Transcript:   
Tennessee Open Education Presentation, “Challenges and Strategies of Creating OER Textbooks”   
March 7, 2022: 1:00 PM

Presenters: Jillian Gorrell, Alka Sharma, and Nellie McCollum

(Ryan Korstange)

Great, welcome! Thanks for uh coming to this event, this OE week event. My name is Ryan Korstange, I'm a director of academic affairs at the Tennessee Higher Education Commission.

I just really appreciate you taking your time to be here with us. As you know, Open Education week is an annual thing, it's sponsored by OE global and what it really tries to do is it provides an opportunity for sharing and learning about the latest achievements in Open Education worldwide. We're really excited today to learn a little bit about OER and Dual Credit classes and just what's happening there.

The Tennessee Higher Education Commission is focused on increasing the number of Tennesseans who have a post-secondary credential. We understand that textbook affordability is a big part of that, I don't know if you want to say equation, but it's a big part of that process. High-cost textbooks pose a barrier for students at all phases of their education, and they decrease graduation rates, they decrease persistence, they decrease credits attempted per semester, and so switching to a more Open or switching to a more Open platform provides a lot of opportunities for students. We're really excited about the presentation that we have here today.

Throughout this week we have 10 presentations, at 10 a.m. and 1 p.m. central every day this week.

You can find a schedule - I'll post a link in the chat in just a second so you can find a schedule of all of our events there. We're recording all these sessions. We understand that not everyone can make all of these, uh but that the content is interesting. Those sessions recordings will be available next week, and I'll be sending out links to those through our listserv.

If you'd like to join our listserv you can email academic.programs@tn.gov and we'll get you signed up for the listserv. We also communicate about Open Educational Resources and Open Education in the state on our Open Education Hub, the Tennessee Open Education Hub. You can find a link in the chat in just a second to a guide for getting you logged in, creating an account, and getting set up with our information group there. Okay, one final word of logistics - you'll likely have questions as the presentation goes on. We'll have time for questions at the end. Please type your questions in the chat.

We'll be monitoring the chat and at the end of the session, at the end of the presentation we'll bring those questions to the presenter's opinion, or to the presenter's purview and they will address those as they have time. Okay and right before I turn things over to the presenters, I'm gonna put these links in the chat.

And then if you wouldn't mind to take a minute and just introduce yourself in the chat. Just give us, sort of, your name your role the institution that you're at, and your sort of experience with OER and then we'll get things kicked off. So, I'm gonna, I'm gonna, mute my video and turn things over to the presenters.

(Nellie McCollum)

Thank you, Ryan. I'm Nellie McCollum, and I am with Tennessee Board of Regents, and I am presenting today with Jillian Gorrell, who is from Walters State Community College and Alka Sharma with University of Memphis. We're going to talk specifically about a textbook that we're working on for statewide Dual Credit, which SDC stands for, plant science. I will explain a little bit about, about what statewide Dual Credit is, and why we decided to create a textbook.

Then Alka's going to talk about the work that preceded this textbook, and then work into how they started creating the textbook, go through the topics, and then we'll have a discussion about things we learned in what we would do differently next time. Then we'll take questions.

So, statewide Dual Credit is part of a portfolio of EPSO's, which are Early Post-Secondary Opportunities, which means that students have an opportunity to take these courses or these items in high school and earn college credit.

There are eight overall types, and they are a way to accrue credit. But statewide Dual Credit is unique, and we talk about statewide Dual Credit as sort of like Tennessee's version of AP. In that we train teachers, we uh the, post-secondary teams create the curriculum and create the challenge exam. The teachers teach the curriculum in their high school, but they don't have to be specially credentialed to do that, and students uh bank college credit if they reach a cut score on that challenge exam. So, the credit resides in the exam.

In August of 2020, we pulled together a Plant Science team to review the current learning - the learning objectives that were being used at that time. We tasked them with selecting a foundational OER textbook, and then we asked them to revise the challenge exam - with - to align with the learning objectives and the textbook. However, for plant science, there wasn't one foundational textbook. So, we realized that we would have to generate another project to create that textbook. And that's where Jillian, and Alka, and then Amanda as well, come in.

So, before we got to writing - and Alka's going to go back and tell you sort of talk about the, the redesign process - but, what we did after that redesign process was over is we hired Jillian, Alka, and Amanda to create an OER textbook. At the time we didn't realize that this was a huge undertaking and it probably would take more than three people, more than a year to write an entire textbook. However, sometimes it's good to be ignorant. And then we brought Dr. Elizabeth Spika in to do a workshop about creating, and the finding, the remixing, and how to deal with and creating your own original work. And then also, how to deal with the licenses and attributions.

So, Alka if you'd like to talk, take it over here, to talk about the redesign and forward.

