

Bonni: [00:00:00] Today on episode number 231 of the Teaching in Higher Ed podcast, Josh Eyler shares about his new book, How Humans Learn: The Science and Stories behind Effective College Teaching.

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Bonni: [00:00:28] Hello and welcome to this episode of Teaching in Higher Ed. I'm Bonni Stachowiak. And this is the space where we explore the art and science of being more effective at facilitating and learning. We also share ways to improve our productivity approaches so we can have more peace in our lives and be even more present for our students.

Bonni: [00:00:54] I'm thrilled to be welcoming back to the show Josh Eyler to share about his new book, How Humans Learn: The Science and Stories behind Effective College Teaching. That book is published by West Virginia University Press, and I am particularly grateful to them for their financial support of getting the transcripts up on the Teaching in Higher Ed web site. You may have noticed that as new episodes come out, there is a transcript available for each episode. And we're about 68% through the first 200 episodes- not that I'm counting or anything of going back to the whole history of Teaching in Higher Ed and that was all due to those sponsorship from West Virginia University Press. So thanks to them.

Bonni: [00:01:39] Today's guest Josh Eyler is the Director of the Center for Teaching Excellence and an adjunct associate professor of humanities at Rice University. After receiving his Ph.D. in medieval studies from the University of Connecticut in 2006, Josh moved to a position as assistant professor in the English department at Columbus State University in Georgia. Although he was approved for tenure at CSU, his love for teaching and his desire to work with instructors from many different disciplines led him to the field of faculty development and to George Mason University where he served as an Associate Director for the Center of Teaching and Faculty Excellence from 2011 to 2013. In

August of 2013, Josh came to Rice to take the position of Director of the Center for Teaching Excellence. Josh's eclectic research interests include the biological basis of learning, evidenced based pedagogy, and disability studies. And one of the things that I consider about Josh is- he's like my faculty development person. He has been for me for many years. I've learned so much from him and I'm so glad to be welcoming him back to the show.

Bonni: [00:02:57] Josh, welcome back to Teaching in Higher Ed.

Josh: [00:03:00] Thanks for having me, Bonni. It's good to be back.

Bonni: [00:03:02] It's been a while. You have been on many episodes in the past. You were on a very, very, very early episode actually talking about many of the themes from this book that you're here to talk to us about today. And then I have such a fun memory of our episode that we did on the Pixar movies.

Josh: [00:03:22] Yes. Both of those were a lot of fun. And it's always great to talk with you Bonni.

Bonni: [00:03:27] Today you're here to talk about your book *How Humans Learn: The Science and Stories behind Effective College Teaching*. And I know this has been a labor of love for a while. Would you talk to us sort of about the early origins of why you wanted to write a book like this?

Josh: [00:03:45] Sure, absolutely. And you're right, it has been a labor of love that goes back at least five or six years, I've been working on it. But there are actually two origins for the book. One is that in 2011 I moved from a faculty position into teaching and learning work and I started reading about a lot of these strategies and working with faculty to implement them and still had a lot of questions not just about HOW they worked, but WHY they worked. And I was looking for answers to that question and just kept finding answers that were more about the logistics and how rather than the why. And so I really wanted to do some research into why those strategies that worked so well do so and why those that don't have failed to help our students learn. So that was one of the reasons that I wrote this book.

Josh: [00:04:39] Another reason, the more personal reason, was that in 2012 I became a dad of my beautiful daughter, Lucy. And in watching her learn about the world from her earliest days till now, she's six now. It struck me that learning and curiosity and some of those ways that we approach knowing about our world are so deeply ingrained in who we are. And as I've watched

her exploring, I started to think well I wonder what happens- this is clearly driving her everyday interactions with the world, this curiosity, this need to know. So what happens to that? And how do we hold on to it? Does it shape the way maybe our college students learn in the classroom?

