

The Story of the Stick: Universal Design for Learning in Action



A parent volunteer at the inclusive WISH Charter School in Los Angeles turned a pancake breakfast into a math exercise.

Imagine that you are a 6th grade teacher with a class of very diverse learners. You have students who are reading at a college level, some who are just beginning to read, one who uses augmentative and alternative communication (AAC), two whose first language is not English, and another who has autism. How do you design a lesson that will work for all of these students without having to spend hours modifying your instruction for each and every pupil in the class? The principles of Universal Design for Learning—known as UDL—can help you meet this challenge. Mr. Gonzalez was in your position and here's how he did it.



UNIVERSAL DESIGN FOR LEARNING is the design of instructional materials and activities that makes learning goals achievable by individuals with wide differences in their abilities to see, hear, speak, move, read, write, understand English, attend, organize, engage, and remember.

On the first day of a new unit in science, Mr. Gonzalez brought into class eight gnarly six-inch sticks that he had gathered from a nearby forest. Their bark was crumbling, there was evidence of bug infestation, fungus grew on some of them, and they smelled very musty. Once the students were seated, he held one up and said, “What do you think we are going to do with these sticks today?” In typical sixth-grade student fashion, they called out several silly answers—“Have a sword fight” and “Gross out our other teachers”—and a few that were more serious, such as, “Draw them” and “Study them.”

After laughing along with his students, Mr. Gonzalez said, “Actually, we are going to use them to help us answer a very important question: Are the New Hampshire forests healthy? Do any of you have an opinion about that question? Why do you think they are or are not healthy?”

Several students eagerly raised their hands and offered answers such as:

“I think they are healthy because we get a lot of tourists who want to visit the White Mountains. If our forests were unhealthy, nobody would want to come here.”

“I think they are healthy because we have lots of wildlife in our state. I heard that the moose population is actually increasing, so the forests must be a good habitat for them.”

“I’m not so sure they are healthy. I think that maybe the acid rain from Canada is ruining our forests.”

Mr. Smith acknowledged each student’s comment and went on to ask, “Can you think of a situation in science in which learning about a small thing can help us understand a larger thing?” Again several students called out answers:

“We learn about cells to understand the human body.”

“If we study atoms, we might be able to understand how chemistry works.”

“If we learn something about our solar system, then maybe we can learn something about how the universe was created.”

Again, Mr. Gonzalez told the students that they were on the right track. He followed up



Top: Co-teachers Jessica Berman (left) and Mollie Albany work with students in their 8th grade math class at North East Middle School in North East, Maryland.

Bottom: A student tunes into a lesson. Teachers who practice UDL understand that barriers to learning stem from rigid and narrowed instruction, curriculum and materials—not from the student.

by saying, “You are right. In this case, if we learn something about how these sticks got to be the way they are, then we might find some evidence about whether our White Mountain National Forest, as a whole, is healthy. So, the first thing I want you to do is to get into groups of six and describe your stick. Make sure that everybody in your group has a chance to share an idea and elect a scribe to write down your answers. Go!”

After about 10 minutes of conversation, Mr. Gonzalez called the students to attention and asked each group to offer three descriptors of the stick. He heard “brown,” “woody,” “rough,” “bark falling off,” “bug eaten,” “stinky,” “covered in fungus,” and so forth. As the

students spoke, he wrote all of their answers on the white board.

Next, Mr. Gonzalez said to the students, “Now I want you to take this one step further and tell ‘the story of the stick.’ How did it get that way? You’ll have 20 minutes to work in your groups and develop a short presentation that answers that question. Remember three things: 1) everybody in your group must participate in developing and telling your ‘story,’ 2) your story must give a reasonable explanation for how your stick came to look like it does, and 3) your story must appeal to your classmates. Feel free to be creative. Go!”

As you can imagine, the student stories were entertaining and very different from each other. One group spun a tale of an early New Hampshire native who made a spear out of a sharpened branch and then lost it during a moose hunt. Another group wove a story about loggers who cut down trees and left many branches to rot in the woods, taking only the trees that were solid and straight. Some groups told their stories through poetry; others acted out a short scene; one group made a graphic story; another performed a rap; and others wrote a narrative.

After the presentations, Mr. Gonzalez told the students that they had developed some interesting hypotheses—theories or guesses—about how the sticks came to be littering the forest floor. He then told them that they would be learning a lot about the New Hampshire forests over the course of the next few weeks through activities such as going on a field trip guided by a forester from the National Forest Service; examining online data that records the presence of pesticides in sample trees throughout the state in real time; researching the effects of acid rain on the forests; learning about the history of clear-cutting in the 1800s; and the reforestation efforts that have taken place since 1900. At the end of the two weeks, each group would do another presentation answering the question, “Are the New Hampshire forests healthy?” This time, however, they would use the information they



UNIVERSAL DESIGN FOR LEARNING IS GUIDED BY THREE CORE PRINCIPLES:

1. Provide options for how knowledge and information are represented;
2. Provide options for how students can show what they know; and
3. Provide options for how students engage in the learning process.

learned throughout the unit to construct a sound and scientific “story.”

Mr. Gonzalez utilized the principles of UDL throughout this unit. UDL is achieved by means of flexible curricular materials and activities that provide alternatives for students with differing abilities. These alternatives are built into the instructional design and operating systems of educational materials; they are not added on after the fact. These alternatives are available for all students, not specifically for one student or another, because those who practice UDL understand that barriers to learning stem from rigid and narrowed instruction, curriculum and materials—not from the student.

In summary, offering many choices to all students in the class helped assure each student’s interest and engagement while decreasing the amount of time spent on making accommodations and modifications. Using UDL helps schools meet the requirements of IDEA 2004, ensuring that accessible materials are provided to students with disabilities at the same time as to students without disabilities.

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