(Alka Sharma)

So, hello everyone. This is Alka from Memphis. So um uh, before we move on to discuss how we put together this OER book, and actually we are still working on it. Our deadline is next week sometime. So me, uh Jillian, and Amanda are working on it at this point.

I would like to go over the redesign that we did prior to putting together this OER.

So, there were four members including me was there, I was there. And then, Dr. Tara Howerton,

she's from Walters State, she has a really good background in horticultural science and production. And, Dr. Andrew Pulte, he was, he's there from, he was there from UT - Knox[ville]. And he, he's also an expert in horticulture production. And then Dr. Kilaru from East Tennessee State University. She is a Professor of Biological Sciences there. So, with all of us, we had a very good understanding of how, what are the post-secondary expectations. And so, based on that, we started to work on this redesign team.

So, there were many goals for us and in the redesign team. I'll go over in details on goal four, a goal, second goal but initially we were given the, the exam of that year and we were just supposed to review the test items and look at it and, and make sure that the exam is good.

When we were looking at the test items, we realized that some questions were just out of the scope of the course, some questions were outright wrong, some questions were not written wrong, they were too confusing answers or there was no correct answer things like that. So anyway, we - we managed to revise the exam and send it off because we were, we could not do anything else.

But that was giving us a sense of how this course was. So, we took, we were given the 2019 SDC introduction to plant science learning objectives, and we were supposed to work on those, and review them, and align them as per the requirement of the current post-secondary level so um, at the end of that, uh, once we review - reviewed and revised all those learning objectives - and our team, I think, spent about almost three fourth[s] of our time doing that. At the end of that, um, we put together these new updated learning objectives, and then worked on the challenge exam, created new questions, which were aligned with the learning objectives - the updated learning objectives. Put them together such that each and every topic is equally represented in the challenge exam. And then we created a blueprint of the challenge exam for high school teachers, so that it can help them in instruction. So, those were our four main goals. So um, since this is more related to the OER textbook, we'll just go on - I'll just speak more about the second goal which was to review the learning objectives.

So, when we were looking at the 2019 plant sciences learning objectives, we thought these learning objectives were too broad for our own specialty. Like, I have a Ph.D. in plant physiology, and looking at the learning objective I could easily figure out what needs to be covered in that learning objective. But we realized that is not easy for a high school teacher.

Um, this was something that we were sharing amongst some... - amongst each other within the team. But at the same time, we get to meet with high school teachers sometime in September 2020, and those high school teachers also told us the same thing, that we were expecting, that the learning objectives are way too broad. Uh, they could not figure out what is the width or scope or, or what kind - what amount of depth they need to cover in the material. There was - they could not figure out the flow of information, or any kind of structure or scaffolding was missing in the learning objectives. And obviously, keywords and key concepts were something that they were looking for. So, we sat, we sat down, and we said, okay we have to redesign the learning objectives such that the topics are in flow, so we can connect the flow of information, students - students and teachers know what is the relevancy. And then give them as many keywords and terms and key concepts so that they can figure out what is the width and the depth of this, or the scope of the ... each learning objective.

Uh, we also started saying that okay let's devise some sub-objectives under each objective, and that will help the teachers have a very good sense of structure of every learning objective. So, that's what we did. We split some, um, topics, we merged some topics, we renamed some topics, we completely created new topics, and we created a completely new learning objective for 2022-23 academic year. Um, then we provided as many terms and keywords and key concepts as we can think of. But, with all this work we already knew there is no one Open Educational Resource that these teachers can use.

Based on my experience, yes, I do have published books that I use in my classes, but at the same time, based on my professional degree, I have the ability to go look for information, and see whether it is coming from authoritative, uh, source or not. [To] look for exactly what I'm, uh, wanting - for what I want - and then, um, look -compare it with other sources and see if that makes sense or not. So, since we all had that - that kind of expertise, we were able to provide as many, um, OER resources that we can to the high school teachers. But we knew it very well at that time, that this may not work. And I think that's what is, uh, proving right now that teachers it and for teachers and students it's difficult to go to each and every resource that has been provided, so and try to see what is there. So, this is the, the list - or this is the table that we come up with. It has the learning objectives, it has sub-objectives, keywords, and key concepts, and then we provided the OERs.

So, the teachers or students have to just click on the OER and get to that information. But, not having one single textbook definitely affects the students. And so, it was very obvious that at this point, uh, we will definitely have to, uh, put together an OER for this course. Um, so once the - once the, um - the redesign team finished the work, um the - then come, then started the work for OER textbook. So um, I had already worked on the redesign team, so I was there. And then Jillian and Amanda joined me into this OER textbook team.