Josh: [00:05:25] And so that is a question that I was deeply fascinated by and it sort of governed the way I approached the research. And eventually, my colleague here Rice, Robin Paige gave me a book that I'm going to recommend at the end of the episode too called *The Scientist in the Crib*. And its argument was that adults learn the way they do because they're using structures and mechanisms that were designed for children. And so that tied everything together and set me on my research path. It was just a wonderful kind of enlightening process where I learned a lot in writing the book.

Bonni: [00:06:05] You mentioned in 2011 moving more of your work into faculty development. Are you still also teaching today?

Josh: [00:06:13] Yes. I teach every semester. We have a graduate certificate in teaching and learning program that we run through our Center for Teaching Excellence. And those are four credit courses and so I teach that every semester and at least once or more in an academic year, I also teach undergraduate courses.

Bonni: [00:06:32] I thought that was the case, but I wanted to clarify because one of the things that I want to really start out with is this idea of curiosity and really grounding in how challenging it can be and in my case whether that be undergraduates or oftentimes even the doctoral students I work with having really learned or perhaps this is even an unlearning that happens where curiosity really gets minimized in the learning process so just to help us recognize that you are grounded in reality. Do you see those same challenges in your own teaching where you think oh my gosh Lucy has this figured out this curiosity thing? I know you're such a curious person too Josh, in all the years I've known you. But where does that get lost? Because that's oftentimes a big challenge in our teaching.

Josh: [00:07:22] Well I think there are lots of ways to answer this question. Certainly, I think one way that I've conceptualized it is that doesn't get lost, it gets hidden. It falls to the background a little bit. Because another book I am going to recommend at the end is Susan Engel's *The Hungry Mind*. It has really shown that very young children, like with Lucy, are driven by curiosity. And then after a certain point, especially when children enter kind of a formal education

system, the fate of that curiosity rests not just in their hands but with the people and the environments that they interact with.

Josh: [00:07:59] And so some of what happens is that we have educational systems that are rooted more in performance and competition and the extent to which you can succeed on standardized testing. And that's the system that's in play, there are amazing heroic teachers who are trying to work within that system to keep curiosity alive. But those systems, the way they're set up, students quickly learn that to succeed in that system there's a game to be played. They learn how to play the game and the game doesn't actually privilege taking intellectual risks and following the path of curiosity leads.

Josh: [00:08:35] So it's certainly conditioning over time and a variety of factors that lead to students in college not- it's not that they don't want to be curious, it's that they had this previous experience where curiosity hasn't necessarily been tied to reaching their educational goals. So part of the goal of the chapter that I wrote on curiosity is a way that we as instructors in the college classroom can tap back into their deeply seeded and deeply felt curiosity that's there, we just draw it back out again.

Bonni: [00:09:14] One of the stories that's come up a couple of times on the podcast, Josh, involves my husband's high school chemistry teacher. And he started out his class with there was a candle that was lit up in the front of the room. And you know he gave his talk and as the students were just about to leave the classroom, he picked up said tea light candle and put it in his mouth and chewed it and swallowed it. And he said Just remember chemistry is not always what it seems.

Bonni: [00:09:47] And talking about igniting- I love it because I do think you're so right about it being hidden, and it certainly is not gone, it's just in different contexts. And in an educational context, we've taught our learners not to engage in that kind of curiosity the way that they do in other contexts in their lives. And so, what are some of the ways that you're hearing about or you're experimenting with to try to reignite whether it's through shock surprise, whether it's through emotion, whether it's through other ways that are just inspiring you or your seeing inspire others?

Josh: [00:10:23] Sure. Right. Well I think quite a lot of the research on children's curiosity ultimately goes back to the questions that children ask. Young children of course are famous for asking many many many many questions. And some of the researchers on curiosity have begun to look at those questions and really

kind of put the spotlight on the question as the unit of curiosity or the focal point of curiosity. And so a lot of the most exciting college pedagogies that I'm seeing are still tied to that.

