Team Based Learning
Teaching Beyond the Podium Podcast

Alexandra

Hello, my name is Alexandra Bitton-Bailey. And I want to welcome you to the Beyond the Podium podcast series. This podcast is on teaching and learning, and our guests provide the best tips, strategies, innovations, and stories about teaching.

This episode's topic is team-based learning. Today's guest is very special. She's a dedicated practitioner in her field of pharmacy, a mom, a researcher, and an extraordinary and beloved teacher.

In my line of work, I've gotten to know many students over the years, and one of my go-to questions is to ask them about their experiences as students. In particular, I like to ask them to tell me about one of their most memorable teachers. And it just so happens that our guest today, Michelle Farland, is very often the instructor mentioned.

Michelle Farland

I'm Michelle Farland. I'm a clinical associate professor in the College of Pharmacy. I also serve as director of personal and professional development, which encompasses things like leadership, self-awareness, professionalism, and innovative mindset.

Alexandra

One of the reasons she's such an exceptional teacher is that she uses a unique method meant to spur deep learning and student engagement. The method is called Team-Based Learning, or TBL, and her initial discovery of TBL was quite life-changing.

Michelle Farland

I was first introduced to team-based learning when I was doing my postgraduate training at Virginia Commonwealth University. So one of my preceptors had said, hey, why don't you come and check out my elective course? It's taught using this cool thing called team-based learning. And I was like, OK, well, I'll just go watch and see how it goes.

Well, unbeknownst to me, she intended for me to actually participate in a class that day. And it was on a topic that I wasn't so familiar with, and I hadn't done the pre-class preparation like the students in the class did. One of my other co-residents had joined me in that experience, and we were amazed at how much more the students knew than we did, and we were further ahead in our careers than they were.

So during that experience, I got to see how the students were really engaged the entire class period as opposed to just kind of sitting there and falling asleep listening to somebody talk to them, right? So it was kind of one of those life-changing moments, if you want to call it that, in my teaching experiences, where I got to observe when students were really engaged with material and excited about it, and exploring different avenues with the content that we wouldn't normally see in a typical lecture classroom. So you got to see the light bulbs go off. You got to see extra questions being asked. So it was really cool experience.

So after that experience, I became a faculty member at the University of Tennessee, and I was asked to teach an elective course. And I was like, well, you know, I watched this one class session. Let me buy a book about team-based learning and read it, and I'm going to teach a whole class using team-based learning myself that was an elective.

So I wouldn't recommend that to anybody else, but that's kind of how I got my feet wet into team-based learning at first. We learned a lot of lessons the hard way. But once we kind of got into a groove and we worked out a lot of the bugs, and ended up with a pretty decent product in the end.

Alexandra

Though her first experience with team-based learning was challenging and had a significant learning curve, she worked to perfect that method, so that by the time she moved to the University of Florida, she was ready to jump right in.

Michelle Farland

After the first implementation, we kind of continued to iron out the kinks within an elective course, so it was a smaller class. And then once we got a little bit more comfortable with the teaching method, then we started to kind of pepper it into some of our required courses, which were large enrollment courses. Well, large enrollment for pharmacy schools.

So we had about 200 students that were divided between two different campuses. So we were teaching our content using live video conferencing conducted synchronously. And we had to then adapt our facilitation style to that different type of classroom, because you talk to students on the other campus differently than you talk to people who are in the same room as you. So after we kind of worked out those kinks of expanding from a small class setting of about 30

students to a larger class setting of 200 taught via video conference, then we began to put it into other aspects of different courses in our curriculum at Tennessee.

Then shortly after that, I transitioned to University of Florida, and our college here decided that we wanted to have a lot more collaborative active learning within our entire curriculum. So I've been involved in helping train other faculty to learn about team-based learning. I work one-on-one with some faculty to get their materials set up well, as well as we can usually on the first try, to ensure their success within the classroom. So now I'm still teaching using team-based learning in a classroom. Again, relatively large enrollment of 270 students with multiple campuses and live video conferencing still, but then I also help work with other faculty as well.

Alexandra

I really wanted to learn a little bit more about how team-based learning works. And Michelle did a great job of explaining how team-based learning actually starts before the class begins.

Michelle Farland

There's three different phases of team-based learning in each class session. So the first phase actually happens outside of class, where students do some basic information gathering, I guess. They really get to know the content at an entry level, right? So a basic overview of the material.

They can do that by watching a lecture. It could be done in the classroom. All of the lectures that we do are pre-recorded and posted online. You could assign a reading.

Regardless of what preparation that you give the students, it needs to be something that they can comprehend. So you don't want it at a level much beyond the level that they're ready to learn that. It also needs to be accompanied by really well-written learning objectives, because it's mostly self-directed learning, right?

