Mind the Gap: Harnessing the Curiosity Gap to Increase Student Motivation to Learn

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In his 1899 *Talks to Teachers,* William James wrote, "Just so, in teaching, you must simply work your pupil into such a state of interest in what you are going to teach him that every other object of attention is banished from his mind; then reveal it to him so impressively that he will remember the occasion to his dying day; and finally fill him with devouring curiosity to know what the next steps in connection with the subject are."

We have used this quote on opening slides at several teaching conferences, and it generally produces laughter. Many faculty regularly face classrooms filled with bored or distracted students looking at their phones. Is James' pep talk a fantasy? We personally don't think James was a fool nor did he fail to understand human behavior. He would not have made this statement unless there is a way to implement what he wants us to do.

Curiosity is a powerful motive for learning. Psychology has a long history of examining curiosity, but surprisingly, we know relatively little about how to promote curiosity in our classrooms. We might fatalistically assume that students rely on extrinsic motivation to learn what we teach (Is it on the test?). Yet students can be remarkably curious about their world (Who is going to survive *Game of Thrones*?) Can we do a better job of harnessing this curiosity in class?

If we examine situations where curiosity is evident, we see something interesting. Curiosity occurs when there is a gap in our understanding, but not just any gap. If we ask introductory psychology students to compute Nernst equations, this is unlikely to result in much curiosity. You must know something about a topic to be curious. At the same time, if we asked introductory psychology students if Freud is a psychologist, again, this would elicit little curiosity. If you have enough information, there is no need to feel curious about gaining more.

So, our target in the classroom is the "sweet spot" at which curiosity appears—that point where students know something but not quite all about a topic.

This would be difficult target to manage in James' time, but we have the advantage of audience response technologies. By asking a series of questions providing additional information and allowing for think—pair—share opportunities, we bring the student into the "green" zone for curiosity. Other classroom methods that take advantage of the curiosity gap will be explored.