Josh: [00:10:58] So inquiry based learning, very old of course but new ways to approach it. Those writers and researchers that are about designing our courses with key foundational questions in mind, constructivist pedagogy where we're giving students the opportunity to develop knowledge for themselves with questions as their guide, teaching students how to ask really good questions. You know in some ways I think part of the purpose of college is to help students develop the skills to ask really great questions that lead to fruitful avenues of research and more questions. Those are some of the umbrella topics that have really emerged from this.

Josh: [00:11:41] And Ken Bain in *What the Best College Teachers Do* really talks a lot about meaningful questions and how that drives their curiosity. So somehow, ultimately because we are human beings who learn through curiosity, there needs to be some attention paid to the kinds of questions that we're asking, the way we use questions to fuel the work of the course and to really help our students to learn more meaningfully. So I think some of my favorite examples that I've observed or read about are those instructors who are setting up their courses so that students are essentially rediscovering the origins of those topics.

Josh: [00:12:23] I write about some chemistry teachers here at Rice, write about a mathematician at UC Irvine who their goals are essentially for their students to develop the discipline for themselves as if they were discovering it for the first time. And there's something magical about that. There's something a little scary and intimidating about trying to do that. But the examples that they've laid out and the tools that are available for us to utilize those models make it possible.

Bonni: [00:12:52] What you're describing is the anecdote for so many of the challenges that I had in my early teaching, and I'm sure still struggle with today and that as I'm coaching more and more faculty is just a common thing of needing to cover the topics, cover those learning objectives or whatever that looks like. And too many times we go to the textbooks and we see the table of contents and we start to make our week by week outline of what we're going to cover. And again, I'm not certainly making fun of faculty, I've done this as well. But to back up- and that's such the big takeaway that I have from what you've written and also from Ken Bain as well is getting to those questions and they just center us. And that's been helpful for me, but to tie it back to curiosity I know I have not done enough.

Josh: [00:13:40] I mean it's constantly developing process for all of us. And I also don't want to suggest I think that somehow we are responsible for recovering all of our students curiosity. I think it's more directly connected to what you just said that we can utilize curiosity as a tool to help our students learn more. So finding ways to use those questions that we ask in discussion to tap into that curiosity or allowing students to develop their own questions that they then use to lead discussion that they're passionately curious about, or designing courses that begin with questions and gradually move towards content, kind of the classic backward design sort of model. But in some ways the things I talked about in the book are key tools for us that are natural parts of how everyone learns.

Bonni: [00:14:38] That is a really helpful reminder, I might have to just put it on recording and play it for myself because I think that if I were to- and it certainly has been something I have been guilty of- if I were to focus too much on the responsibility for recapturing it for everyone in the room, that I might have a tendency toward trying to be too oriented, too rooted in charismatic teaching, the performance of it. Eating a candle is great but do I have to come up with eating the candle version for every single one of them? (both laughing)

Josh: [00:15:11] But what have we learned about candles from that, right? (laughing) Yeah I think you're right, exactly. This is not meant to kind of add more work. It's in fact designed to help us do our jobs better and more efficiently because we are connecting to ways that people are naturally learning, so we're not creating courses and assignments that run against the grain, we're going with the grain to help our students and help our own time management.

Bonni: [00:15:42] And it also to me helps me get over myself a little bit, like my class is just one part of their very big lives. And I do want them to have a wonderful experience while they're there, and yet at the same time I want to remember I am just a small context of a very broader part of their lives and their goals and all of that.

Josh: [00:16:05] Sure. Well said. I completely agree and I think if there's one theme that anyone could take from this book is that students are human beings and we are privileged to have this glimpse of their time with us in their classrooms but their lives are so much more than that as well.

