Shelbi Fortner – Honors Biology Assessment

Summary Keywords

UDL, Honors biology, rubric, models, Frankfort High School, year, experiences, neurophysiology, teachers, felt, guess, left, options, decided, question, learn, DNA replication

Transcript

LOUI: Hello and welcome to UDL in 15 minutes were educators discuss their experiences with UDL I'm Mark Nelson, you do authors and leader. Today I'm talking with Shelbi Fortner from Frankfort High School in Frankfort Indiana about her high school biology classroom, where she implements UDL. More specifically, Shelbi's going to share how she helps her learners move toward the expert through the use of the framework in the design of her final exam. Hi Shelby, how are you how are you!

SHELBI: I'm great, Loui! How are you?

LOUI: I'm great! Will you share with us your teaching background like what subjects and grades you've taught? Years? That kind of thing?

SHELBI: Sure. I've taught high school science for almost 15 years. And a little over five years ago I took some kind of a professional risk that didn't really end up working out as I had hoped, but it forced me to expand my teaching experience by covering some extended leave opportunities at the elementary level. So, I ended up teaching kindergarten for a semester and then 4th and 5th grade for about a year and a half. So, what I originally thought was this huge mistake turned out to be one of the most enriching opportunities in my career.

LOUI: I would think so! Oh my gosh!

SHELBI: Yes, it was terrifying and then awesome, but definitely terrifying first. So since then, I've returned to teaching high school science and I have mostly biology and advanced biology electives. I teach AP bio, anatomy, and physiology and sometimes some genetics.

LOUI: Okay. Awesome! So, we'll just dive right in. How did you learn about UDL?

SHELBI: Okay, so a couple of years ago I was selected as a Woodrow Wilson Fellow to earn an MBA in education leadership at the University of Indianapolis. And two of the other Fellows in my cohort our teachers from BCSC, so shout out to Patrick and Bobby, so my is my interest was initially peaked there by hearing about their experiences. And then the following year, Frankfort began exploring UDL and I basically just was just obnoxious and let anyone who mentioned it know that I think it's an awesome opportunity and then I wanted to be a part of it. So, those poor people just got sick of hearing about it and let me in, I guess! So then, when our Director of Exceptional Needs established this UDL core team of teachers to learn more about the UDL framework and kind of start implementing it in individual classrooms, like a grassroots initiative kind of thing, he let me in. So, I've really only been at it for a little over a year. I super love the neurophysiology that goes into it and I really like that kind of understanding of the framework. But as far as using it to design lessons in my classroom. I'm definitely a newbie.

LOUI: Yes, well, you've really just taken it and just hugged it. You just hugged it! You just took that framework and [overtalking]

SHELBI: I like that, yes. I hugged it.

LOUI: And for those who are listening, so BCSC is Bartholomew Consolidated School Corporation that happens to be in Columbus, Indiana. They're very well known for their implementation, long term implementation, of UDL. So what example do you want to share with us today that goes along with that biology classroom? What story do you want to tell?

SHELBI: Alrighty so the group of teachers for Frankfort high school that are on our UDL core team decided that we really wanted to dive into the multiple means of engagement component. And I'll save the story of how we decided that. That was complicated, but the short version I guess is that like adolescents everywhere, I assume, I guess, one of the most significant challenges in getting students excited about the content we want them to learn is that engagement piece, right? So, we decided ultimately that if students weren't engaged the rest of our efforts would be fruitless. So, it just made sense to us to start there in terms of our understanding of UDL. And then it also aligned really nicely with the beginning of our one-to-one technology initiative. So, the faculty at Frankfort High School had already had significant introductory professional development related to blending learning. Blended learning. Excuse me. And our principal had really stressed that he did not expect nor want to see all students looking at a screen in every class every day. So we sort of knew that we had that support already. So we were encouraged to find ways to use technology to enhance rather than replace our instructional strategies and we really felt like the intersection of that technology rollout along with this UDL framework made that sort of top left corner the logical place to start I guess.

LOUI: Yeah.

