

Bonni: [00:00:00] It seems that the larger classes get the more distant our students can seem. On today's episode, Dr. Chrissy Spencer helps us discover how to make a large class interactive.

Production Credit: [00:00:13] Produced by Innovate Learning, maximizing human potential.

Bonni: [00:00:23] Welcome to this episode of Teaching in Higher Ed. This is the space where we explore the art and science of being more effective at facilitating learning. We also share ways to increase our personal productivity approaches so we can have more peace in our lives and be even more present for our students.

Bonni: [00:00:49] I am thrilled today to welcome Dr. Chrissy Spencer to Teaching in Higher Ed and Chrissy I'm going to do a little bit on your bio but also welcome you to contribute to whatever I leave out but welcome to the show.

Chrissy: [00:01:03] Thank you. It's my pleasure to be here.

Bonni: [00:01:04] You teach at Georgia Tech and I know you teach principles of biology, ecology, genetics, evolution genetics lab and math models. One of the things you enjoy doing is code teaching and applying interactive learning strategies in the classroom many of which we're going to get a chance to talk to you about today.

Bonni: [00:01:26] You teach undergraduate and graduate teaching assistants the foundations of inquiry based pedagogy. And you also in your spare time - because that wasn't enough - serve as the undergraduate adviser to a quarter of the biology majors at Georgia Tech and you help them with their course selection their academic success strategies and a career advising.

Bonni: [00:01:50] Thank you so much for agreeing to come on the show. I thought one of the things we could start with would be I would play a couple of

minutes of video. That of course will only on the show be able to hear the audio of it but this is from a video that for listeners this will be posted in the show notes.

Bonni: [00:02:08] And this is right on Christy's bio site and it's about active learning in introductory biology and it's just a fun way to get a sense of how you teach. And then of course I'm going to have you talk a lot more about it. So this is active learning in introductory biology and I will read the parts of the screen that we can't see that are just titles. Here we go.

Bonni: [00:02:30] Teaching evolution by turning students into chili peppers
Active learning video available at teachinginhighered.com/25

Bonni: [00:04:20] I love it because at the end I'm not sure if listeners will be able to hear but she said if you're still standing that means you made one chili pepper baby. I think that's what you said.

Chrissy: [00:04:30] [laughing] I think that is what I said. It's important that the Chili Peppers have to reproduce during this particular exercise and it's not something we spend much time talking about. So I just make sure I say it in a very obvious to the students.

Bonni: [00:04:42] So I remember from my undergraduate and in fact it was a biology class that I took that was a large lecture I didn't have a lot of large lecture classes in my undergraduate [experience] but this is one that I vividly remember.

Bonni: [00:04:54] And I can remember us sitting there and it's almost like if you could be asleep in one of those awfully uncomfortable desks where the chair is attached to the desk then that's what people would do. It wasn't interactive so tell me what would I see if I came into one of your classes out there in Georgia Tech because it looks very different.

Chrissy: [00:05:14] It does. And the interesting thing is that it starts in those same uncomfortable chairs with the with the events of the desk attached to the chair.

Chrissy: [00:05:22] We have a lot of lecture halls like that. Here we have a lot of nice newer ones too that are more interactive. But regardless of which kind of space you walk into you in my classroom I'd like to make sure that the students are kind of running the show in the sense that they're responsible for the learning.

Chrissy: [00:05:38] Which means that my classroom looks like chaos to the casual observer but there's actually a lot of really good stuff going on in there. So you might walk into my classroom and eventually figure out that there are 60 students in the room but they're split up onto 10 different teams or that could be 200 students in the room and they're split up into teams of six and seven and ten sizes like that.

Chrissy: [00:06:01] And they're working on some task. So the task might be up on the overhead and present it on a PowerPoint slide that's projected on the screen. It might be something that they have access to from our course website or through some sort of course question delivery system like a clicker system or a new system that we've just started using here called Learning Catalytics.

Chrissy: [00:06:23] But either way or they could actually be working on a paper worksheet that was handed out to them.

Chrissy: [00:06:28] But the students are working through a series of problems or questions trying to get to the point that I'm trying to get them to understand and I'll stop and interrupt them to say I've noticed a lot of teams are having trouble with a certain concept so let me talk about that for a few minutes.