Bonni: [00:16:22] I'd like to explore a couple more of the themes that you write about in the book, that is authenticity and failure. And specifically, one of the things that just kept coming back to my mind is how difficult this can be for so

many of us whether we're talking about our students but especially us as professors because our disciplines the way in which many of our research orientations are created is to minimise failure and one of the small ways that I've seen this come up is the controversy around what's called p-hacking. And I know many listeners will already know what that means. But for some that come from disciplines that won't, this is some researchers being criticized for not having a scientific approach where you have a hypothesis and then you test for a hypothesis instead just having, in this case grad students just gather as much data about as much random stuff in the discipline and looking for a p-score of .05 or higher to look for something that might be statistically significant and then authoring papers around that.

Bonni: [00:17:30] So I mentioned this as is one way we academics can go wait a minute I don't want to fail, so let's let's try to rig this thing so I don't have to experience a hypothesis that didn't quite turn out the way I'd hoped or doesn't help me in terms of building a scholarship portfolio over many decades. There's lots of ways we try to avoid failure as a academics and lots of ways that we've been trained to not be authentic. And just one example there that comes to my mind is just we tell people who are on the tenure track, just don't really say much until after you get tenure, just be very, very, very quiet and nice, and don't stir things up and what that does to our institutions. So yeah I wonder if you would reflect a little bit on just authenticity and failure as it relates to us getting better at it when we've really been taught not to be?

Josh: [00:18:23] Sure, absolutely. Well I will start service failure that's a hot button always in the news kind of topic in higher ed circles. And there are two things kind of embedded in your comment about failure that I think we really need to take seriously and that I talk a lot about in my chapter on failure. One of those is that we are- and I mean we as people, not just we as academics- but people are kind of conditioned to fear failure. There is an epidemic of anxiety about failure among students, among pretty much anyone who seeks to accomplish something.

Josh: [00:19:01] And Jessica Lahey's book *The Gift of Failure*, it's a brilliant book and in that she says that this is not something that we really intend to do to our children, make them fear failure but it's epidemic. And a lot of the research shows that our college students have a profound fear of failure regardless of whether or not they have actually ever experienced failure. So those who have run into obstacles in the past fear failure, and those who have excelled fear of failure.

[00:19:34] And so this is this is kind of the context that we're teaching in. But in addition to that, every researcher, anyone who has become an academic knows that there's an awful lot of failure on the road to success. We don't go in the lab and magically find the Nobel Prize winning discovery. People in the humanities don't just open the book and come up with a brilliant interpretation. So there's still a lot of trying, and failing, and learning from that and we kind of intuitively know that about our researching lives. But then our society has kind of created educational systems that work in exactly the opposite way. Students have very few shots at performing in context where failure is not rewarded at all, in fact, quite the contrary.

Josh: [00:20:21] And so you have the fear of failure and the fact that our educational systems are set up to prioritize grades and success rather than the opportunities that we all recognize as researchers, the opportunities to learn, to try things out, to take risks, and to learn from those moments when they don't succeed. So the challenge then is for us, if we know all this, how do we push back against that system how do we use our courses and our assignments to offer our students some opportunities in a low stakes environment, try these things out, and get feedback both in times of success and times of failure so that they can then learn from that.

Josh: [00:21:05] And by this I don't mean like let students fail courses and have a learning experience there because that's a very privileged philosophy that people could afford to fail whole courses. That's not what I'm talking about. What I really am talking about within our courses and our assignments, how do we build in the opportunities for mistakes and errors so that our students can benefit from our natural processes for kind of learning from that cycle of trying and failing?

Josh: [00:21:33] And so there's some great work out there great researchers great instructors in the classroom. Her design and pedagogies of failure, ways to help students encounter those failures in a low stakes environment so that they can learn more effectively down the road. That is not something I was ever taught in graduate school. So it was counterintuitive at first, but the more I read about it, the more I tried things out and talked to people about it, the more evident it became just how beneficial that approach could be for students.

Bonni: [00:22:05] One of the many reasons why I treasure conversations like the one that we're having right now is just the constant opportunity to reflect on my own values and then how those values do or do not play out in my own teaching. And this is certainly one where I value- I would have told you long ago

I value these opportunities that you're describing, but my practices back then would not have mapped to that.