So they need to be able to say, OK, here's my expectation. Let me go in and figure out the information. So there's some pre-class preparation is what we call it.

Alexandra

Step two in team-based learning is just as important as step one. In step two, students remain accountable to the learning that they've done in step one and are able to apply that learning to concrete examples.

Michelle Farland

The next phase we jump into is the accountability piece. So this is the beginning of a TBL class session. Students come in and they complete an individual readiness assurance test and a team readiness assurance test.

Both of the tests include the same questions. They can be anywhere from five to 20 questions in length. Most of the time, they're multiple choice with one correct answer.

So the students first take the test as an individual to ensure individual accountability that they did the pre-class preparation, and then they also complete the same test as a team. So their team is typically five to seven members that they stay together for the duration of the course. And during that time, they have the opportunity on the TRAT to teach each other information, help clarify those basic concepts of the content that you're wanting them to know before they come into the classroom.

Alexandra

Step two allowed students to demonstrate what they'd learn. And now in step three, they get to demonstrate that understanding and apply it to problems. Step three really allows students to check their understanding, ask questions of their peers and instructor, and clarify any misconceptions that they have.

Michelle Farland

Phase three of team-based learning is where the students actually get to apply the information. So the knowledge acquisition happened before class. You confirmed their knowledge acquisition at the start of class, and then you spend the majority of the class time having them apply that information.

So if you think about it, it is a version of a flipped classroom where they learn information before they come to class, and apply information in the class. But when I reflect back on how I learned as a student, I came up with a ton of questions after class that would have been really helpful to ask a group of my classmates or the instructor. So this allows that to occur, where they learn the information before they come to class, and then they apply it where you're getting at a higher level during the class session. So the expert or the instructor is there to answer the questions along the way, and the peers are there to support each other through that kind of information exploration process.

Alexandra

Michelle explained that for team-based learning to work really well, it requires that we follow the four characteristics or the four S's of team-based learning.

Michelle Farland

When you're writing your applications of the problems or the cases that you want the students to solve, they need to follow for general principles. So we call them the four S's. So all the students should be working on the same problem.

The problem should be significant. So significant in that the students see how the information can relate to a specific situation where they could envision applying that knowledge moving forward. It also needs to be significant in that a single person on the team shouldn't be able to solve the problem on their own. All of the students together need the collective knowledge to solve the problem.

They also need to make sure that you're asking them to make a specific choice. So you want the students to be able to come to a conclusion of this is the answer we support. So in that process, you don't want them creating lists of things or narrowing it down to four or five items, you want them to come to a decision on what their recommendation or what the best answer is or the most appropriate thing to do in that situation would be. The other thing that you need to make sure that you follow is the last S, which is Simultaneous report. So to prevent answer drift around the room, you want all the students to post their answers at the same time.

Alexandra

Though team-based learning is really versatile, it takes some planning and careful consideration because not all topics, modules, or lessons can easily be adapted.

Michelle Farland

So I think it depends on the discipline. In some settings, it makes sense to do it on every class session. In other disciplines, maybe there is some information that doesn't lend itself well to team-based learning. But there's other areas of that information that does fit really well within that model.

But if you're first starting with team-based learning, I do not recommend converting your entire course into the learning method. I would probably pick the topics that you find the students struggle the most with, because that's where you need to help them work through their thought process or rationale, or how do they get from point A to point B with the information? So that's

probably where I would start identifying class sessions or content areas within your course to be able to convert to TBL.

Alexandra

Hearing Michelle talk about team-based learning was really exciting, and it makes me want to jump on board. But as Michelle explains, team-based learning may not be the best choice for all courses, especially courses that focus on teaching individual skills.

Michelle Farland

I'll be the first to tell you that I am an advocate for TBL, but I don't think it fits in every type of learning. So for example, TBL doesn't work very well when you're trying to teach a skill. So if you're teaching a skill like checking a blood pressure, giving an immunization or an injection, or if you're building something, those types of things don't lend themselves well to team-based learning. Now you probably could come up with really creative ways to turn it into team-based learning and make it fit kind of the model, but there are certain things that just don't allow for that.

There's also times when you really want to get individual knowledge or individual assessments completed, and TBL really is focused on team learning. So if you want to focus on the individual and not so much on the team and the collaboration, then that also wouldn't lend itself well to team-based learning.

Alexandra

To successfully use TBL in a class, it's important to take into consideration the size of the groups that you develop, because group dynamics help the course go well over time. Those groups develop relationships that span the entire length of a semester.