Chrissy: [00:06:47] And kind of draw their attention back to the front and give a brief micro teaching and some concepts that are not quite kneeling. Usually it's one they'll know ahead of time they will not have been able to figure out.

Chrissy: [00:06:58] And so I have prepared for these moments I'm really not just teaching on the fly. Sometimes I'll even have slides prepared to their immense surprise.

Chrissy: [00:07:06] Well that's what I'm getting at and he's got those slides right there on the screen and then I'll send them back into the activity to finish it out and try to get to the end of it.

Bonni: [00:07:14] I've been reading a number of books lately and we've talked about some of them on the show that talk about the importance of allowing students to fail or I'm talking small failures in this case or allowing them to struggle with an answer and that actually when they struggle that's what creates that deeper sense of learning.

Bonni: [00:07:33] So you talk about the interrupted case studies as a part of your interruptions it sounds like are coming because they're struggling with some of

these commonly maybe common areas where they have misunderstandings. Are there other ways in which you interrupt case studies, to...?

Chrissy: [00:07:50] Absolutely so.

Chrissy: [00:07:52] So the idea of an interrupted case study is actually a step more in the teaching or teachers direction from the idea of the classroom that I just laid out in front of you.

Chrissy: [00:08:02] So an interrupted case study is traditionally a set of PowerPoint slides or written material where there are specific stopping points along the way and when the class reaches one of those stopping points then the instructor calls the class together and goes through material up to that point.

Chrissy: [00:08:24] Kind of make sure everyone is at the same place they've all resolved part A of the case and so that they have the information they need to move into part B and that's really powerful because if you just turn students loose for 50 minutes or 80 minutes - a typical class period - and can't keep an eye on them and kind of monitor progress.

Chrissy: [00:08:45] There will be groups that don't make any headway. They'll get stuck early and spend their wheels for quite a long time before you realize that especially in a very large class.

Chrissy: [00:08:53] But if you have an interrupted case study situation then every 10 minutes or so no you call it it could be every five minutes you call them back together. You might give them a clicker question and the whole process to address the clicker question and you can right away see oh 80 percent got it right okay we're doing pretty well. Have them talk to another group or talked to their neighbor about why they didn't choose that answer. And then from there. Now knowing the right answer they can move forward to the next part of the case.

Bonni: [00:09:20] I teach a lot of freshmen and I do this with case studies in there too and in fact they're also low stakes assignments but there is a grade associated with their work on them so it helps people get focused.

Bonni: [00:09:33] But the other day I felt I felt good because they're there with especially with the freshmen I don't find it as much with the upper division classes that I teach but especially with the freshmen there's still that perceived

distance that they need to maintain from the classroom and from the professor and we're able to break the barriers.

Bonni: [00:09:50] But there still for some of them they're still they're still kind of check in this whole college thing out and see what norms they want to maybe change from what they were used to in their high school experience.

Bonni: [00:10:01] What about if there is a group that just is slower for whatever reason even if they want to be doing well but they're still struggling are there any techniques that you put into place to try to help them bridge that gap?

Chrissy: [00:10:14] I'm lucky that I'm able to teach with TAs in the classroom. And so I'm in a really large class. I could be unlucky and only have one T.A. I could be lucky and also have a CO instructors have. There's three of us in there but if I am lucky and there might be two or three or four TAs even in the room helping kind of group assess that's where they are and move forward.

Chrissy: [00:10:35] So we train our TA's to ask leading inquiry based questions not to answer students questions but to see where they are and see why does but where are they stuck. What's their stumbling block and how can you push them past that.

Chrissy: [00:10:50] To answer the question and move on there and I'll be honest there are groups that kind of never get past the first question but when they figure out the number they never get past and they don't get a whole lot past it because it takes them the whole class period to figure out the stumbling block of the first question.

Chrissy: [00:11:06] But when they figure it out it's amazing like they get it and they really get it. And so having spent all that time working on it they've really cemented in at least one very important idea for the course.

Chrissy: [00:11:18] And so the goal then would be to have only four or five ideas in a lecture anyway or a lecture period anyway and so that those students know that they've got the first idea have the tools they need to go and figure out the rest of it on their own or to come to office hours or to stay after and work with a T.A. during the TA office hours to kind of figure out what's going on with that question.

