Conquering College, Lab 2 : Build Learning Systems
by Jeff Anderson

College classrooms are supposed to be spaces where learning happens. However, far too often, neither college professors nor their students explore fundamental questions about the nature of teaching and learning in college, questions like:

- What is learning?

- How do people learn?

- What models for learning inform the design of my college classes?

- What types of instructional methods lead to significant learning experiences?

- How can teachers and students work together to create highly engaging learning environments?

That these questions frequently go unexamined in college courses relates to a series of problems within many U.S. higher education systems. In this post, we name and identify one such problem that results from the fact that most college professors have almost no training in the science of learning and have little experience with effective teaching practices.

THE NO-TEACHER-TRAINING-FOR-COLLEGE-PROFESSORS PROBLEM

The U.S. higher-education system maintains policies to ensure that content experts who get hired as full-time, tenure-track professors frequently know relatively little (compared to their content expertise) about the science of learning and have limited experience with effective teaching practices.

This first problem highlights the fact that it is possible to become a tenured-track professor at almost any accredited college in the United States with very little knowledge about the science of learning, training in the art of effective teaching, or understanding of the political forces that shape the nature of the job as a college teacher. The minimum job qualifications for a professorship at most U.S. colleges or universities is simply to be a content expert in a specific field. Members of a search committee tasked to hire a full-time professor look for credentialed learners with multiple undergraduate and graduate degrees in a certain subject area who have also amassed impressive academic accolades. This expertise looks great on paper and does indeed represent monumental achievements in our society.

However, if we look more closely, the coursework and degree requirements needed to earn most undergraduate, graduate, or professional degrees include almost no formal training on how learning works or in the craft of effective teaching. This leads to a reality in which most professors at U.S. colleges start their careers in the classroom without knowing much about how to teach effectively for diverse student populations. And yet, the moment these professors start their work as teachers, they assume responsibility for guiding the learning of college students.

Such policies and hiring practices result in a system that is run by the apprenticeship of observation which is the practice of designing classroom policies by reflecting internally on one's own lived experiences. Some central questions asked by professors who use the apprenticeship of observation as a guiding philosophical framework in their teaching practices include:

- What teaching and learning policies did my own college professors use in the classes I took?

- How did those policies work for me?

- How can I recreate the policies my college teachers used on me to teach my classes?

This type of myopic decision making is completely logical in a system that puts professors in an impossible work environment. When newly-hired professors are dumped into a classroom and find themselves responsible for inspiring tens or even hundreds of students to learn deeply, what other choice do they have but to rely on introspection to guide their teaching decisions. However, the apprenticeship of observation is not an effective way to inspire deep learning for diverse students.

Any person who is hired in a full-time position as a college professor was most likely one of the highest-performing students while they earned their own undergraduate, graduate, or technical degrees. Because of inequitable structures in so many aspects of modern-day societies, this high performance is likely tied to socioeconomic, racial, family, and geographic factors that serve to bolster such achievement. In other words, statistically speaking, people who get hired as full-time college professors probably enjoyed an upbringing filled with privilege and support that made deep learning a much easier task. Those factors bolster high performance independent of the learning environment. I should explicitly state that there are professors who come from diverse backgrounds and overcome significant barriers to ascend to the upper echelons of our education system. However, if we look at the ratio of the number of these types of professors divided by the total number of tenured college professors in the U.S., that ratio is far smaller than it ought to be.

The apprenticeship of observation leads to some large errors in thinking about how to create effective teaching policies that empower students to meet their own learning needs and thrive in college. If the guiding framework for constructing policies in college classes is to reflect on one's own lived experiences, then the resulting decisions often center dominant social constructions that have little to do with the lived realities and learning needs of the diverse group of students sitting inside any college classroom.

