Coaching vs. Cheerleading

I've had some nice, informative, and enlightening conversations with math instructors about the difference between coaching and cheerleading. The discussions I had were generally about classroom management or the usual IBL questions like "How do you select presenters?" or "How do you get the quiet students engaged?"

The issue I want to bring up is somewhat subtle, and also an important one. There are some people or personalities that react negatively or find that it is not in their nature to cheerlead. I have no problems with this. Cheerleading is not necessary.

On the other hand, coaching is necessary in effective IBL courses. A problem a new (or even experienced) IBLer can run into is confusing coaching for cheerleading. This takes on at least two forms. Some don't coach since they are not inclined to be a cheerleader. Others think they are coaching when they are really cheerleading.

Let's discuss some examples to sort out the differences. Cheerleading examples:

- "Good job!"
- "High Five!"
- "You can do this!"
- Here's me showing how much I am excited about the subject! Don't you just love this proof?!?

Cheerleaders are supporters. They give high fives and can positively affect the environment. They root for the players. Cheerleaders, however, do not affect the results of the play on the field directly by their actions, although they do contribute to a more positive environment.

Coaching examples:

- Noticing where students are struggling and creating a new task to bring out the issue so that students can engage in making sense of it. "I noticed the following... Let's all now work on this new task..."
- Noticing if students have reached a high level of frustration, and makes an instructional decision to defate the pressure, refocus the students, or whatever to keep students on the learning path. This may be the instructor making a joke initially, and then talking about how being stuck is okay. "I hope you all know that being stuck is okay. I know problem 3 is challenging, and it is natural to be stuck. Let's now focus on what you've come up with and share them out. Then we can see if there's an idea we can work with..."
- Thanking students for their efforts and their work. "Thank you Judy! You explained carefully using a proof by building a sequence that creates a contradiction..."

Coaching decisions affect the outcome of the game. IBL instructor in-class teaching decisions (i.e. coaching) affects student learning outcomes.

Let's compare "Good job, Judy!" vs. "Judy explained carefully..." Why is one cheerleading and the other coaching? When we say "Good job!" it is praise and an evaluation (just as much as "Bad job!" is an evaluation). Once uttered the discussion often stops there. When we point out what Judy did and the strategies that she used, and then thank her, it highlights what Judy used to solve the problem, which other students can pick up on and learn from. The focus is on the math and the thinking behind it. The discussion could be extended with a follow-up task like "Explain what is important about this step of the problem to your neighbor."

Helping students get out of a rut by changing tasks, asking questions, and defating a frustrating situation is effective coaching, because it keeps students in the learning zone. Those who shy away from cheerleading should make it clear in their own minds the difference between coaching...
and cheering. Adding some cheering on top doesn't hurt, and can create a more relaxed atmosphere, but it does not by itself create a fundamental shift in the learning environment.

In my experiences working with instructors who struggle with IBL, one of the common issues some of new IBL instructors struggle with is knowing the difference between coaching and cheering. Often this is unacknowledged, and sounds like "I just don't know if I have that kind of personality." So having the right personality then is conflated with a lack of effective observation and communication skills related to IBL teaching. The danger here is that this means there's the assumption that nothing can be done about improving the skills and practice. I hope that these examples help define where effective coaching lies, as well as point out that effective IBL coaching skills can be learned and employed by any math instructor.

**How to get started if you're new to this?**

Really, really listen to your students. Ask students when they are working in groups basic questions like, "Can you show me what you're working on?" Or "I would like to know how your are thinking about this problem. Could you explain to me...?" Then listen. Ask follow-up questions and keep on listening. The goal is to understand student thinking.

During or after class presentations, rather than say "Good job!" Point out what the student did, the strategies they used, and so forth. Next, ask the class to share what insights they gained from the student's work. Finally thank the student for presenting as a gesture of appreciation for their effort and contribution.

Is cheering bad? Well, there's some debate about this, especially in Child Development for early grades. Generally Child Development experts agree that saying "Good job!" is counterproductive.

Effective teaching is about what we actually get students to do that is meaningful for their development. Hence it is important that effective coaching and making good teaching decisions form the core of IBL teaching. If you rely on cheering a lot, then it's time to upgrade to more coaching decisions. If you've shied away from coaching due it feeling similar to cheering, then I encourage you to take a different view and try one instance of IBL coaching in your next class.

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