And that's when the process started to put together the OER textbook. So, one year is given to us, we are coming to the end of that time at this point. And we are still, uh, writing the material and getting the material ready. So, after the redesign there were initially ten topics, and then they were, um - when we put together the new topics instead of ten, we put nine topics together. And these nine topics are then divided - in - amongst three of us. So, topics one, two, and three, I'm the one who is handling those. Um, and Jillian is handling other three topics and Amanda is also handling another three topics. So, the material is equally divided between three of us. Um, so, the initial - um uh - table that that the SDC redesign team created, back in slide six, that that was the original - um - information. And then, when we talked to Dr. Elizabeth Spica, she helped us out and helped us to design or put together a course map, which we can use to create our - um - OER, or our textbook. So obviously, it had topic, uh, learning objectives for each topic, any kind of subsections or sub-objective. We were also required to - say - put down the OER resource. But at the same time, if there were any sections used in the OER resource, we are required to put down that information.

But the biggest - um - or the most important information that was required was the license and attributions. Um, yes yeah, so yeah, license and attributions. So, um, Dr. Spica talked to us about it, how to actually look for the license, where to look for the license, how to pre - how to make sure that the attributes are put properly in, in this column, and so that that attribute will be uh present in, in our textbook.

And so, she trained us, um, for a workshop and then she constantly helps us out. We can email her and ask her any questions. And so, we put together these sources - OER sources - and if these sources are not Open Educational Resources and we still want to use it, we can still list them. But, we need to know exactly what their attributes are, or how we will attribute them, and what are the license.

And then, there was definitely assessment approach, another column of assessment approach, supplementary resources, and supplementary content license. Um, honestly speaking, I don't think I have spent time on supplementary resources and supplementary content license. Something that we should be adding to this later on, but at this time the just simply looking - to - for the information that is required in the textbook is, is quite a lot. So, we are spending our time to put together a OER book.

Hopefully, we can come back to it and then put more supplementary resources in it, and make it more of a complete resource instead of just a textbook. So, those were the things that were given to us. And we were trained to look for attributes and licenses, and things like that. So, this is - um - a screenshot of my portion of the course map. So, you can see that there is topic, there are sub-objectives, and subsections, and and then OER resource. And you can easily see that next to OER resources is the sections of OER resources. If I'm using sections, or pages, as well as what is the license or attribute.

So - I'm - out of me, Jillian, and Amanda, I think I'm the lucky one because I'm using [a] majority of the OER resources. Why? Because this is typical Botany, and it is fairly easily available in the OER books. So, it is easier for me to look for the information. Um, but, if there was any information that needed to be - to be added, and I could not find it in the OER resources, I could easily -- Anna can you go one slide back, please?

(Nellie McCollum)

Oh sure, sorry.

(Alka Sharma)

I can easily communicate with them, with the authors and things like that. So, if you look on the third column - sorry a fourth column, at the very bottom, the, uh right bottom column. I had one person, Dr. Allison Roberts at University of Rhode Island, and she has this huge plant microscopy repository of images, and I emailed her, and I said, is it okay for me to use your images?

And, she was very happy to say - do that, and she gave me her permission. So, we were able to communicate with the authors, and some authors did give us permission to use their material. And so, we were just asked to put all those - all that information - in this column for attributes and license. So, that's how I created my course map for my units.

Similarly, uh, Jillian and Amanda also created a very similar - very, very similar - course map for their units. So, this became - um, um - the primary source or primary outline for us that we can use over and over again. Or we can go back to it and confirm, um, and see where we are going in our preparation of OER material. So, um, given with that, it took a lot of time for us to put together these OER resources, and all this listing, and their licenses and their attributions, but that work I think is now paying off. We have a good set of sources to go to. That - that doesn't mean that we, I don't find a new resource, and I feel like oh I should have used this. That happens quite often, but I still think that having this course map created before getting the OER ready was the best strategy to go with. Um - so um, this is where all three of us uh finished first half of our - half of our work, and now we are using this course map to put together the OER for this entire course.

So um, now I'll talk about how I handled the material for my topics -the topic one, two, and three. So um, with my uh training in classic Botany and then Ph.D. in Plant Physiology, gives me a good sense of the width and depth of the - of the um, of this - material. And then, I've been teaching at University of Memphis for about 11 years. I teach both non-majors, as well as - maze - as well as majors Biology. I teach both upper-division classes, biology major classes, and graduate [and] undergraduate-level classes. So, I have a variable experience, a very wide experience of teaching these classes. So, when I was looking to put together my sections, I was trying to compare constantly what needs to be in this SDS course.

We know that the post-secondary expectations of, uh - Duel Enrol... - Dual Credit course should be very similar to something - uh something similar - to freshman, or maybe sophomore Biology no more than that. So, based on that information, I started working on my, um, my topics.