Chrissy: [00:11:41] But it can be a problem. Another thing that you can run into when you have teams working in class is that you end up with a kind of

dysfunctional team that there aren't any leaders none of them really want to be on the team or there's some conflict between two individuals on the team. And those are things you have to deal with as well.

Chrissy: [00:11:59] And so learning those interpersonal skills of how to work in a situation that you're not really happy with and still be productive and get learning out of it at the end which is the end product that we're going for on these teams is important.

Chrissy: [00:12:13] And so I train the team and I myself I'm always looking for those teams that are not working well together and sit down and talk to them about what's preventing them from being able to complete the exercise and what could they. What kinds of behaviors are they bringing to their team that are actually obstructing the team moving forward at all.

Bonni: [00:12:30] So speaking of teams what are some different ways in which you select teams for these groups.

Chrissy: [00:12:37] There's so many ways to do teams and I have a few favorites. There's my absolute go to especially in a very large class is called The CATME team maker. This team maker is that catme.org and it's part of a collaborative project from a group of faculty from all sorts of schools in the U.S.

Chrissy: [00:13:03] And it's a website basically where you can go and upload your student roster into a FERPA-protected project basically and then your students can then complete a survey and the survey questions include What Their schedule is what their leadership style preferences are what their personal leadership style is what their dedication to whatever projects are going to have them work on the team as a whole series of other questions.

Chrissy: [00:13:35] And you can even include personalized questions like What grade did you make in the prerequisite to the course that we're taking now or which courses have you already had so that you can gain some knowledge of what their expertise might be.

Chrissy: [00:13:48] And then once the students have all put their information into the system CATME just goes in with an algorithm where you select what's important to group together things that you want to be like on a team and things that you want to be unlike you might for instance want to have teams that are where all the students have the same level of dedication to the project

or you might want to have teams where all the students are going to be free at the same time after cost to work together on the project.

Chrissy: [00:14:15] And you can prioritize what's important to you in terms of a sliding scale for all those different categories that they've put their data in for.

Chrissy: [00:14:23] And then you just hit team maker and go away for a few minutes so when you come back it's built a whole bunch of teams. You can specify the size of team you want etc. then you can flip through and visually say oh that team is not going to work because of the personality conflict or whatever else you may already know about the students.

Chrissy: [00:14:39] Or in a really big class where it's a bunch of first year students you can just go look great. It built me some teams. And you tell me to release the team information to the students and it tells them who's on their team and comes out the e-mail addresses to the students for the team.

Chrissy: [00:14:54] So it's pretty powerful. It's paired with a very nice peer evaluation system as well. So once you've run your team project you can have the students complete a peer evaluation and in their cottony will go back in and tell each student if you release the data in this way it'll tell each student their perceived contribution to the team. It might tell a student that you're overconfident.

Chrissy: [00:15:19] You really think you're doing a great job on this team but your teammates are a little bit frustrated with you. And so you might need to reassess how you're contributing to the team or that you're under confident that you're doing a super job according to your teammates but you have underrated yourself and that's a really valuable thing to hear especially in a large class where they're not going to get that from the instructor or someone else who's watching the process.

Bonni: [00:15:39] One of the things that I use in creating teams to is a team charter so they can walk through the conversation it looks like they have a team charter and some support tools for their meetings to teach them really how do you have a meeting.

Bonni: [00:15:51] How do you create an agenda. How do you have minutes just looks like such a powerful set of tools. I've never even heard of it before our conversation today so I'm excited to dive in and see how it might benefit my teaching.

Bonni: [00:16:01] And I know listeners right. Yeah we'll definitely link to that in the show notes for anyone listening that wants to learn more about it. Let's talk a little bit about your switching from clickers which for anyone listening who doesn't know what a clicker is that would be a hardware device about the size of a credit card.

Bonni: [00:16:15] They've come down to now although much thicker a lot of us myself very much included have had purchased these clickers and have the hardware device and now things are really switching and I know you recently made a switch. Tell us about your switch from clickers to the learning catalytic.

Chrissy: [00:16:32] It's a very nice platform. So this is an online system that gives you the ability to ask a multiple choice question or a numeric based question just like most clicker systems do. But it has in addition to that 17 other question types including short and long answer free response basically question type.

Chrissy: [00:16:53] And also the thing I love about it is it allows students to sketch and work with diagrams so you can upload an image and have the student say what direction the effect is going to occur and or sketch the relationship they expect to see based on their hypothesis.

