

Teaching Dynamic Learning Maps® (DLM®) Essential Elements to Students with Significant Cognitive Disabilities

Sample Mathematics Lesson

Slide 1: This presentation uses an example mathematics lesson to explain how to teach Essential Elements to students with significant cognitive disabilities.

Slide 2: My name is Mindy Kimball, and I work at the Mary Cariola Center. I developed and will present this module.

Slide 3: But my students can't do that. Is this a feeling you have when reading through the Essential Elements? Instruction of Essential Elements is required by us as teachers. Fortunately, many of us do have access to resources that help guide our instruction. For example, Unique Learning System aligns to these standards and gives us a great foundation, but Unique Learning System doesn't always provide appropriate skill selections for our students. An overwhelming opinion is, "My kids can't do math; I don't know what to teach." I agree that math is a difficult subject to teach many students with significant disabilities using the resources we have access to. In Unique Learning System, the materials start with number identification, move on to 1:1 correspondence, all four operations, fractions, algebra, and beyond. I hope to broaden your exposure to the Essential Elements and show you that, yes, our students can be taught math.

Slide 4: You have likely looked through the blueprints and have seen that each Essential Element is broken down into five linkage levels. Those linkage levels are broken down even further into mini-maps. Mini-maps allow you to determine where on the course towards mastering specific Essential Elements each of your students' abilities are. The mini-map then becomes the basis for a teaching plan. This resource is extremely helpful but also large and can feel overwhelming. Teachers I work with have proven it difficult to set the time aside necessary to dig into the mini-maps and create teaching plans.

Slide 5: Students whose skill base fall into the Initial Precursor or Distal Precursor linkage levels tend to be the ones who are not ready for the lessons provided in commercial resources targeted for students with significant cognitive disabilities. Since the Initial Precursor and Distal Precursor linkage levels are the lowest two levels for an Essential Element, their connection to the Essential Element is sometimes unclear. Each mini-map document includes explanations about how the Initial Precursor and Distal Precursor linkage levels relate to the Target level for the Essential Element. This information is usually provided on page 2 of the mini-maps document, with the mini-map itself on the following page. This kind of information is contained in the mini-maps documents for each English

language arts, or ELA, and mathematics Essential Element. This training is just focused on math since math is the subject more teachers feel less confident instructing.

Slide 6: To find the mini-maps documents, go to dynamiclearningmaps.org, select New York from the list of states under the For States tab in the main menu, and then locate the documents entitled Currently Tested Essential Elements in the list of resources. Separate documents are provided for ELA, mathematics, and science. Each document lists each Essential Element as a hyperlink, and each hyperlink directs to a document that includes that Essential Elements' linkage levels, explanations for the Initial Precursor and Distal Precursor linkage levels, and then the Essential Element's mini-map.

Slide 7: To simplify and condense the content even more, this is the list of the most used math skills for the Initial Precursor and Distal Precursor linkage levels for grades 3 through 8 and high school. After reading through this short list of skills, teaching math to our students doesn't feel quite as challenging anymore, right?

Slide 8: I worked with a teacher at my school who was struggling to incorporate math instruction into his teaching. We use Unique Learning System, and the lessons provided at the high school level are not developmentally appropriate for his students. He could adapt the lessons so that his students could engage with them, but the concepts being taught were well above their skill level. I introduced this teacher to the Initial Precursor and Distal Precursor linkage level explanations and did some model teaching. I taught a series of five lessons to introduce and explore the concept whole. In referencing the Essential Elements, you will see that Recognize Wholeness is not a targeted skill beyond the 6th grade. It is okay that I chose to teach this skill to high school aged students as part of our job is to teach skill deficits. I will walk you through the five lessons I developed and taught on recognizing wholeness using the Initial and Distal Precursor descriptions for mathematics as my guide. Day 1's lesson started by looking at whole items. Students then worked to identify a whole from an errorless choice. Finally, we created a book entitled, *I See a Whole...* One page read, "I see a whole pie." Students were given an errorless choice and glued the whole pie chosen onto the page.

Slide 9: Day 2 got more challenging. I showed examples of partial items. Sometimes we don't see whole items. Then I showed each student a piece of a cookie and a whole cookie. If they could identify the whole cookie, they got to eat it. Motivation was high and almost all the students immediately identified the whole cookie. Next, students were shown pictures of items. One was a whole and one was a part. They worked to identify the whole item. Finally, the students completed a book entitled *I Found the Whole*. Students used bingo daubers to mark the whole item.

Slide 10: On day 3, students chose a black and white picture of a food item. They were then given two colored parts of that same item to glue onto their template to create a whole. To end the lesson, each student chose one of the whole items they created and held it up for the rest of the class to see. Each student was praised for their work. I said, "Good work! You

made a whole pizza!” Continuing to use the word “whole” while teaching this concept was important. I could have said, “Good job! You matched the pieces to make a pizza,” but that wouldn’t have been reinforcing the math concept being taught.

Slide 11: On day 4, instead of using pictures of food, we put two pieces of a shape together to make a whole shape. The students rolled a shape die and chose the matching shape template. I then gave them the parts of that shape to glue onto their template. Similar to how the lesson ended on day 3, students chose a shape to hold up and show their classmates. I again reinforced the work they had done by saying, “Good job! You made a whole circle,” or whatever the shape was being shown.

Slide 12: Day 5 was game day. Students spun a spinner and either chose a food card or a shape card. Students were to identify the whole item from a field of two. If the student had to be prompted to the correct response, on their next turn they received an errorless card to choose from. After the series of five lessons had been taught, the teacher and I reflected. After the fifth lesson was taught, did the students have an understanding of what wholeness is? A few of them did. We talked about how this skill could continue to be taught. More ideas were generated on how to continue large group instruction. We talked about how the concept of whole could be transitioned into small group or centers activities. We also talked about preparing reusable work tasks for the few students that were consistently grasping the skill so they could continue to practice identifying whole during independent work sessions. What about the students who were still making errors and needed an errorless choice during the fifth lesson? We agreed that this is okay and really not a surprise. During the lessons, the level of engagement was high. This was evident by the eye contact made with materials, reaching for materials, and tolerating assistance that was needed. Many other skills were worked on that are important to the growth and development of the students, for example sitting at a table together, remaining seated for a set duration, passing materials to a peer and waiting for a turn, all while a math skill was taught. It can be done!

Slide 13: This and the following slides show the weekly lesson plan I created for the skill “recognize wholeness” as well as the blank lesson plan template. Take some time and check out both documents, targeting math and ELA Essential Elements. Here is the first page.

Slide 14: This is a continuation of the first page.

Slide 15: Here, the specially designed instruction, or SDI, and supplementary aides and services, or SAS, are listed.

Slide 16: Finally, here is a blank template. Feel free to adapt and use this template for your needs.

Slide 17: I hope you feel encouraged by the descriptions and choose a few skills to target and teach to your students.