So, my primary sources, obviously, is OpenStax. Then there is, um, Lumen Learning. The - it has a lot of books. Uh, principle of biology, uh from OpenStax CNX, which is now retiring in August 20 - 2022. Uh, Merlot, I - I went - I go in there and I look for pictures or images or things like that. So, I started looking for this information. When I was looking for material, I was constantly reading the material and comparing. And based on that comparison, I'll decide what needs to go in which chapter, So, for example, if I'm looking at say, photosynthesis - on the photosynthesis, um, I know that introductory biology courses, the simple organismal biology courses will talk about the two reactions of photosynthesis: light-dependent reaction and carbon fixation reaction. Though they do not give any kind of information on various types of carbon fixation. Students have no idea about it. When I talk about - when I - when I talk about photosynthesis in my general botany class, I do talk about these variations and some of the mechanistics of, of photosynthetic reaction.

But, when I teach my plant physiology, which is a four thousand [or] six thousand level course, or a biochemistry course which is four thousand [or] six thousand level course, I go into details of photosynthesis. Every enzyme mechanism, every regulation, how environmental conditions change these regulations, how does photosynthesis upregulate, down regulate, in presence of water, or an absence of water, and all kind of conditions, nutritional and environmental.

So, knowing that difference, I was able to say, okay this is a Dual Credit course for plant sciences, so it needs to have at least the whole information about the light dependent reaction and carbon fixation reaction. And definitely need to know the - students need to know - um, the variations in carbon fixation. So, whether it's a C3 plant, they will come across rice and wheat it's a agricultural science course. They should know why they are C3 plant, why are they called C3 plant? C4 plants - corn and sorghum - they will come across these plants very often in this in this pathway. They should know similarly, CAM plants pineapple, which is one of, is good cash crop for many countries. Why, why don't they know it? So, comparing those differences like whether they should know it or not - what's -that gave me an idea of what should be the depth and width of these topics that are being covered in this OER text.

And so, I basically move from one topic to the next topic, comparing the sources between multiple OER resources that are available to me. Or if there is any outside resource available to me, I'll read through them, see what is there, how relevant it is, and basically remix it on the, on the Open Author [software]. And that's how I'll create my classes - my, create my chapters, or lessons. Um, again, even with that knowledge, I think at this point I will still go back and read through my material and see how relevant it is. When you use OpenStax, it is quite detailed, and it is very meticulously written. But, at the same time, the OpenStax [OER book] is geared towards animals. It is, uh - I know plant and animal cells are eukaryotic, so many things are similar, but still not everything is relevant for plant sciences. So, using that source I still have to go back and read through the material, see if the information is flowing properly or not, and if something is completely irrelevant to plant, I just remove it completely. Or, if I need to add little bit of information, which is factual - um - I'll add that information in my own words and then make sure that it, it is part of the flow of information and I'll prepare - that - that lesson. So, that's how I went over, uh, my topics. And I'm still working the same way through my topics, and trying to put together uh, my information, um, in different lessons. So, I've completed unit one, I'm working on partially on unit 2 and partially on unit 3, at this time. And using the same process.

So, um, now I'll let Jillian take over and talk about her portion of the material.

(Jillian Gorrell)

Okay, hello everybody. I am Jillian Gorrell from Walters State Community College. And I was charged with creating content for -

(Nellie McCollum)

sorry.

(Jillian Gorrell)

For, um, topics four, five, and eight.

And these topics were a little bit more, um, outside of biology. So, uh soil medium and plant nutrition. We talked about precipitation, we talked about soil, and we got into a little bit of Chemistry. And, that is more in my wheelhouse, as my degree is from chemistry from my undergraduate.

I have different experiences and educational experience that go along with what kind of qualified me as a helper at this textbook. So, I got my Master of Science degree in agricultural leadership, education, and communications. And I'm working now in their Ph.D. program for Natural Resources in Forestry Wildlife and Fisheries.

I am the Biology learning center specialist at Walters State and I've been helping to establish an arboretum there. So, I'm really into the tree aspect of things, and, and also, I'm a homeschool mom so that kind of helps me, particularly with Open Education Resources as I know what I want to teach my son, and I'm just trying to find the best way to teach him. So, what's the most engaging material?

It helps if it's free. Um, anything that I can find for him, that really gets him fired up about the topic that he's wanting to learn or that he's open to learning at that time.

And go ahead, Nellie.

So, with all of us having a different background, in different specialties, I think that you could kind of see that come through both in the content that we chose to work on, as well as the resources that were available for us, and how we used those resources. And so, what we were given were the keywords, the learning objectives, web resources, and challenge exam questions. And from that information, along with the topic names, we worked to create an Open Education Resource textbook that these high school teachers could teach the content that we were asking them to.

Go ahead, Nellie.