Bonni: [00:22:31] And I just really treasure now that I have been able to learn that from people like you and many others who've come on the podcast. One of the things I was thinking about, Monday I'm going to be giving a pop quiz. And you might just think oh why would you do that? And the reason why I would do that is because it's been a while we were reading two books in this classroom are kind of getting into the second one now and so I make sure that they don't forget about the first one. And when I first announced we're having a pop quiz, they'll usually get really bummed like wait a minute. This is so different from what you told us we were going to have any tests. It's going to be a test that I actually didn't build the answer key for at all. I did it off of Quizlet.com, it will like generate little tests for me. And so I'm coming into it not knowing what the answers are to the questions that is populated. And there'll be no grade.

Bonni: [00:23:15] I will not be asking anyone to turn in the paper, it's simply a way for us to do a little bit of what's called retrieval practice at the very first 5-10 minutes of class just to remind us about the first book that we read the first half of we're kind of now going to weave our way back into and I want to make sure we don't forget what we read. And so just using methods that we learned while we were going to school and just questioning them and figuring out what's going to work about them and our pedagogy and what should we get rid of altogether.

Josh: [00:23:46] Right. And honestly for me as I was I started with these key questions as I was writing the book. But as I got into it, one of things that was a real motivating factor for me throughout the project was the things I was learning and thinking about and writing about that could serve as a really useful kind of test of our intuitions and assumptions about teaching, that it could offer a nice checks and balances sort of system for us. So that's exactly one of the things that I've found too that when I began teaching I had intuitions, some of which has turned out to be supported by research and some not. And so this has been a useful witness test for me and I hope for others who might read the book.

Bonni: [00:24:33] That was one of the things I really enjoyed about it is that I found I could relax into the chapters not feeling like I had to retain all of the wonderful stories that you tell in the examples on ways we get be inspired because every chapter ends with okay. It is not written quite as a checklist, but in my mind it becomes one cause I love checklists. A quick recap that I could go

back and calibrate and see if indeed I am using these methods and approaches and if they're aligning with these all these things I want to value and to put in practice as well. Before we close this part of the interview, talk a little bit about authenticity and its role in learning.

Josh: [00:25:14] Sure. Definitely. As I've been thinking about, it kind of emerges in two ways. One is the authenticity of the actual learning environment or the learning task. Our brains really respond to learning environments that they can intuit as authentic rather than artificial meaning as close to real as possible. And the less theoretical way to say that is simply how can we help students do work that is similar to the kinds of things that scholars in the discipline do? So authentic work I think is one way to think about authenticity. And teaching strategies go along with that. What are ways that we can really immerse our students in the process of learning?

Josh: [00:25:58] But then there's also our authenticity, who we are in the classroom, how we interact with students. One of the other chapters is on emotion and a lot of that has to do with personal connection to our students, recognizing them as human beings, caring about who they are as learners and about their success in our classrooms. Without taking away from the rigour of our courses or removing any professional barriers, it is still very possible to show students that we care about who they are, that we are here to help them learn to help them to succeed, to help them meet their goals for their lives, and that part of the work of college- and I really believe this- that part of the work of college is to help our students figure out what they find meaningful in their life and pursue that. And so there's a real kind of authenticity element to that imagining of what the teaching relationship can be.

Bonni: [00:26:57] On a recent episode it was either Robin DeRosa who said or someone quoting Robin DeRosa, I can't even remember this moment. But Robin was really putting a critical lens on our sometimes use of the phrase "in the real world this happens" and she's like our students are in the real world right now. And writing about how many of them hold jobs and are caring for family members with health matters and just on and on. It's a phrase that I have used early in my career that I don't want to be part of my current vernacular. Yet when you talk about authenticity, that part's important. That part to put it in a context that makes it more meaningful, an example of that would be giving someone a test when you're not ever going to have a test in my field in business. No one's going to sit down. I shouldn't say no one's ever going to because there's the annual Sexual Harassment Prevention online course that I have to take a test in. But the vast majority of our work does not involve taking tests but

the amount of time in the business discipline for example that people give tests while they're in school is doing a disservice to the kind of work that students will actually be expected and are expected to do in more of a professional environment.