Chrissy: [00:17:14] Once they run the experiment or just or say where on the diagram just like point to the place on the diagram where the system goes to equilibrium more where you know what represents a certain combination of things.

Chrissy: [00:17:27] So it means that especially in the sciences it allows you to really see whether students are interpreting a dataset correctly into a figure or if they can read a figure to understand what it actually means or predict about the system that it's depicting.

Chrissy: [00:17:43] And those are both very important things to assess in the sciences and they're hard to assess unless you have students draw figures in and then you grade lots and lots and lots of papers. Here's an online way to do that which I really have enjoyed and I had an experience last spring where learning politics had just been introduced into our introductory biology series.

Chrissy: [00:18:05] There's a whole group of faculty at Georgia Tech that teach introductory biology with two different courses in the series and we make decisions of a group about how the grading structure is going to work what kind

of clicker system or other thing we're going to use and we had just decided to use learning catalytic as a group.

Chrissy: [00:18:21] So it was my first time teaching with that and at the same time I was teaching an upper level course for the first time with a new instructor to a new instructor to tech. And I thought well let's go low we'll do clickers with this because I think that it's really good isn't new.

Chrissy: [00:18:36] A new faculty member to be introduced to clickers and so at the same time I leave teaching with both of these technologies. And I was so frustrated by the clicker's even though I'd never use born in the lyrics before I had always used clickers that they were so inflexible the kinds of questions I had to write were so inflexible for that upper level course relative to when I was all of a sudden able to do in my intro of course you could ask all sorts of higher order cognitive skills kinds of questions and think about applying and evaluating things and I've always tried to write quicker questions like that but they're hard to write.

Chrissy: [00:19:11] And so I was finding myself in this upper level course trying to write these really hard facts not hard for the students but conceptually difficult for me to frame questions that really got at some sort of higher order skill higher order thinking and I could have just asked an open ended question if I had opted for learning catalytic and that.

Bonni: [00:19:29] Yeah.

Bonni: [00:19:30] My clickers are collecting dust as I said. But for now listeners might remember I use a tool called Poll Everywhere but so far I've been using the free version which lets you have up to 40 responses per poll so as in a class size of no more than 40 on their free plan.

Bonni: [00:19:48] But I've thought about switching over to the paid plans and you can shift the cost to the students that's not that expensive it looks similar to the learning catalytic it's there. I think maybe 12 dollars for a semester and twenty dollars for a full year from learning catalytics if I'm remembering correctly off their website linked to that the pricing.

Bonni: [00:20:07] And then I've been with Poll Everywhere I think it's 14 dollars a year for students to shift the cost over to them and of course one of the real advantages from the clickers that are gathering dust is I used to program in the names of the students.

Bonni: [00:20:20] And I loved it because if the students got a lot of questions right during a session at the end I could choose to have their name show up on the screen or I could choose to divide them into teams and then it could be that the team that did the best could have their team [name show].

Bonni: [00:20:37] This of course creates a great sense of camaraderie if they're in teams or a sense of pride if they're getting things correct. You also could have for a particular question whoever answered it correctly the fastest would have their name show up on the screen too and they loved that.

Bonni: [00:20:52] And that is one of the things with the free version of Poll Everywhere I'm not getting. And so one of the things I like about whether it's clickers or whether it's it's the anonymous Poll Everywhere.

Bonni: [00:21:02] I don't know who's answering how those questions but I do like the fact that no one ever has to be shamed if they got the answer wrong. So speaking of low stakes I really encourage I mean don't tell your friends sitting next to you what the answer is you're not helping them.

Bonni: [00:21:16] Because if they get it wrong that's actually going to help cement the answer when they learn what the right answer is and they generally go along with me on that but I do I do wonder for you because you do know who's answering which questions right. So that's that's something that's programmed and is that does their name ever show up on the screen for any positive reason, or is that built into the system at all?

Chrissy: [00:21:39] At this point that it is not built into the learning catalytic system.

Chrissy: [00:21:45] Especially for this for the student end of things everything remains very anonymous so they never... I can show the students I histogram of the result. It's a multiple choice question for instance but there's no names attached with that.

Bonni: [00:21:58] Got it.

Chrissy: [00:22:00] Yeah I at this point that's not something they've focused on.

