

LEARNER VARIABILITY AND UNIVERSAL DESIGN FOR LEARNING

NARRATOR: Welcome to the Universal Design for Learning series, a rich media professional development resource supporting expert teaching and learning from the National Center on UDL. In this session, we will explore learner variability and the Universal Design for Learning framework.

First, let's meet Katherine. Katherine is an educator in Oklahoma. She works hard to meet the needs of all her learners by individualizing materials and differentiating instructional methods. However, she begins to realize that her core curriculum is too narrowly focused, making it hard to efficiently meet the diverse needs of all her learners. To address her problem of practice, Katherine explores Universal Design for Learning, or UDL. As she begins to understand and apply the UDL framework, she starts to recognize curricular barriers and proactively plan for systematic learner variability rather than only responding to individual learner needs. In this session, we'll explore the meaning of systematic learner variability and how the UDL framework can help educators plan for predictable barriers that exist in all learning environments.

DAVID ROSE: In many classrooms, the focus is on an illusory average student. Many curricula are designed for that student. Cognitive neuroscience has shown us that there really isn't an average student anywhere, and that's why it's an illusory student. Learners and their educators are all highly variable. That's one of the most important things we've learned both from the neurosciences and from the educational sciences. People are really different.

TODD ROSE: From the Universal Design for Learning perspective, we take the idea of natural variability one step further, and that is to say that it's not just that we're all individually different in our own unique ways, it's that some of this variability is systematic. And by that I mean that we can predict it in advance.

DAVID ROSE: In the new world of new technologies and new understandings about how we really do differ, that variability is now seen as the common thing. That's what is the core of schooling and education of any kind is people are really different.

TODD ROSE: So the idea of systematic variability is not new to educators. So for example, people differ systematically based on age. We call it development. And nobody would ever champion giving the same textbook to a high school senior as they would a first grader because we appreciate that there are systematic differences between learners with age. But the modern learning sciences have revealed that at every age, in every learning environment, there are other dimensions of systematic variability that are

just as important. And as importantly, they are systematic, so we could design for them. And because we can design for them, we can expect the curriculum to do more work, just like it does for developmental differences.

So from the perspective of Universal Design for Learning, we've identified three dimensions of systematic variability that will exist in every learning environment at every age. And those are differences in terms of the way that people represent information, differences in the way that they engage with material, and differences in the way they can act upon material and show what they know.

DAVID ROSE: The key to Universal Design for Learning is that we're designing learning experiences which from the beginning are designed to be universal and to make sure everybody learns. And that design is primarily based on the power to be very flexible in allowing choices, in allowing different paths, in allowing for things to be presented in different ways. We see human variability as a normal thing. It's a great thing even. We're not looking to try to reduce variability. We're trying to in fact identify the sources of variability so that we can encourage every learner to be the best kind of learner they can be.

NARRATOR: Let's stop a moment and think about what has been discussed so far. What are the big ideas? Which of these ideas are new to you? How do these big ideas relate to your practice? Stop the video and write down what you think the big ideas are. Restart the video when you are ready to learn more about how the UDL framework will help you plan for systematic learner variability.

DAVID ROSE: Why is it important for educators to understand variability? Without knowing about variability, what are the sources of variability, the danger is that we'll continue to educate some students very well and some students very poorly. By presenting information, for example, in one way only, then some learners will learn that information, turn it into usable knowledge quickly. Others will not, in fact, be able to do that, and we will mistakenly think we've taught successfully because some students will be raising their hands and writing and doing all things great, and we'll wonder why it was that some students didn't actually learn what we hoped.

TODD ROSE: So the key idea with Universal Design for Learning is that you can most effectively support the individual by addressing the range of systematic variability in advance rather than waiting to know each individual one by one. There will always be that kind of variability and there will always be a need to differentiate instruction at some level, but what Universal Design for Learning does is say, look, there are dimensions of systematic variability, that range of predictable differences, that we know in advance that the curriculum can be designed to support. That's a game changer because what it means is that in learning environments, the teacher, the educator, does not have to carry that load each and every year

in every learning environment, that we can design for it once and take that off the table to free up more time for the really high value stuff that's most essential to deep learning.

DAVID ROSE: In teaching, coming in knowing my students are going to be highly variable, I need to plan for that variability, allows us to be much better as educators. It's really a lot like planning a vacation, that when you're going to go to Bermuda, you actually are really a lot better off if you plan ahead and realize, you know what? It's going to have some sunny days and some rainy days and even some stormy days and whatever. And planning at the beginning means you have a much better vacation and things work out better. Rather than assuming that it's all good, I just need the same kind of shorts, just different colors every day.

What Universal Design for Learning does is to give us the framework for understanding the weather in this case, to say, well, here's the things that are likely to be sources of variability that one would want to plan for. A key in that is to look at a whole instructional episode or lesson and say, what -- given the kinds of weather I'm going to face, what are the barriers going to be here? How is this lesson going to work for someone who doesn't take information in well from text, for example? Is this lesson going to work? What am I going to do about that? And similarly, how is this lesson going to work for a student who is afraid to talk in front of other students? How is that going to be a barrier? How can I plan this lesson so it will work?