Josh: [00:28:17] Right. Yes, that's exactly right. I take Robin's point absolutely to heart and agree with her. To imagine that college is somehow separate from the real world is to do a disservice to the students we are currently working with. But the realness that I was talking about is exactly what you were describing. Imagine an evolutionary biologist or someone in ecology, the difference between having students memorize certain features and attributes of insects for example, the difference between that and going out in the field and finding and locating those insects and describing them while doing field work, that's the difference between a less authentic and more authentic kind of environment. It is not to say that they can't learn things by memorizing the parts of bugs, it's that your students are more likely to remember and to learn from those more authentic contexts.

Bonni: [00:29:13] That reminds me a little bit of when Hoda Mofkosa was on the show and Hoda, I apologize if I just completely didn't get your last name pronounced right. But she was talking about how much medical education has changed for physicians and other professionals just in terms of it being so much on the memorisation and that doesn't really make you into a very good physician if that's really been the emphasis of the pedagogy that you've experienced.

Josh: [00:29:41] Right, exactly. Exactly. And certainly you need to remember things but the context is important, application is important, but just remembering the anatomy but actually working with simulators or models or other kinds of real contexts will help them learn more effectively.

Bonni: [00:30:02] Yeah and then some of our disciplines we've become so focused on memorization and again, it's crucial. It starts with that, but it can't end with that because it is memorizing things in many disciplines to then translate into an incredibly complex environment like the human body just as one of many examples.

Josh: [00:30:23] Right. My kind of easy go to example of this is that we ask kids to memorize spelling lists all the time but that doesn't mean they know what the words mean. That just means that they can spell them.

Bonni: [00:30:34] Yeah. Oh my gosh. There's so much going on with how students learn math. How I learned math growing up and how different it is today. And there was a video I'll try to find it for the show notes because I may have used it as a recommendation but I won't put it in the recommendation segment so that's OK but there is this great video of a researcher remember where he's from but if I can find it I'll stick it in there but just talking about how oh did you learn how to do math like this? And then you carry the one and you do all this and why do you do that? And I thought I had no idea why you do that. And he said, yeah nobody does because it doesn't make any sense. Like it works mathematically but you've trained your brain to do it not because it has any meaning behind it, but just because those are the steps that you take and now today they're teaching math so differently because it's math that actually makes sense. And yes you memorize it. But at the same time your mind can then expand to other applications because you've learned it in a way that has meaning.

Josh: [00:31:33] Exactly.

Bonni: [00:31:34] Before we get into today's recommendations, I wanted to say a big thank you to today's episode sponsor and that is Text Expander. You've heard me talk about Text Expander if you've been listening to Teaching in Higher Ed for any length of time. They make things so much easier for us. What happens is we type in a few characters that we have pre decided well represent a longer string of text, this could be anything from email addresses, to email signatures, to website addresses, to even something as simple as today's date but really can save us time especially if you're like me and you have to look and see what today's date actually is every time. Could be answers to commonly asked questions by students, by faculty. All kinds of ways that we can use Text Expander to make our lives easier in higher ed.

Bonni: [00:32:23] And if you today visit textexpander.com/podcast and let them know that you heard about Text Expander from Teaching in Higher Ed, you can get 20% off your first years subscription. It is a wonderful service. My husband Dave and I have been using it for we think as long as it's been around it's just essential to us every time we get a new computer. That's one of the first things that we bring over. It's a wonderful resource. What I like about it probably the most is how easy it is to get started using it, but how you can extend your learning about it beyond that. And there's lots of examples from people on their web site where you can download what are called snippets. Those are those little shortcuts that you type in from examples that they have and then add those to your mix. And it's just fun how the community of people that use Text

Expander can sharpen each others use of it. It's a wonderful tool. And thanks again to Text Expander for sponsoring today's episode.

