

**On Inquiry-Based Learning**  
**Calculus I / Professor Bremser**  
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There is some evidence (see [here](#), for example) that mathematics students can benefit from instructional settings in which they participate actively during class. Definitions for Inquiry-Based Learning vary, as do implementations in actual classrooms. I have been using my own versions in upper-level classes for over twenty years, and have adjusted my calculus courses as well, though less drastically at first. One way I've thought about it is by analogy with language classes at Middlebury. I've sat in on some, and learned that one measure of success of a class session is whether every student spoke at least once. My aim is to have all of my students regularly speaking mathematics in class, where I can respond right away as needed.

While I began having students work in small groups because it made sense to me, I find confirming ideas in recent findings from cognitive scientists about how people learn. Actually, there's a book by that name: [How People Learn](#). More recently, [Make It Stick](#) came out earlier this year. The authors make a convincing case that if learning feels easy, it's probably not deep or lasting, and that we really do learn by working at challenging problems and making mistakes along the way.

Please let me know if you have questions or concerns about how class is going.