Michelle Farland

The team size should be somewhere between five to seven members. More than seven, you start to have teams subdividing into smaller groups. Less than five, you don't have enough of that diversity and collective knowledge to be able to solve problems well with a heterogeneous group, right? So you want to give them some challenging questions, and the more diversity have on your team, the better thought process and more differences of opinion you're going to receive. So one of the other things too is that that team needs to stay together for the duration of your course, because they get to learn each other's strengths and work well together.

Alexandra

TBL requires that students be self-directed in their learning. This helps students develop their foundational knowledge first and their skills. It also allows the instructors to build assessments that best reflect this kind of deep learning.

Michelle Farland

The other thing that's really important is the use of backward design. So when you stop and think about designing a TBL module, the first thing you should think to yourself as an instructor is, what do I want my students to be able to do at the end of this class session? Once you know what they need to be able to do, then you design the team applications that you deliver within the class.

Then you stop and think, what do I need my students to know before they can do these things? And that allows you to develop the pre-class materials they need to prepare before the application, and also allows you to write your learning objectives to help the self-guided study along the way, and then also those should align with your RAT questions. I also like to create a separate set of learning objectives that accompany the team applications. So this gives you two sets of learning objectives for every class session.

So the first set of learning objectives helps the student guide their learning before they come into class. So these could be learning objectives from a lecture, learning objectives from reading. They focus really on allowing them to grasp the overarching principles of the content.

Then once you get into the team applications, you're diving deeper into the material. And then when you stop to think about how do you write questions for your final assessment, which a lot of people use exams, you can pull questions from your lower level objectives, and your higher level objectives or your do objectives, right? But the majority of those questions should be coming from those higher level learning objectives. So the first set allows the students to have some guidance on preparing for class, and the second set is really the expectation of performance for the course.

Alexandra

One of the aspects of TBL that Michelle is particularly fond of are the IFATs, or Immediate Feedback Assessment Cards. Now, these give students a chance to propose and defend their ideas while checking their understanding with other students.

Michelle Farland

One of the other components that I found really helpful in the classroom are the use of immediate feedback assessment technique cards. So these are essentially like Scantrons that have been converted to lottery tickets. So students utilize the IFAT cards when they're completing the TRAT.

So it allows you to get the question wrong, and continue to debating it, right? So within the team, they arrive at a decision about what the correct answer is. One of the team members, who I refer to always has the scratcher offer-- and it's a very high-stress role within the team-- scratches the letter that corresponds with the answer that they selected.

If they got it correct, a star appears. If they didn't get a correct, they have to keep discussing as a team about what the correct answer should be. So it allows what we call an answer until correct process to occur within class. It promotes a lot of peer-to-peer teaching, but the immediate feedback of, OK, that thought process was wrong. Maybe somebody else on the team was thinking slightly differently, so let's explore that a little bit more.

So it allows them to think through all these different potential scenarios along the way. And it's really fun when the team is having this really heated debate about a question, and everyone's hovering around the scratcher offer to see if they got it right. And there's this collective roar of excitement when they get the answer correct, so it helps increase the energy in the room.

Alexandra

One of my big questions for Michelle was how much time do you really need in a class to properly use TBL?

Michelle Farland

So TBL really can be implemented into any time period. So if you have a 50-minute class session, you could break it up to maybe do some of the session, the IRAT and TRAT, some of the session, the team application, and then maybe the next class would be all applications. So that's one way to do it.

Typically, we recommend that you don't spend more than 25% of the class session time on the IRAT and TRAT process, leaving then 75% of the time for the team applications. And that can be divided across multiple days or different ways. So I would say one-hour class sessions or 50-minute class sessions and two-hour class sessions are probably the most common.

Alexandra

One of the most essential steps in transforming a course to the TBL format is making sure that the students really understand the purpose of team-based learning, and that they're on board. They have to be able to understand what the rules and norms of TBL are to successfully accomplish what's required of them.

Michelle Farland

The other thing I find really helpful as a key element in TBL, especially when you incorporate a lot of your class sessions to TBL, is getting the students started on the right foot at the beginning of the semester. Part of that process is explaining to them what team-based learning is and setting expectations up at the front of the class so they know what the experience is going to be like. But it's also important that the team begins to norm themselves.

Everyone comes into a team with different expectations and understanding of what teamwork should look like. So if we don't begin talking about the norms, that's when teams start to storm or have some arguments, or disagreements, I should say. So the team contract process allows students to first reflect on past experiences working within teams, what has gone really well, what didn't go so well, how can you make it better?

Within our program, we also have our students talk about their signature themes from StrengthsFinder StrengthsQuest so that they get to know each other a little bit better. Then they move on to the next step in the team contract where they talk about norms within the team. So these are expectations of behavior from every member of the team. So we put in typical things, like come to class prepared, share your opinion with the entire team, don't hold information into yourself, have high expectations for the quality of work that the team produces. So those are kind of like the boring things of teams, and then we throw in some fun things, like when's snack day?