As I was doing that, um, it was an overwhelming amount of material to just kind of look at all of it, and try to take it all in. And, my background is Biology and Chemistry, and you know agriculture. But I didn't take Intro to Plant Science, and I've not taught Intro to Plant Science. So, I had a little bit more of a clean slate as far as what needed to be taught, or what was historically taught.

And so, what I did is, I took for each topic there were several sections, and for each section I took the keywords and concepts, and laid them out so I knew what words we needed to know. Then, I looked at the exam questions and I saw what, what did we expect them to know. For sure we wanted them to learn these things. And then, I looked at the keywords and concepts and thought, based on those questions and the answer choices did they know all the words they need to know? And I thought the ones that have a little asterisk, I thought I feel like they should know what that is. And, I feel like I might need to tell them. So, I gathered more keywords based off of the research that I was doing. And then I had a page with OER references, so I knew what they had already found as far as Open Education Resources. And some of them were not Open Education Resources, they just had really good information and it was constructed in a really good way. So, it was - um - kind of one of those links to learning, to where we're not going to copy that information and give it to you, but if you look right here you might find a good way to teach your students. They might be receptive if they are taught in this manner.

So, um, and (clears throat), excuse me.

Then there were the learning objectives. In general, we want the students to know this, this, and this about this section. So, from those things I started the process. We were first supposed to look for the resources. And the reasoning behind this was because they wanted to make sure that the resources we chose were appropriate, it was legal to use them, and wanted to make sure pretty much before we, um, started, that the resources we wanted to use were safe.

Where Alka had Open Education Resources that she is kind of paring down, editing, and combining into something appropriate for plant science, I was looking more at Public Domain [materials]. So, that's going to be government science - like um USGA, USDA, NASA, NOAA - all of these different resources that have already taken this basic information that we want and children, or incoming - excuse me - undergraduate students, people in higher education, what are the basic things that they need to know to be successful in this topic, and they've put it out there and its Public Domain. So, we can take that and use it for our benefit. I'm not here to reinvent the wheel, I'm here to find the information that works for this process.

So then, there's also open-access information, where others have said this information doesn't exist, let me gift it to everyone. Here's this information, you know use it however you need to. And there are different levels of that we'll talk about.

Um, and then there's copyrighted [information] used with permission. This is private information that's shared publicly by the person, and so their website might have this information or thought that they have constructed. And, we're not allowed to use those words unless they tell us we can. And if we do, we have to properly reference that information and give credit where it is, um, needed. Go ahead now.

Okay, so Public Domain, like I talked about. This is from USGS, "water cycle for schools." And you know, as plain as day, if you want to teach about the water cycle, here's all the basic information. It's available in many different languages, as you can see. So, um, this isn't the stuff that we want to be a secret. We want everybody to be able to learn this. And um, the government really takes initiative with these sides of public domain, to where we can share this information easily. Then next, um, we have the open-access information. This was what Dr. Elizabeth Spica helped us with, and we had an informational session with her - learning about all of these things.

So, um, there's different ways that you are allowed to share certain information. So, it might be open access, but they don't want you to change anything. Or, it's open access but you can't use it to financially benefit. So, this is open access with possible conditions. It's not just public domain to where anybody can just go for it. And then, next, we have the copyrighted information. This is something we ran into with extension publications for different universities. And um, those are the more specialized topics, um, whenever we're looking into my section eight -- or I'm sorry my topic eight -- it was about integrated pest management. So, there's different um fertilizer articles and ways that they um propagate things of that nature. That um, just the specialized information that's not as general as biology or botany that is already available, um, on a large-scale Open Education Resource. And so, it kind of got down to more specifics and we would just send out an email and try to be as open as possible, let them know what we are inquiring about as far as the copyrighted information, and let them know why we want to use it. And then there's more specific permission request details at the bottom that we just need to specify in order to be legally safe to share their information.

And, I have found that nine times out of ten if you send somebody a request, they are more than happy to share their information with you. They are excited that something they created is going to help even more people. It's increasing their audience, even if it doesn't financially benefit them. And I don't know if it's just the industry of plant science, or if it's um this type of education in general, but people are just happy to share. And they just want people to learn.

Go ahead, Nellie.

So, Amanda Spangler is our other team member. She's from the University of Tennessee at Knoxville. And, she is not available to share with us today but we still wanted to tell her part of the story. So, she is more on the horticulture and nursery specialist side of things, as a Lecturer at the University of Tennessee. And her sec… - or her topics - were nursery production, controlled environment production, and impact of plants and horticulture on people. So, these topics are even more specialized than what I was doing.

And, go ahead Nellie. Sorry.