Chrissy: [00:22:02] It's a neat idea to go through and be able to reward students or groups that are doing well. And I have seen that in clicker systems before too but that's not something they've invested in just yet. One thing that's nice about

learning kind of logic is that the online faculty support community is really interactive and so they're constantly seeking requests.

Chrissy: [00:22:25] So what you know what what do faculty want to see and when you go in to put in a request you can search and see as my requests are already in the system and if it's not you add it and then when you add a request you get a set of votes and you can cast some number of votes towards your own idea that you just put forward and see what other things are out there and place your votes are you will.

Chrissy: [00:22:44] And then as their tech team has time to add new ideas into new programming into the system they go through and prioritize what faculty have said they want to see and see how implementable would this be and if they're able to do it then they do it.

Chrissy: [00:23:01] So they prioritize that stuff.

Bonni: [00:23:03] That kind of transparency around helped us support is so great and then you can find out what's coming and they can know what's important to you, too. Tell me what's been going on in your teaching with the flipped classroom. I know you made some changes there recently and have some learnings to share with us around the flipped classroom.

Chrissy: [00:23:19] Yeah.

Chrissy: [00:23:20] You know that term gets bandied around so much and it means so many different things. I'll tell you how I use flipped. I don't build outside of class video material myself. At least I haven't taken the time to do that yet.

Chrissy: [00:23:35] But I do hunt around for open access material especially on YouTube and especially on Khan Academy it's been a very good resource for me to find short videos that explain certain concepts to students so they have access to that in case I'm not going to lecture on it. What I have done is try to just really reinforce that reading ahead and reading the textbook in a specific way.

Chrissy: [00:24:02] Not just from start to finish like a novel. This is the right way to prepare for class and so that when you do come to class we can do more interesting things and not just have me tell you what you know out loud what you could just read for yourself in the textbook.

Chrissy: [00:24:17] So my flipped classroom has been a little more amorphous, I think, than some others but it has allowed me to really use it in cost time in interesting ways.

Chrissy: [00:24:28] And so that's where I bring in the at the very basic level the clicker case where there's a case study that we work through and I just stop with clicker questions which I guess have now become more of the question a problem clicker questions and stop them interrupt the students and just check in with how they're doing on the case. Other things I have learned in flipping my ecology class this semester.

Chrissy: [00:24:56] I did a lot of things that once I decided to go I. Well let me back up right before the semester started our center for the enhancement of teaching and learning did a pair of workshops on a process called team based learning which is a very specific kind of team learning where all of the learning in the classroom happens while students are on a team and what happens in the team is very little.

Chrissy: [00:25:25] Every once in a while the instructor will stop and give a quick input on stuff. And that includes even things like the testing in the classroom has an individual component and a team component. And so I I was so inspired by this workshop that I saw the week before classes started that I just decided I've got to do this. And so I bought a book and a book on it.

Chrissy: [00:25:46] I read most of the book... [laughing] I probably should have read the whole book before I started on this. And I took what I could from it given that my syllabus was built and that I had a co instructor who was already on board for the course and I just decided I'm just going to try this.

Chrissy: [00:26:02] And so I'm kind of halfway it tried team based learning in my class this fall in my flipped classroom this fall and I think I learned from that that this in particular is a thing called team based learning is not something you should do halfway.

Chrissy: [00:26:16] There's things I had to leave out for various reasons. One was the way that the readings were structured in the course and the other was the fact that I had someone else teaching half the course with me. I just had to skip over some stuff that I think would have been pretty important to include.

Chrissy: [00:26:31] And so the net result was that because I didn't do all the techniques of team based learning my students didn't gain what they could

have gained a bit. But I think they could have gone miles further with the material they always had me to fall back on instead of knowing that they had to learn results.

Chrissy: [00:26:50] And I think that was where I missed out on a fine team based learning skill. So this takes me to my most important lesson learned that I always forget or ignore.

Chrissy: [00:27:03] I think I actually ignore it more than I forget. And that is this.

Chrissy: [00:27:06] Start small and do things in a small and measured way instead of taking every idea that you've got and trying to apply it all in a single course or in a single semester.

Bonni: [00:27:19] That is so important.

Chrissy: [00:27:22] That's my tip for you.