Alexandra

It's also really important to let the students have a say. Help them decide what the rules are for their respective group. Teams in fact create a team contract that normalizes these rules and creates an environment that's conducive to building relationships.

Michelle Farland

The next phase of the team contract, students identify ways to prevent conflict from bubbling up to being something that's difficult to manage. But then they also talk about methods to manage conflict if it does occur. So we give them some best practice ideas within the contract, and then they pick what they think is most appropriate for the norms of the team. The final phase of the

team contract is everybody reviews to make sure they're on the same page and signs it. So team contracts are not meant to be something that they look at once and never again, but they need to make sure that you have opportunity for the team, and flexibility for them to kind of revisit a contract and adapt it along the way as they learn more about each other.

Alexandra

Teams also work with each other to peer evaluate their work and to decide how each team will stay accountable to the group as a whole.

Michelle Farland

The other thing that sort of accompanies the team contracts is a process for peer evaluations. So this is a way for individuals on teams to give feedback to each other on performance, and it also kind of allows the teams to kind of check in to see if they are meeting the norms within the team. Within peer evaluation processes in a TBL classroom, I typically recommend at a minimum two peer evaluation cycles, one at the middle of the course that's a formative evaluation, just for information to give feedback for each member of the team to improve their performance and behaviors within the team, and the last one you could use as a summative assessment that potentially has impact on the course grade, and that can be done in a variety of different ways.

So every member of each team evaluates every other member of the team to provide them with feedback. So I recommend that the peer evaluation process align with the team contract, so that you kind of set the expectations up in the front end and they sort of know what they're going to be evaluated on. The team then decides which of those elements to adopt. And then when you implement your team-- or your peer evaluation process in the middle and the end of semester, it's not like they're being blindsided by these expectations.

Alexandra

Michelle gets lots of positive feedback about TBL. In fact, students find it to create an inclusive environment that encourages relationships and builds confidence.

Michelle Farland

From the student perspective in particular, they are engaged the entire class period. So nobody's falling asleep. Everybody is awake and paying attention when the materials are designed correctly.

They also develop this camaraderie with their peers that you don't see in a lecture hall, or even with other types of active learning that don't have your team together longitudinally. So one of the key components of TBL is the longitudinal nature of the teams. So the longer teams work together, the more they begin to understand each other's strengths, and then begin to learn more from each other or rely on each other.

So they become interdependent upon each other, not only for their learning, but maybe for their organization, or it begins to extend outside the classroom. So you start to see them becoming friend groups and joining similar organizations and being positive influences for each other. So in our own program in the College of Pharmacy, our students are together for all of their courses across an entire academic year, so that camaraderie and that kind of cohesiveness within the team develops pretty quickly, and students get really upset when they have to disband their team for the next year.

Alexandra

TBL also offers students an opportunity to check their understanding with each other, which is really valuable and creates a better learning experience.

Michelle Farland

The other thing that's nice for students is they get to bounce ideas off of other students within the class they may not have talked to before. But it gives them more confidence when they answer questions in front of the entire class, because their team members have already validated that what they said was really clear or explained the concept well, or that's spot on, right? So it gives them kind of a boost of confidence and energy, so that when the instructor asks for the whole team to discuss a question, or the whole class you know comes together to discuss the question, then they have already verified that their answer is correct, so they're more likely to speak up a little bit more quickly than they would if you just threw out a question for individuals to consider and asked for a response back from students.

Alexandra

The key benefit for faculty is the increase in a-ha moments, when students who are engaged and listening actually grasp the concepts presented.

Michelle Farland

So from the faculty perspective, we get to see the light bulbs go off in class all the time. So when my prior experience in teaching is just lectures, right? So during lectures, I as the instructor

would look around the room and try to find like the one person that was giving me some feedback, like non-verbal feedback, the head nod, the smile, yes, I got it, or the question look on their face, can you explain that better?

That was about as much feedback and engagement as you got in the classroom. And when I converted to team-based learning, that's when you started to see the whole class was involved in conversation. And you wander around the room while the teams are talking, and you hear the discussions that you're having, and they're like, yes, you finally got it. Like, it's working. I see the wheels turning in your minds.

So it increases the energy in the classroom, which I find energizing myself. And it just-- I don't know. I guess it provides me with a little bit more satisfaction as a teacher to watch the learning happen, as opposed to just hope that it's happening.

Alexandra

Thank you for listening to this episode of the Beyond the Podium podcast series. We're happy that you joined us. And we hope to see you next time for more tips, strategies, and ideas on teaching and learning at the University of Florida.