And, um so, the way that she created content for her sections is both different from mine and Alka's. Where she was doing a lot more copyrighted used with conditional permission. So, these even more specialized articles and people were a little bit less willing to part with their thoughts, and then so they wanted to make sure things like: you can share the pdf, but you need to share the pdf hold. You can't just take an excerpt out and use it in your own textbook. They wanted to make sure that, um, what they created stayed whole. And, and then also, she had to create a lot of original content with, um, works cited.

So, I don't know if we can say if Alka's is more difficult, if mine was, or Amanda's, but I feel like, um, for me, Amanda's probably been more difficult for me. But she is - she has such specialized knowledge that um she might have really wanted to share that information. It was like she was really happy to create that. Where, if I had to write a bunch of original content about precipitation and soil organic matter, it would be more like, it already exists why would I do that again?

So um, I think that she really was inspired to share what she knows, and what she thinks is valuable information that students should know. And so, I really appreciate that about Amanda, and um I've enjoyed working with her on this project.

Go ahead, Nellie.

Challenges of OER creation. So, in a fantasy, we would have gotten, you know the information at the beginning of this project, and we would have just powered through it. We would have hit every little deadline, and just been gung-ho and maybe we would have even finished early. But in reality, we realized - oh there's so much to do. The reason these textbooks are so daggone expensive is because they put a lot of work into them, and they invest a lot. So um, I think that we have all definitely had to probably make personal sacrifices as far as like, time management, and um it's not something I stop thinking about. It uh, you know -you want to do your best on this project, I want to make sure I help as many students as possible. So um, things that are not related to this will give me an idea of something to do for, um, this OER project. So um, I hope that a lot of teachers and students find it useful. Um, but another challenge was workflow schedule.

Um, because we needed to get all the resources first to make sure that they were legally safe to proceed with that content creation, it is counter product -- or counted counter-intuitive -- for what I typically do whenever I'm creating content in the academic realm. Um, where I typically figure out everything that I want to say. I create a list of resources as I create that content, and I don't have to worry whether it's safe to use those. I am not, you know, sharing more than what would be legally, um, expected, As far as you know writing a paper for school - so - or an article for a journal.

Um, where this textbook has a lot more stipulations, and there's a little bit more on the line. Um, and the last challenge is disjointed OER content narrative. So, as we are all three very different people, as far as our backgrounds and our specialties. And then, our content is completely different, as well as the type of resources that we're using. So, I think what we are combating is having a disjointed content narrative. Where Alka is talking, and then I'm talking, and then Amanda is talking. So, we need to find a way before this project is over, to overcome that. And we do have, um, more of a mechanical editor, Madonna Kim. And she has done a great job of - you know - reminding me - you know - this is a conversational tone, and you don't really use that throughout the rest of this art... - you want to change this? Do you want to edit this? So, she has been sort of a voice for us, um, on this project to just have some consistency in that respect.

So, what we're going to look at for future strategies is ways to combat those challenges. And some of these we've already implemented, and some of these is kind of a look to the far future on the next time that this project is worked on. And, the first create a reasonable timeline. This was a first of its kind project. So, there was no -- I've never written a textbook, I had no idea what I was, I had no idea what I was getting into y'all. I just jumped in with both feet, so excited and happy to be um doing something new, and then as we dug deeper and deeper into the project, it was um humbling -- I guess you would say, to just see what we were really trying to accomplish in this year. Um, next I think identify a text vision. So, that was somewhat done during the course redesign. But then, a whole different group of people aside from Alka started to work on the OER textbook creation. And, I think that Amanda could speak more to this vision as she teaches Plant Science actively, and she is more on the agriculture side of things. So um, I think that in the future having one content editor would be helpful. Um, where the team gathers resources into a document, and then that content editor organizes the existing content and then creates the remaining content.

So, what Alka, myself, and Amanda have all been doing, um, separately, I feel like, um, if we could have just reorganized this a little - to where we were all doing the same thing, but maybe if we just had about three more months to put that last shining touch on everything, to make sure that it's a palatable document, that's easy for students to read that they're going to be engaged, with and not something they won't use. We want them to use it. We want people who aren't even in this class to use it. We want everybody to get something out of this. So um, like I have stated, we want to be the best possible. And so, after the content editor would create that remaining content, fill in the gaps, um, make -- give it a little flavor, you know? Um then, I think the whole team needed time to review the text as one document, front to back, top to bottom. And not just to say, oh, you probably needed a comma here. But um, hey, in this section, we talked about it in this way in this section down here, we pretty much repeat all that information - which we had happen between myself and Amanda. And we had to edit, um, we had overlapped with the non-soil growing media, and, like, aquaponics and hydroponics. And so, we had to collaborate on that and figure out a way to present different aspects of that same information. Um, so that it was valuable to the students.