Bonni: [00:27:23] I love it. I do that in one way because I get so excited about educational technology. But I will not let myself in the middle of a semester when I come across something that just sounds so great. I will say, "OK I have a list." I keep it in Evernote and I have my list of things I might want to check out.

Bonni: [00:27:41] And then every semester I let myself pick one of them and of course well before the semester starts I think how am I going to use this.

Bonni: [00:27:47] And like you say how will I measure the effectiveness of it. And if I can I'll get someone else to kind of team up with me right now I have a colleague she wanted me to go try out a new clicker system not a clicker but like learning catalytic.

Bonni: [00:28:01] So I think it's called top hat. I'll put a link to it in the show notes and I said this looks amazing it looks like a fabulous system. It looks great. Not going to do it yet because I had already put all this time into learning Poll Everywhere.

Bonni: [00:28:12] I've got a lot of questions in there I know what works and what doesn't work about that tool and it just wasn't worth it to me to make that change.

Bonni: [00:28:19] So I have to kind of like you said start small and then have those measure changes and just do those incremental things as we go and use it keeping what works and then adding things into what doesn't work.

Bonni: [00:28:30] So the last thing I want to make sure we talk about because I don't want to miss this subject is something you said you've been thinking a lot about and working on and that's service learning projects in the large lecture classes. Tell us about that please.

Chrissy: [00:28:44] Well service learning is so interesting right. It's a way that students could apply learning from a content area to the real world and also give back to the community or to some some partner in the community in some way.

Chrissy: [00:29:04] And so in biology I started thinking at the beginning of the semester from when I started talking about one of my projects going to be I thought well in biology the learning needs to be on a project needs to be related to the scientific method.

Chrissy: [00:29:18] So students need to understand a system generate a hypothesis in a system design an experiment to test their hypothesis. Run the experiment and gather the data and then analyze the data to determine whether or not they support the hypothesis or not. That is the scientific method.

Chrissy: [00:29:36] And I wanted I was just struggling with myself to figure out how can I make that into service learning to also have a service component to give back some information to project partners in our community. So I identified a group of project partners that all have urban sites.

Chrissy: [00:29:57] And I should tell you Georgia Tech is located in the middle of the city of Atlanta which is a rather large and sprawling urban district in the southeast. And so it's it's a tough place to teach ecology in some ways since there's not a lot of natural setting left in the middle of the city.

Chrissy: [00:30:12] But we do have a very beautiful city with lots of trees lots of parks and some new corridors that are being developed such as the Atlanta BeltLine corridor which provides trails that have lots of nature along them some of which is recently restored.

Chrissy: [00:30:29] So I partnered with some groups along the Atlanta BeltLine and with some groups on campus to put together specific projects that would

allow students to collect data and turn the report back over to the partner my I had three objectives in mind.

Chrissy: [00:30:46] One of those objectives was that the students would be out in the field doing field ecology work of some sort. I think they probably never would have thought they would have been doing in the middle of Atlanta and then I wanted to make sure they were collecting data.

Chrissy: [00:31:01] And I went and make sure that they were going to be able to return some sort of deliverable back to the organization that was going to help that organization think about science and make about their end product whatever their end product was. It's been so fun.

Chrissy: [00:31:13] And I was very nervous at first that my students were not going to want to get off campus. So I decided half the projects to actually be on campus in case that was. Well not just in case but in case there were things that really couldn't get off campus.

Chrissy: [00:31:26] But I was able using CATME that the team maker tool to determine who had cars and who would be able to be on campus and who would be able to drive off campus and to put together a group of students that wanted to work on specific topics and projects and I had students come out of the woodwork saying I want to do I have to do this project.

Chrissy: [00:31:50] And I think obviously you know I can only have five or six students doing each project so if everyone says they have to do a certain project I'm going to be in so much trouble but it worked out.

Chrissy: [00:31:59] I know the balance was perfect. I had.

Chrissy: [00:32:01] I mean there were certainly project topics that were more popular and a lot of students got their third choice which felt kind of bad about it but everybody got one of their top three choices.

Chrissy: [00:32:13] And they're doing such interesting projects and I've had so many conversations of great enthusiasm with students from a population that I never they never really espouse interest in ecology. When they come they want many of them want to go to medical school. They're really interested in genetics work.

Chrissy: [00:32:30] And some subjects that we teach in the cell biology studies that we teach in the chemistry and so even understand ecology is super important to me. And this seems to be working. But it's a work in progress. Their projects are about halfway done at this point being in the south.