SHELBI: I guess it worked out nicely that it sort of is right there at the top and then on the left, so we were like, "Oh, well, this is where we can start!", so that's, that's what we did.

LOUI: So, you were using that aspect of that, just that natural recruiting interest piece that came along with the, the technology or the experiences you guys were having with the one-to-one, right?

SHELBI: Right

LOUI: And entering in that way. Beautiful.

SHELBI: So I started to implement a couple of different strategies with my students. I opened up the requirements for one of the major projects that my anatomy and physiology students complete, and I developed assignment choice menus for my honors biology students. You know I really kind of dove in to thinking, "Okay. So how am I going to get students more engaged in learning the content that I'm trying to teach them?" And it turned out that a lot of what I did really just meant loosening the reins and giving my students more liberty to learn through different types of assignments. So I devoted a lot of effort to that top left box of the graphic organizer, the one that was mostly about providing options for recruiting interest, and the more options I offered the more it just seemed unreasonable to keep continuing to assess their understanding in the same way. I was giving students all these options for how to learn the content and how to practice using the content, so it felt incongruous to demand that everyone demonstrate that mastery the content in the same way. So I wanted to open up the assessment options of the same way that I had opened up their engagement options and that's when it got really messy for me.

LOUI: [laughter]

SHELBI: So we had agreed to focus on this one tidy little column of the UDL framework, right? We're gonna focus just on this first column and then we're going to worry about the other columns later. But what, what I found was that working to improve options choice and autonomy I found that I was kind of leaning over into this multiple means of representation and the multiple needs of the action and expression columns. So that overlap in the in the matrix was this like ah-ha moment for me. Like, "Oh! This all fits together. They're not these finite columns after all! This stuff all weaves together!"

LOUI: It's kind of like the brain!

SHELBI: Yes! Exactly! Thinking about the neurophysiology there. Well, duh Shelby, of course it does! But, like, I don't know. Something clicked there. This is just...it just makes sense! So, at the end of the school year, I kind of mustered up my professional courage and borrowed, some from you, Loui, and some from Frankfort colleagues and I decided that I wasn't going to give that same old hundred question, multiple choice finals to my honors biology students. So that part was scary because these are kids who care about their grades, right? Sometimes more than they care about learning the content. And their parents care about their grades. And nobody wants to go into the summer with a parent complain on their back right? Nor do I want to spend the first night of summer finishing up my grades so I can make that deadline, right? So there's all kinds of reasons not to do this, but I sucked it up and you know decided that really, I just know that students, know more than we're giving them the opportunity to show us. You know, we ask this question and we think about how we're going to key it, and what is it that we're looking for, and we have these really specific ideas in our mind and when kids don't regurgitate that really specific idea of what we want to know what they know, or not, then we mark it wrong. And we say, "No, they didn't know that. They didn't master this content." So I wanted to find a way to find out what they really knew and sort of separate myself from, and my expectations from those questions. So again, messy, right?

LOUI: Right!

SHELBI: So it started by reviewing my goals from the beginning of class and our students focused really heavily on using models to understand a few really critical biological processes. And so in kind of reviewing that I realized that I had repeated the disclaimer that such and such is a weakness of this model. It's really more like whatever like, whatever. Like, for example, we constructed these DNA models that hung from the ceiling throughout the remainder of the year after we made them. I really like this idea to reinforce base pairing rule and components of DNA nucleotides. But I wanted to add the element of different types of bonds that I hoped would smoothly segue into the process of DNA replication. So we use masking tape and scotch tape. The masking tape, I thought, would be stronger and would represent the strong covalent bonds along the backbone or the sides of DNA, and the scotch tape, I thought, well that will be weaker than masking tape and that'll be our hydrogen bonds down the middle. And it worked great until it started raining in the spring and then there was all of this moisture in the air and so the masking tape, of course, let go, and my DNA fell apart.

LOUI: Well, but you had nice representations!