So um, we all needed a chance to review that large text that we're creating, that we're expecting students to go through in one year. We need a very small amount of time to do that, where we're all, um, working anyway. So, we just need more time. Um, but then I think after all that, then legal can review those resources and make sure that they were appropriate. And um, a way to make sure that things are kind of lined up appropriately, I think that and as I'm moving forward - like Alka said we have another week left on this project, where I'm creating content. I'm going to try to color code the source document -- how do I say this --whatever quotations I use, I’m going to make it a different color for each resource. So that if there's a problem with this specific resource, I don't have to say, what words came from that? Oh my goodness, I, I don't have to read through the whole thing and go back and forth, it's just everything in pink, it's got gotta go. So, I know that both that needs to be cut out, and also that information needs to be somehow replaced in an equitable manner. And so, yeah, I would probably put that at the end.

It's gonna have to be done again anyway. Um, but yeah.

So, we can um -- go ahead and what's on the next slide Nellie?

I know I've got more to talk about but I don't know what direction I'm going.

Okay, go back one. I'm not ready for questions.

So, I could talk all day about this stuff. Um, the content -- I can speak for Alka and Amanda -- we wanted the content to be sufficient. So, we want it to teach everything that needs taught. But, we also want it to be concise, to where they're not learning things that just aren't really relevant to plant science. And we don't want to lose them. Um, we want to make sure that what they're learning, they're actually learning it well and not just memorizing a bunch of them. And, and I just thought that it was important to say that.

We want to make sure that we give them a sufficient document for their challenge exam, but we don't want that ... we don't want to teach to the test. We just want to make sure that everything we ask them to know, we give them the ability to learn it with that document. We're not testing them on things that - you know - I don't even remember talking about that in class. Well, it was in the OER. So, these teachers can say everything on the exam is in this OER, um, textbook. And, they can kind of have some comfort or security in knowing that they have a document that, if you can just get what's in this book, you should be able to pass the exam. And, I think that that's, um, only fair for the students and the teachers. But, uh, now Nellie. If anybody has any questions, um, feel free to - I guess - submit them in the, uh, chat. I don't know if some have already come in?

(Ryan Korstange)

All right, uh - So the first question --and please add questions to the chat if you have them, uh, we have about maybe 11 minutes that we can answer questions or take questions. But, the first question is, um, if you think about support resources -- so it sounds like you had some support, but you wanted different support also, or additional support. So, can you identify - sort of - what all support would have been helpful over this year, so that you could have gotten the textbook created in a more efficient manner?

(Jillian Gorrell)

Um, I think as far as, as far as it goes for me, it took me a little while to get that organization for the keywords, learning objectives the challenge, exam -- it took me a while to figure that out. I was trying to look at everything in a singular manner, to where, um, I was just looking at learning objectives and really studying all of that. And it was just a lot of information to digest, and um, there's -- it was just presented in different ways. So, just figuring out what worked for me to move forward with the project, as quickly as possible, that took me a little bit of time. Because I felt like every time I was looking at it, it was fresh material even though I had really - you know - gotten into it before. So um, just having that dedicated time to figuring it out. Alka, what do you think?

(Alka Sharma)

Yes definitely, time constraint was there. And that was not letting me focus on, on the - on the content creation with all my institutional responsibility here at U of M.

Uh, but there's, there's one more thing, um, that I - yes, this OER is is for students but, um, I wanted to give a little bit extra to the teachers. Learning objective definitely direct them towards what is being covered in the, in the, in the chapter or lesson, but I wanted, uh, to give them a little bit more supplementary material. Which I could not get to, and I know that as a teacher myself, I collect a lot of supplementary material from many different sources that I use in the classroom, when I'm teaching. And, it is very much related to my textbook. It may not be in the exact words, but it is very much related to my textbook. So, I feel like when we are creating this OER for the students, the teachers also need that same support.

And, in my sections, I feel like I should be - I should have, have more time to add that kind of information for the teachers. So, that is the supplementary resources that I could not add at this point of time, yeah.

(Ryan Korstange)

The next question is: do you have an idea of how your team will maintain this textbook in the future? Will there be future editions? Will you add new information?  What will happen going forward?

(Nellie McCollum)

Let me talk to that for just a second. One of the unique things about statewide Dual Credit is that the teachers don't get to create the exam. So, the way that we're using Open Resources is different than Open Pedagogy and Open Access because we need this textbook to remain fairly static, as long as the test, the challenge exam remains the way it is.

Those are reviewed every three years, and so in the future what, what TBR has in place is to when the challenge exam learning objectives are reviewed, the OER will also be reviewed, and edits can be made at that time. However, going back to the teacher resources section, we're, we're open to -- the time constraint is basically to create the textbook that'll be used to align to the challenge exam. Resources can be added at any time.

