

4E: Classroom Demonstration

Lori Ogden, PhD, Teaching Assistant Professor, Department of Mathematics, West Virginia University [00:00:00]

All of us can learn to be self-directed learners. Really, what that means is that you're learning how to learn, and I don't think that that's necessarily a skill that we're born with.

Alison O'Malley, PhD, Assistant Professor, Department of Psychology, Butler University [00:00:10] You can nudge, gently nudge, powerfully nudge students to be more of a self-directed learner.

Lori Ogden, PhD [00:00:24] A lot of people come into this class with high anxiety, with some bad experiences with math. And math is useful. Math is relevant.

Lori Ogden, PhD [00:00:31] If students can see that math actually is useful, that it is used, and that it is relevant to life, and that this is something that they're going to use in their future, that they're more apt to pay attention to it.

Lori Ogden, PhD [00:00:43] So today's topic is lines. We're going to take a look at applications that deal with lines, why lines are even important to learn. And then we're going to take a closer look at slope and we're going to calculate . . .

Mika LaVaque-Manty, PhD, Arthur F. Thurnau Associate Professor, Department of Political Science, University of Michigan [00:00:57] Noah, how many steps did you take yesterday?

Noah, Student [00:00:59] I have no idea.

Mika LaVaque-Manty, PhD [00:01:00] Zane, how many words did you type yesterday? You don't know. So-Jung, how many emails did you send yesterday? It's important to remember, so even those of us who might get excited about the ways in which we collect data and this is not just about wearable tech. We'll talk at least in sections this week, we'll talk about school, not just your exercise.

Mika LaVaque-Manty, PhD [00:01:24] I want them to try. I think all learning is basically premised on the fact that we don't already know how to do that. So failure is a fundamental feature of all learning.

Lori Ogden, PhD [00:01:35] Whether you've learned it before or not, you're capable of learning it now.

John Pollard, PhD, Associate Professor of Practice, Department of Chemistry & Biochemistry, University of Arizona [00:01:38] They have to show a little bit of intellectual grit in the class. They have to try. And the struggle, I try to tell the students, is a very important part of learning.

Alison O'Malley, PhD [00:01:48] We can nudge students to be more self-directed learners through being very thoughtful in our assignment design. I create assignments so that they are broken down into units.

Alison O'Malley, PhD [00:01:57] So if we think about why we tend not to be able to meet our goals . . . this handout here breaks it down into four things. We fail to get started. We get derailed.

Alannah, Student, Butler University [00:02:08] I think there's a really large tendency for students, especially in college, to wait until the last minute to do a large project.

Alison O'Malley, PhD [00:02:15] Certainly there's a likelihood that many students will procrastinate. A lot of it has to do with something called the planning fallacy. Students often believe that they know exactly how much time it will take to do something well.

Alison O'Malley, PhD [00:02:27] You have to have at least five scholarly sources that are not in your textbook. I am really asking us to think about carving out some time to think about, when will I do that literature review.

Student [00:02:40] If my project is due Friday, I'll go to the library right after my 3:40 class on Monday and stay till I find my five scholarly articles and review them.

Alison O'Malley, PhD [00:02:48] Okay. I hear a lot of you acknowledging when the deadline is, right, and that's really important to keep in mind and plan accordingly.

Brittany, Student, West Virginia University [00:02:57] When it's broken up and there's a deadline for each step, then that, like, pushes me to learn it by that time. And that teaches me in my own learning that I need to set deadlines for myself.

Lori Ogden, PhD [00:03:09] One thing I think that instructors can do to help students work on an assignment is to provide examples of student work from past courses.

Lori Ogden, PhD [00:03:18] And I also have, that I'd like to give you, is an example of some student work. So something that can kind of guide you, a worked example that has been previously completed . . .

Joshua, Student, West Virginia University [00:03:29] Seeing what other students have done, especially if they did it correctly, seeing the process and the steps that they've taken to get the correct answers is very helpful because it is you seeing another student's work, somebody who did it last semester or a few semesters ago. And that's somebody that is on the same level as you.

John Pollard, PhD [00:03:47] I will take student work and share it with the class and then use that and have the students assess other student work.

John Pollard, PhD [00:03:58] At your tables, I want you to take a look at that and decide whether or not you think that's plausible, yes or no . . .

John Pollard, PhD [00:04:05] I will actually ask the students to switch papers and grade each other's paper as if it was a quiz or an exam. And then I will provide them a rubric for how they should grade it and so they can check for each other's understanding as well. And that activities allow students to reflect on their own work, but to also reflect on other students' work.

Lori Ogden, PhD [00:04:27] Okay, so I'd like to talk about the exam that we just took and we're going to do an activity. It's called an exam wrapper, where I actually want you to reflect on what you did to prepare for this exam and also look at your performance on the exam so you can better identify what study techniques worked for you, what didn't work for you, what you did do to prepare, maybe what you could have done better to prepare.

Lori Ogden, PhD [00:04:48] The exam wrapper really gets at self-directed learning. It's them directing themselves and not just me directing them. So all of these things are helping them learn how to learn.

Student [00:04:59] Fifty the constant plus 15tm set it equal to zero.

Lori Ogden, PhD [00:05:05] Each of us learns differently. So what works for me or the way I learn may be very different than what works for somebody else. So I think my job as an instructor is to help students identify how they learn.

Lori Ogden, PhD [00:05:17] There's not always just one direct path to the solution. We all think differently. This class is going to be about learning how you learn and how you think about things.

Mika LaVaque-Manty, PhD [00:05:26] We began with that question, What kind of game is the Quantified Self Game anyway? Write down, in whatever way you want, your own answer to the question about the Quantified Self Game. You don't have to share it now. Take it to section tomorrow and be prepared to talk about it.

Mika LaVaque-Manty, PhD [00:05:44] In my classes, for the last several years, students have had lots of choice in assignments. A couple of years ago I had students, when I taught Machiavelli's Prince, instead of a blue book exam, one option was for them to produce a short video. And one student group produced a video called The Day in the Life of a Prince. Another did Machiavelli's Guide to Dating. And I guarantee that they will remember what Machiavelli thought because they had to think about it, had to make sense of it for themselves, and then process it in a new way. So that's the goal.

Lori Ogden, PhD [00:06:13] What I want you to do is just to reflect on this last week of instruction. And I really sincerely want to know what worked for you and what didn't work for you. I have a questionnaire that I'm going to hand out. I called it the Classroom Critical Incident Questionnaire.

Lori Ogden, PhD [00:06:25] The Critical Incident Questionnaire gives students the opportunity to, it gives them a voice. It gives them an opportunity to say what's working for them and what isn't working for them.

Lori Ogden, PhD [00:06:35] It's anonymous. So don't worry about it. And really just be honest. I'll be very interested in reading these because I'll be able to adjust the instruction to make sure that I am meeting all of your needs.

Brittany, Student [00:06:46] To be able to give your teacher feedback is important because that shows that they care, and too that they're willing to make a change to help better the students.

Lori Ogden, PhD [00:06:55] Really, when you provide multiple ways for students to learn, whether it's through watching me do something, whether it's looking at an example that another student had worked on, whether it's collaborating in class, you know, these are all things that are going to address that individual learner.

Mika LaVaque-Manty, PhD [00:07:09] The activity on ALP's already open . . .

Mika LaVaque-Manty, PhD [00:07:11] What academics can offer, what characterizes all of us is that we love to learn all the time. And if that's the message that I can give to them, that's really, you know, my, my dreams come true.