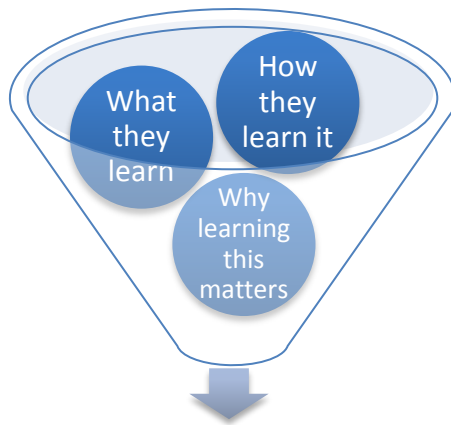


Within each discipline, educators promote the development of specific thinking processes and distinct disciplinary styles of discourse and inquiry. While many contend we are in the “Knowledge Age” when knowing “how” takes precedent over knowing “what,” distinctive disciplinary bodies of knowledge and ways of thinking and learning are still clearly evident on our campuses. Given that most academics “are probably comfortable with the notion that their disciplinary background deeply influences not only what they teach, but how they teach” (Marincovich & Probst, 2005), it makes sense to explore different pedagogies based on disciplines.



Connecting students with our subjects

According to Parker Palmer (2007), “...university teaching is neither teacher-centered or student-centered, but subject-centered.” What is it about a subject that matters and how do we connect our students with our subjects?

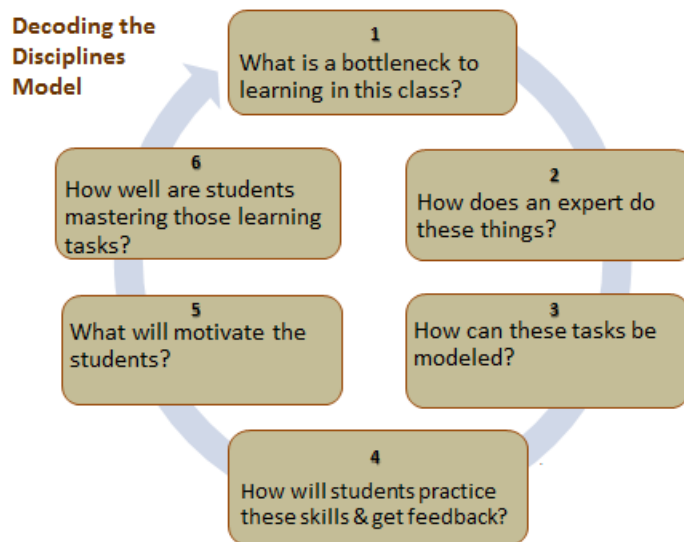
Students learn a particular subject through content and procedural knowledge and most importantly, they learn how to think within that subject.

It is the signature pedagogies (Schulman, 2005) that define what counts for knowledge in a field. These signature pedagogies, “the types of teaching that organize the fundamental ways in which future practitioners are educated for their new profession” get at the significant thinking within a discipline. Begin by addressing these three dimensions:

- The habits of “**mind**” (content) - What domains of knowledge are important for teaching?
- The habits of the “**hand**” (skill) - What kinds of skills and competencies are needed?
- The habits of the “**heart**” (values) - What shapes the values, attitudes and dispositions in the discipline?

Without much effort, you can think of examples of signature pedagogies. In law school, we picture the Socratic method and for engineers, we envision students using free body diagrams. As stated by Schulman, “signature pedagogies implicitly define what counts as a knowledge in a field and how things become known.” They define how knowledge is analyzed, criticized, accepted, and discarded.

With an awareness that there are disciplinary differences and that professors need guidance on developing strategies for introducing students to the thinking essential to a particular discipline, Middendorf and Pace (2004) created a model to decode the disciplines. The model provides a series of questions for instructors to answer as they look at challenges to learning in their discipline.



1. Identify where students have difficulty and find the content challenging.
2. Take the bottleneck and reconstruct the steps by dissecting your thinking.
3. Explicitly model what experts do by deciding which requisite skills are needed and devise a way to model the components of the approach.
4. Create ways for the student to model the approach and get feedback (such as collaborative learning, active learning, classroom assessment techniques).
5. Develop a learning environment and tasks that are motivating.
6. Assess student understanding in a variety of ways including, for example, a muddiest point paper, a diagnostic quiz, a punctuated lecture, etc.

An approach like this will not only enable your students to learn how to think within your subject, but they will also help their learning of other subjects. If you can get them to *think with* a concept, rather than simply *think about* it, your students are getting at what matters. For more on decoding the disciplines, please contact the Schreyer Institute for Teaching Excellence.

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