Chrissy: [00:32:47] We're now we're now hitting some pretty hard but we had a nice long late summer this year so they've been able to be out in the field. It's been a beautiful fall working outside hasn't been too rainy hasn't been too cold yet and I'm really hopeful that in the next few weeks we're going to have a really nice set of data sets to look at and give information back to these different community partners.

Bonni: [00:33:08] That is such an inspiring story and it really gets me thinking about ways I might be able to do that in an entirely different field. So thank you so much.

Bonni: [00:33:16] So this is the point in the show in which we each give a recommendation and I will start because I'm excited to have yours sort of be what we close and I'm going to just share briefly. It's that time in the semester where a lot of us that are on semester systems are experiencing what I have I'm sure I'm not the first person to call this.

Bonni: [00:33:34] But I have called it the dip where there's just the lower motivation levels with our students and some time ago I actually applied this pattern that I saw throughout most of my semesters of teaching to a team model by Tuckman and Jensen.

Bonni: [00:33:50] And so they talk about teams form and then they go through storming and they go through norming performing and adjourning. A guy had actually commented on this blog post I wrote some time ago saying that he had written about the same subject he's from the UK I'm going to link to both of these posts in the show notes.

Bonni: [00:34:07] And it was so great to see someone from all the way in another country who had experienced these same patterns and had looked at it. Both had similar and a different way. And to me they're just inspiring to look back and he says that these are a list he calls them a list of things to look out for if they happen it's not like don't have it become a self-fulfilling prophecy.

Bonni: [00:34:28] We don't always have to necessarily go through that but I have seen just we do go through the season during different parts of the semester

where it's a little bit just lower motivation and start to have some more transactional conversations with students.

Bonni: [00:34:43] And it's just kind of helpful to know that it happens and you'll get out of it and there's some techniques you can use to try to break free from it. And anyway it's been helpful to me just to think about and was nice to go back and revisit this semester too. So what is your recommendation for the listeners this week?

Chrissy: [00:35:00] My recommendation is to find things that you love in your life and bring them into your teaching in some way. And there's two examples from this podcast. I just realized one of them is that beltline trail that I was talking about that that trail the part of it that's been restored in Atlanta is part of my daily commute.

Chrissy: [00:35:25] So I bike to work every day on it and it was biking to work on that trail that really got me thinking that my students could be out here working and thinking about this huge ecological restoration project that has gone on over the last two years on this trail.

Chrissy: [00:35:41] So there is one and the other thing is we opened today by thinking about chili peppers which was what I turned all my students into during that class exercise video at the beginning of our talk.

Chrissy: [00:35:52] And one thing that I've been able to do this year is to put in my first real garden my first real in the ground garden where I planted Tilly's among other things and got to practice my applied ecology as it were.

Chrissy: [00:36:09] By being an urban gardener in the middle of the city and that's been really fun too. So bringing those ideas from the garden into my ecology class and from the trail into my college classes really motivated me to have more fun in class this semester.

Bonni: [00:36:25] Oh I absolutely love it and love your inspiration to find things that we love and bring them in the class because the students can see the passion in us and that can be infectious too. What a wonderful example. Thank you so much and thanks for joining us on the show, too. It is really a pleasure to have you as a guest.

Chrissy: [00:36:41] It has been my pleasure. Thank you.

Bonni: [00:36:45] Thanks so much for listening to this episode of Teaching in Higher Ed. If you have any feedback for future shows or guests go to teachinginhighered.com/feedback if you'd like to subscribe to our weekly update. That gets in your inbox every week.

Bonni: [00:37:01] The great show notes with all the links to what guests like Chrissy recommend to us that's at teachinginhighered.com/subscribe and we would love to have you give any kind of a review or Radio on iTunes or stitcher or whatever it is you use to listen to the show. It just helps other people be able to discover it and also helps to build the Teaching in Higher Ed community. Thanks again for listening and I'll see you next time on Teaching in Higher Ed.

Teaching in Higher Ed transcripts are created using a combination of an automated transcription service and human beings. This text likely will not represent the precise, word-for-word conversation that was had. The accuracy of the transcripts will vary. The authoritative record of the Teaching in Higher Ed podcasts is contained in the audio file.