In this lab exploration, we continue our work to help you protect yourself against the harms cause by the no-training-for-college-professors problem. One way you can protect yourself against content experts who implement harmful teaching policies is to get knowledgable about how learning works and your own learning needs. I also want to help you o think deeply about what deep learning feels like and how you can implement learning systems that help you learn more effectively and efficiently. The reading, writing, work, and conversations you engage in while completing this lab will help you become a more effective learner. In fact, by the time you finish this lab, you will likely have a more sophisticated theoretical understanding of what learning is, how it works, and what activities lead to deep learning than many of your college teachers.

1. **Prepare for Deep Learning**

   This first activity is designed to help you build a model for deep learning. Specifically, you will work to build your own theory for what learning is and how learning works. Many of the harmful practices that your college teachers implement in their classrooms including lectures, letter grades, punishments and rewards, deadlines set by teachers, and many others are based on inaccurate and incomplete theories of learning as discussed in the following quote:

   > "It is important to understand that practice does rest on theory, whether or not that theory has been explicitly identified. The overwhelming majority of teachers, according to one survey, are unable to name or describe a theory of learning that underlies what they do in the classroom, but what they do - what any of us does - is no less informed by theoretical assumptions just because these assumptions are invisible." p. 10, Punished by Rewards: The Trouble with Gold Stars, Incentive Plans, As, Praise, and Other Bribes by Alfie Kohn.

   Very few college teachers can give an research-based definition of learning. Fewer still can explain how the practices they use in their classroom relate to research-based models for how learning works. Moreover, because young students are also ignorant on this subject, teachers can use their authority and the asymmetric power hierarchy that exists between teachers and students to force you to comply with learning practices that actively get in the way of your learning. Lecture is one example and letter grades are another. That stops now.

   In this problem, you are going to develop your expertise on what learning is and how it works. This work is based on decades of academic research and is grounded in the fields of cognitive science and the psychology of learning. As you develop your meta-learning expertise, I encourage you to leverage your growing skills to advocate for your learning needs in every class you take. We'll explore more about how you can do this throughout this class and in future Conquering College Lab activities.

   A. Let's begin by developing a more accurate model for what learning is and how learning works. As you complete this work remember that all models are wrong but some models are useful. The models you explore in the blog posts below are necessarily simplifications and cannot fully encapsulate all that goes on when you learn. However, these models are much more sophisticated than almost any that I've seen communicated to college students and give you a solid foundation upon which you can build your learning practices and your system navigation skills.

   ☐ (1.A.i) Read the blog post- What is deep learning?

   ☐ (1.A.ii) Fill out questions 1 - 6 on pages 1 - 3 of the following document:

        Prepare for Deep Learning : What is Deep Learning Worksheet (.docx) .

   ☐ (1.A.iii) Read the blog post- A model for deep learning.

   ☐ (1.A.iv) Fill out questions 1 - 6 on pages 1 - 3 of the following document:

        Prepare for Deep Learning : A Model for Deep Learning Worksheet (.docx) .

What you should include in your learning portfolio to show you've completed this activity:

☐ Your work on the Prepare for Deep Learning : What is Deep Learning Worksheet (.docx) .

☐ Your work on the Prepare for Deep Learning : A Model for Deep Learning Worksheet (.docx) .

☐ Anything else you'd like to share to show evidence of your learning on this activity

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What are the next steps?

In Conquering College Lab 1: Schedule to succeed you did a thorough analysis of your time commitments this academic term. You also created documents, like your weekly schedule and your term-long calendar, that are designed to help you make strategic decisions about what you should do with your time. In this Conquering College Lab 2: Prepare to Deep Learn, you begin your process of developing research-based definitions for what learning is and how it works. You also started to develop a model for deep learning.

In our next conquering college lab exploration, you will continue to deepen your understanding of what deep learning is and what deep learning feels like. You will also explore strategies you can use to spend as much time as possible engaging in deep learning. These include research-based strategies that will help you be a more effective and efficient deep learner. All of this work is designed to help you protect yourself against the harmful policies that undermine your learning and exist in so many college classrooms across our nation.