

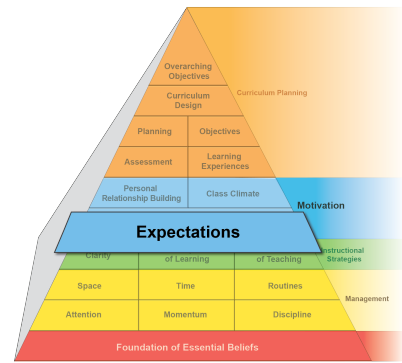
Expectations

Feedback and Building Student Confidence That Mistakes Are Normal

“Learning is Messy”

High School Mathematics

WITH RBT ANALYSIS



Conference

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: Alright, see we have to fix that.</p> <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>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>PG: Look at the axis of symmetry again—read it out. $X = -b$, minus b, negative b.</p>	<p>Normalizing error.</p> <p>Advice.</p> <p>Pressing for specifics.</p> <p>Asking for self-evaluation.</p> <p>Cueing.</p>



<p>Student: Oh, it is supposed to be negative...</p> <p>PG: Alright, 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>
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Conference

Script	Comments
<p>JS: And the essence is that first time, “I hope you guys realize that learning is messy...yeah, it’s alright, 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>	

CLIP #2

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</p>	



<p>the axis of symmetry. Do you have -2? I am looking at -2 here.</p> <p>Student: But it's 2.</p> <p>PG: Alright, so you need to change that on that, alright, so that's 2. Plug it in. Very good. Do you have -4 or 4?</p> <p>Student: -4.</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 doing substitution you need to use parenthesis. That is the right answer but if I were in your shoes doing that, alright, 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>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. Alright? 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, its 7. I erased something over it.</p> <p>PG: It's 7, OK. Alright, -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>Identifying the error.</p> <p>Checking for understanding.</p> <p>Acknowledgment. Criteria: show your thinking.</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>Calling for self-evaluation, specific guidance.</p>
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Conference

Script	Comments
<p>JS: Now, that's very respectful language.</p> <p>PG: Thank you.</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.

PG: This kid, he is a special kid. He’s really smart. I mean, the first two 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.

JS: Ah, overconfident.

PG: He is overconfident so he is trying to solve everything in his brain, without showing the work at all. So...

JS: Ah ha, I see. What else do you do to build confidence?

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 ring. We set that at the beginning of the year, and now it’s working. It’s working.



“Learning Is Messy” Analysis

Feedback

When asked for help, Mr. Gilles gives feedback to students that is specific and helpful. At different times, the feedback displays the following aspects of quality feedback:

1. Gives guidance with specifics. [The guidance is often the minimal amount to lead the student to action or discovery. Does not do the thinking for the student.]
2. Limits corrective information to the amount of advice that student can act on.
3. Presses the student for specifics.
4. Presses the student to generate ideas and asks the student to make choices.
5. Affirms, encourages, and reassures.
6. Asks the student to add or extend.
7. Asks the student to self-evaluate according to clear criteria.
8. Catches and prevents an error in a way that allows the student to identify and correct it.

In addition, Mr. Gilles’ interactions with the students communicate high expectations and mutual respect. (See *The Skillful Teacher*, Chapter 19: Assessment, pp. 460-473, for more on Feedback.)

Confidence and Risk-Taking

An important element of classroom climate is present, too. As defined in *The Skillful Teacher* (see Chapter 12: Classroom Climate, p. 330), classroom climate is “the feelings and beliefs students have and the cumulative patterns of behavior that result from those feelings and beliefs regarding community and mutual support, *risk taking and confidence* [italics added], and influence and control.” Mr. Gilles makes moves that are particularly targeted at confidence and risk-taking. These are moves that say “mistakes are OK” and even emphasize that it is important to show how a mistake is made so that he can help get the student back on track.

Making mistakes and getting help are an expected activity in his class, and he communicates this message with respect. The responses of his students demonstrate their level of trust and confidence. Mr. Gilles even reports that he thought that one student’s confidence had actually built up too high—remarkable for a student who had previously been failing. To rectify the situation, Mr. Gilles tells him to back up and make sure to show his work; and again he does so in a very respectful, supportive manner.

Yet another aspect to note here is that, while Mr. Gilles’s classroom climate is a positive and supportive one, he still holds students to a high academic standard. He very clearly teaches his students that putting in extra effort will result in increased achievement.

