <p>Student: But it's 2.</p>	<p>Identifying the error.</p>
<p>PG: All right, so you need to change that on that, all right, so that's 2. Plug it in. Very good. Do you have -4 or 4?</p> <p>Student: -4.</p>	<p>Checking for understanding.</p>
<p>PG: Beautiful. But you need to show me . . . that is the perfect, I am impressed with that, but you need to show me how you get -4. Whenever you're doing substitution you need to use parentheses. That is the right answer, but if I were in your shoes doing that, all right, I would do . . . you got the right answer, there is nothing wrong with that, but there is just something I would like to share with you. That is -1 times what is the value of x?</p>	<p>Acknowledgment. Criteria: show your thinking.</p>
<p>Student: 2.</p> <p>PG: 2 to the second power plus 4 times 2 plus 3. So that would be 2 to the second power, which is 4, 4 times -1 is -4. That's what. It is like when I am checking your work, that is what I am looking for . . . even if you got it wrong or right it really doesn't matter to me, I need to see that step. All right? And if there is any mistake if you do that step, I am going to be able to help you out. . . . OK, very good . . . so let's finish that up, that's -4. That's 4 plus 3, that's 7, why -7?</p> <p>Student: No, it's 7. I erased something over it.</p>	<p>Sending the message—the reason to show your work is so I can help you if something went wrong. Mistakes are OK, I am here to help you fix them, and you CAN!</p>
<p>PG: It's 7, OK. All right, -1, plug it in. That will be -1, -4. -3 plus 2. Check that again when you do the substitution. Show the work for the -1 you are using.</p>	<p>Calling for self-evaluation, specific guidance.</p>

Script	Comments
<p>JS: Now, that's very respectful language.</p> <p>PG: Thank you.</p> <p>JS: Um, something I would like to share with you. That is a very different way of saying, "Let me show you how to avoid screwing this up again!" So there is the acknowledgment that there is an error—actually there is the acknowledgment that he's done a lot of things right. "Beautiful, but you need to show your work . . ." and then you explain—which is another part of what I saw as respect in here, Pierre—you explain the reason why you want them to show the work and it comes back to them, if you don't get the right answer, I will know how to help you.</p> <p>PG: This kid, he is a special kid. He's really smart. I mean, the first 2 months of the year, it was a struggle because I was trying to build up that confidence. But now the issue is that he is overconfident.</p> <p>JS: Ah, overconfident.</p> <p>PG: He is overconfident so he is trying to solve everything in his brain, without showing the work at all. So . . .</p> <p>JS: Aha, I see. What else do you do to build confidence?</p> <p>PG: It is really simple. I just let them know I am here to help them out and I set the bar so high, the expectation; I told them since day one when they walk in, you guys in this classroom, in this setup you have no excuses at all to get an F. The least you're supposed to be able to can get is a B-. And since then I have been pushing them so hard. I told them we have 66 minutes and we are going to be working for 66 minutes. You stop working when the bell rings. We set that at the beginning of the year, and now it's working. It's working.</p>	