SHELBI: Right! It was fantastic while it lasted. But then it gave us this opportunity to talk about the weaknesses of this model that we could had constructed and how we could make it better. And so kind

of replaying that process in my head is what led me to what ultimately became this final exam. So I pulled a bunch of different visual models, and I hope to add more to this this year, but right now, they're all visual models of photosynthesis, of DNA replication, like I said before, like protein synthesis. These critical processes that we talked about. I pulled all these visual models and asked questions a few different ways. I asked, what's accurate about it and what's inaccurate about it, and then how could you make it better for a few of them. And sometimes I put the models up next to each other and ask students to choose which they preferred and, and why? What makes this model better than the other models? And, um, for you as a learner or in terms of signs of accuracy or, you know, whatever. You know, choose something that speaks to you and run with it.   And I was really amazed at the responses I got back. You know, and again, the kinds of things that I wouldn't have asked them well, or I would have had this preconceived idea in my head of here's what I'm looking for, this is what I want them to give back to me and if they don't give that back to me then, how am I going to grade it? And how am I going to be consistent? And so I sort of just let all that go and just, just read what they said. And, you know, it was really kind of obvious that, that they had it for the most part, you know, and there were definitely some holes and there are some things that I need to address in the, in the future, but it was, it was interesting from a UDL perspective to, to look at, at how that experiment worked out. But it was also really gratifying as a, as a teacher to look at how much they have learned and how competent they were at assessing these models and deciding what worked for them as science thinkers and those learners.

LOUI: And what I love is you're...you, you went back to the goals of the course and you just said, "Listen, this is, this is what's going to drive the exam." You looked for these different ways for them to be able to express themselves, so a really deep, deep dive into expression and communication, but you also, in the final exam itself, they really had to use executive functioning! They really had to strategize how they were going to use their information that they had gathered over the course of the semester time and, and cohesively put their ideas together. It was great! It was brilliant!

SHELBI: Brilliant... I don't know about that, but it was it was interesting for sure!

LOUI: I think so! So one last question. So did you create a rubric for this that helped guide your, how you assessed it?

SHELBI: I didn't actually create like a formalized rubric. I had, I mean I guess I did. I had it in my head, kind of, but it was it was really messy, floppy, you know. So, "This is what I think I'll get," and I had thought when I did it, I thought you know, I'll read a few and then I'll sort of formalize this rubric and I'll use that to grade the rest of them, and it was the end of the year and I didn't. You know I looked at them and I thought, these are really great! Look at how much they learned! And I kind of ended up just sort of putting marks and check marks when I thought, "Oh yeah that's an important thing!" and, "That's an important thing and that's an important thing". And, and I sort of, it was, I don't know, it's really, it's, it's terrible from that assessment angle of making sure that you're consistent and, and standardized and it's not that at all. So I need to, I need to definitely think about how I can do that piece better, but I guess my fear was, again, from that angle, I didn't want to go into it with, "Here specifically what I'm looking for." I wanted to see what it was that they had learned, and I, I don't know. I need to think through how to how to make the, uh the examples, I guess. I mean that, that really is what I was looking for was, was evidence that they had, that they had picked this up. And so maybe I need to make my evidence more open, but rubric-ize (is that a word?)

LOUI: Just make it that!

SHELBI: Normalize that! LOUI: Yeah. Yeah. So, designing a rubric that allows for that space, but then gives key indicators and helps everybody know the these are the big things I'm going for, but then they have room to demonstrate that knowledge in a lot of ways. Oh, that's, that's really awesome. So we are, we've, we've touched up against our 15 minutes and in fact we're a little bit over , so to hold the promise, um, but I know we're going to be coming back to you for another interview in the future. I can just, I can feel that my bones. SHELBI: Let's work on that on that rubric piece, and then...

LOUI: Okay, we will! That's awesome!

SHELBI: Okay!

LOUI: Yeah!

Oh my gosh. So thank you so much for sharing your story. This was awesome!

SHELBI: You bet!

LOUI: Yes.

SHELBI: All right! Thanks, Loui!

LOUI: All right. And, so for those who are listening, if you'd like to share your story about UDL implementation, you can contact me through my website, www.theUDLapproach.com. And thanks to everyone for your work and revolutionizing education and making it our goal to develop expert learners.