Bonni: [00:33:20] Well this is the time in this show where we get to give our recommendations and mine has nothing to do with anything we've talked about. I suppose it has to do with learning. So there's my cheat. What I've been having fun. I got a new phone recently and it takes great photos and my dad who is quite the hobbyist with photography would probably be terrified because he really still likes to have you know the quote on quote real camera. But to me the best camera you have is the one that you have with you. And so the one I have with me is this great amazing camera that you know fits in one hand which is truly remarkable.

Bonni: [00:33:53] And so I have a link to how to take great photos on your smartphone and it's just- I was experimenting a little bit. We had a training for our faculty and one of the things in the article talks about looking for the light and I don't mean just looking for the source of light and making sure that it's behind you as.

Bonni: [00:34:10] The photographer's head because that is important but looking for interesting shadows that are coming across our filtered light. And I've just been having so much fun and I took a picture of one of our faculty members and it's so cool like it was just such a nice way to capture her as a person. And I felt so good about it and it's just fun to be beginner's mind with all this because this is not something I have done a lot with. And it's just a great article to kind of inspire us even if you don't consider yourself a photographer that much more should you go check out this article because I don't either it is just fun to play with the different practices that they talk about.

Josh: [00:34:43] That is great. We're always learning.

Bonni: [00:34:46] Yes, always learning. And Josh, now I get to pass that over to you because you've got lots for us to learn from.

Josh: [00:34:51] I just thought I'd recommend some books that aren't necessarily connected to higher education but I think are brilliant and they have really shaped my thinking about the way people learn and so some of them I've mentioned during the episode. The first is Susan Engel's *The Hungry Mind*, which is actually about education but it's really about curiosity and children simply before college.

Josh: [00:35:13] Then there's *The Scientist in the Crib* by Alison Gopnik, Andrew N. Meltzoff, and Patricia K. Kuhl. That's developmental psychology, it is a really fascinating look into human beings and the way we approach interesting questions.

Josh: [00:35:27] Jessica Lahey *The Gift of Failure* is about education about parenting,, it's about coaching it's about life and how we can learn from those times where we don't encounter success right away.

Josh: [00:35:37] And the last recommendation I have is another book I really liked by Katherine Schultz called *Being Wrong* which is about all the ways were wrong in all the ways we learn from that.

Bonni: [00:35:48] So many of these are new to me and I'm excited to explore them more although not all of them at the same time. But Jessica Lahey, you've mentioned her a number of times. And I follow her on Twitter and she also does a lot of just writing shorter articles and she's been a really great person to follow on Twitter so people should check that out too.

Josh: [00:36:07] I agree. I've learned a lot from her.

Bonni: [00:36:09] Well Josh it has been so good to talk to you again and congratulations on this wonderful book that I know has taken you many years from start to finish and it just was such a pleasure to read and I'm so excited to introduce people listening to *How Humans Learn: The Science and Stories behind Effective College Teaching*.

Josh: [00:36:29] Well thank you so much Bonni, I really appreciate you having me on. It's always great to talk to you.

Bonni: [00:36:35] It's been wonderful to get a chance to talk to Josh Eyler again and to have all of you listening and hearing more about his book. His book comes out on December 1st. So I'd encourage you to go preorder it today and get it in your hands on December 1st.

Bonni: [00:36:52] And I want to mention that if you have yet to sign up for that e-mail list you can get the show notes with a link to his book and all the other great links of things he talked about including those great book recommendations. You can subscribe and just get a weekly e-mail from me and it will have the show notes from the most recent episode. In addition to an article about teaching or productivity you can subscribe at

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