But the key is to do that proactively. What we look for in Universal Design for Learning is creating curricula which from the beginning are supportive of a teacher. It's like packing your bag ahead with all sorts of fabulous, very different kinds of clothing so you can handle anything. So then your job becomes a lot easier.

NARRATOR: Before we move on to the next segment, we suggest that this is a good time to stop the video and either download the Examples Template or prepare to make notes on the different ways that the two teachers in this video design their lessons and learning environment to address systematic learner variability.

Meet Lisa Parisi, an elementary school teacher from New York who has been teaching for over 25 years. In this segment, Lisa describes how she designs a learning environment to meet the needs of the diverse learners in her classroom.

LISA PARISI: At the beginning of every year, most of us face new learners. We know that they are diverse in how they learn and what their needs and talents are. I've created a technology toolkit to help students demonstrate their learning. It's posted on my class website and includes sites I have introduced

to my students. To meet their various learning needs, they have a nice selection: an Xtranormal video, an Animoto, a song edited in Audacity, a newspaper, a Claymation video. All are viable choices the children can make. At the beginning of the year, I introduce sites one at a time. Today, we will all create a Voki to put on our blogs. Now we're going to make a comic about our science lesson in Make Beliefs Comix. Around mid to late November, the children have learned enough that they can use the toolkit to make choices of their own.

The best way to address learner variability and help students meet with success is through individual or group projects. This allows children to choose their style of learning and style of demonstrating knowledge. We all know that sometimes we do need to do direct, whole class instruction. It is important to remember that even during whole class instruction, UDL comes into play. I allow students to use tools during direct instruction in order to help them better focus and understand. My huge purple carpet in the front of the room gives students plenty of room to spread out or come closer to the SMART Board to see displays. Some learners need to stand. They are done sitting for the day. That's fine. As long as they don't block someone else's view, they can stand during lessons. Some students prefer to take notes in a Google Doc or on CoveritLive, so they grab computers. Some students prefer to write notes in different colors. Multi-colored highlighters help with that.

The children need to learn that they are responsible for their learning. My job is to help them find out how they learn best and provide the tools they need to do so. And by allowing students the freedom to be, I allow them to grow. It makes my job so rewarding.

NARRATOR: Here's Katherine talking about how she approaches integrating UDL into her curriculum, planning for her learners and leveraging technology to engage and support students.

KATHERINE BISHOP: Now that I have a better understanding of learner variability, I pay more attention to how my learners learn. By having this understanding, I work to anticipate the barriers that might exist in each lesson. Sometimes it can be overwhelming to implement all the elements of UDL. To be honest, our plates are full. And as an educator, I love trying things that are new and innovative to help all of my learners. What I have found out that works for me is to just start. Find one subject that you are an expert in and then take one UDL principle and use it with just one lesson. By doing that, you won't feel so overwhelmed.

In my learning environment, I now use a variety of media to represent information. I also use a variety of formats with the whole group. That way they all get what they need. For example, I always use the SMART Board because it provides them with different ways of understanding the information.

While one person is at the SMART Board, I have similar manipulatives at their tables. This way, all of my learners are engaged. Another way is that I present text and information in a variety of formats, say from utilizing an etext reader to presenting information though PowerPoint or Keynote. I find that by doing this, I'm able to meet all of my learner's needs.

When I provide my learners with multiple means of expression and engagement, I always give choices. And I use visual and physical examples. For me, one of the most important things to remember is that before you give students the choice of how they're going to express what they know is that you have to teach them how to use the various formats. By doing this simple step, your learners will feel more comfortable with the choice that they are going to make.

I have the opportunity this year to have a set of iPads. I use my iPads with all of my learners to create a paperless learning environment. Using a variety of apps, I can provide my students with a multitude of format that allows them to either touch or type to express what they know. My most reluctant writers are working faster and are more engaged. I find that the more I engage them in technology, the more engaged they are in their learning.

NARRATOR: Lisa and Katherine showed us many of the examples of UDL that they use with their learners, including some technology tools. Digital technology tools can offer educators and learners many exciting options. However, it's important to keep in mind that educators can also design and plan using the UDL framework even though they may have limited access to computers or digital technology. Let's recap what we've heard and seen in this session. Here are some of the big ideas that were shared.

Many curricula are based on the illusory average student. There is no average learner. Learner variability is normal and systematic. Because systematic learner variability is predictable, we can proactively plan for it. We can more effectively address individual learner needs by planning for the range of systematic learner variability. Universal Design for Learning, UDL, is a curriculum design framework that guides educators in planning for systematic learner variability.

Thanks for joining us for this session on learner variability and Universal Design for Learning. You can learn more by downloading materials in the resource section and by going to the National Center on UDL. To find out how other educators are dealing with learner variability in their learning environments, participate in the discussion forum entitled Learner Variability and UDL on the UDL Connect community page. Please join us again as we continue to add new sessions to the UDL series.