Um, uh, editing can be done as long as it remains the same content throughout. Um so, that -- however, we can't, we can't, uh, compensate people for doing that. So, those would be things that maybe a teacher would, uh, submit something to TBR to have included as a teacher resource, and um, we could review it with a team and see if those things can be added. So, we're not - you know we - we do see some ability, flexibility, to add things within the, uh, within the three years but the main content must remain the same, so it's a fair textbook to be used in an SDC class.

(Ryan Korstange)

Okay um, another question.

You guys talked a little bit about the process of writing collaboratively and having to figure out how to do that together. Can you just talk a little bit more about what you did that was successful to enable - sort of - the multi-author uh, approach to writing this book. And maybe, now that you're a year into the process, what you wish you would have done at the beginning to kind of uh make it easier along the way?

(Jillian Gorrell)

Um, Alka, I'll go first, and I'll let you talk after me.

(Alka Sharma)

Yes.

(Jillian Gorrell)

So, I think that, um, if I had it to do over again, I would probably try to meet with Alka and Amanda one day for four solid hours. Where we were just stuck in a room together with our, you know, laptops, with our resources, stuff printed, whatever we wanted. And we just sat in there with each other and just had a discussion so that we all, you know, so the project was getting the best part of all of us on each topic that came up. And, we did have a lot of, um, discussions along the way, so that's what really makes me think that four solid hours - no kids, no distractions, no other responsibilities, just giving it our full attention, which is difficult because we live on opposite ends of the state, in COVID, and gas is super-duper expensive now. So, all these things make it difficult, but um, I really do think there is value to meeting in person if it's possible. Um but, I think that just the amount that we've talked so far has been a strength for us. Um, we just meet, and we just talk about what's going on.

Hey, I'm at this part in the process and here's what I did that worked if it might help you guys. Or um, I got to this part in the process, and I was able to find this resource, you guys might be able to use it in your section to see what you think. And just that, that open communication between all of us, because we want each other to know as much as possible, that's the point of the open access is to share with each other. And so, um, I think a lot of us have probably been on a project where we were the one working the hardest, and so it's easy to kind of ball up, just do it yourself, and get the work done as quickly as possible on your own. But, whenever you're working with people that are on the same level as you, that are just as dedicated and interested in the project as you are, all of a sudden you can share with them, and you can be open, and that is a really nice experience to have. And, I've really enjoyed that with Alka and Amanda, and Nellie, um, and Zach. I can't forget about him.

(Nellie McCollum)

Yeah, he's my boss.

(Jillian Gorrell)

So, I think that just knowing that we could openly communicate with each other and utilizing that as much as possible. But since this was like an extracurricular - almost – activity for all of us, um, it was just difficult to find that time -- or to make the time rather.

(Alka Sharma)

I think Jillian is right yeah. We, we are very open in our communication and that helps us all the time. And I have been working with Anna for very long time. So, and Anna has been able to provide all the information immediately. You write her an email and she will get to it. And so, that always helped. It felt like that we were cared for. People were looking into making things easier for us and that always helped. But creating that course map, um, was always good. I'm happy that I was part of the redesign team -- Curriculum redesign team.

(Indistinguishable: Talking over each other)

So, initially it was all over the place when I worked in the redesign team, but slowly we get to see what is important what is not. Uh, between me, Tara, and Andrew and Aruna, we discussed about are we using the same keywords? Uh, the keywords in Botany, are they applicable in, in horticulture or in, in any kind of nursery production? I was not aware of it. I have no idea. But Tara and Andrew will say, no no no, we use the same keyword. Let's just keep it standard so that people don't get confused. And so, uh, and then meeting with the high school teacher definitely. Summer Major was one of those teacher who helped us. And so, it, it, that course map really gave us a foundation to start working on. I'm not saying it's a perfect course --perfect course map, but still it gave us a lot to start with. And so, I think with a multi-author, there has to be a starting point. And [a] course map is a really good way to start, um, the work on OER.

(Nellie McCollum)

Yeah um, two things. First of all, my name is Anna, but everybody calls me Nellie. That's who, uh, Alka was referring to and she said, "Anna is so helpful." Not that I'm going to toot my own horn.

But the other thing is, we also have a team working on an SDC world history, um, open -- OER textbook as well. And they chose to make a weekly meeting in, in Teams, just to touch base. Some of those meetings went a long period of time and some of them - some of them were just, okay here's what I'm working on. And they did a lot of work through teams. Um, and their - their textbook goes from 1450 to current day so that's a lot of information, but they're juggling it now.

(Ryan Korstange)

Alright well, that's the - I think the end of the hour that we have. So, thank you so much it's been just really fascinating to hear about your process of creating this, this resource. Uh, good luck with the last week that we have -- you have to get all the details sorted out. And, thanks for taking an hour uh to share with us today. Just really enjoyed it. Um and thanks for all of you who attended, uh, it's really really great to see y'all here.

Thank you for participating.