

Understanding Cognitive Demand

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OBJECTIVE:

A workshop designed for leaders to use with teachers to understand Cognitive demand. . It is intended to be used with teachers before they take the Survey of Enacted Curriculum, to better prepare them for the two dimensional aspect of the content portion of the survey by giving greater insight into the expectations teachers have for their students within their content area.

This workshop has teachers using state assessment items, standards, and their own teaching tools to reflect on what different levels of cognitive demand look like in the classroom.

Time Allotment: Half or full day

MATERIALS:

Presenter:

- Words to use in carousel as banners(4-5) from Cognitive Demand List or Topics list
- Chart paper
- Markers
- Tape
- Easel
- 5-6 state assessment items in a content area
- SEC coding tools:
 - Topics list
 - Cognitive Demand categories
 - Coding Conventions
 - Comment and Suggestion Sheet
 - Rating sheet
- A set of different colored pie pieces to represent the different Cognitive Demand categories for each participant (made from construction paper)
- PPT with explanation of materials, coding examples to do as a group

Teachers:

- Mathematics, Science or Language Arts materials that teachers use for instruction
- Lesson Plan Book
- District Curriculum

PROCEDURE:

This workshop is intended to engage teachers in looking at the expectations they have for students with the content and the relationship between intended expectations and actual outcomes with students. Teachers look at state assessment items to gain familiarity with the SEC coding tools and procedures. They then use the same tools to look at what they are teaching in their classrooms. They code individually, and then use the pie pieces to assist in a small group discussion of how they coded items and lessons in their content area.

This may lead to very powerful discussions especially in situations where the school has begun implementation of a new program or curriculum. It looks at what the program or curriculum is asking the students to do with the content and also highlights that in many cases, that if the program or curriculum isn't used consistently by all teachers, students may not be challenged or asked to do different things with the content that the program or curriculum intended.

- 1. INTRODUCTION-DEFINING COGNITIVE DEMAND** 15 minutes
What is Cognitive Demand? Teachers know about Bloom's taxonomy, but are often so driven by content that what students are doing behind the content gets a back seat to covering the material
- 2. TALKING THE SAME LANGUAGE** 30 minutes
This is a carousel activity using words from the topics list and SEC Cognitive Demand categories to make sure the group has similar definitions. The presenter makes banners with the words on them hung around the room. The teachers are in small groups and travel clockwise to each of the words and discuss the definitions. After each group has had a chance to define the words, there is a whole group discussion of the definitions with the presenter writing the definitions below each word
- 3. EXPLAINING THE TOOLS** 15 minutes
Now that the teachers have common definitions with which to move forward, it is appropriate to introduce the coding tools. The presenter explains each of the tools- Topics list, SEC cognitive demand categories, coding conventions, comments and suggestions, coding sheet and colored pie pieces. The presenter makes sure that each teacher has their own set of tools.

4. **CODING TOGETHER-ESTABLISHING THE CODING NORMS** 30min.
The presenter now uses the examples on the PPT to code sample items as a whole group to get into the process and establish norms of coding within the group. There is one example from each of the three content areas. Choose the one that is appropriate. Demonstrate how to code the topic and then the cognitive demand. Explain that they are coding the “big idea” of the item. There may be more than one.

5. **STATE ASSESSMENT ITEMS** 30 minutes
The presenter now asks the teachers to code 4-5 items from their state assessment in small groups. The presenter asks the teachers to code individually and then once everyone in the group has finished, they share, using the pie pieces to begin the conversation for each coded item. Please make sure that everyone in the large group is finished before small groups begin sharing. It has been suggested that

6. **DISTRICT CURRICULUM** (for full day option -45 minutes)
The presenter now asks the teachers to look at their district curriculum (standards) and ask them to code 4-5 standards. Ideally, these would be ones that relate to the assessment items previously coded. The teachers follow the same process as for coding the assessment items.

7. **IN THE CLASSROOM** 45 minutes
The presenter asks the teachers to take out materials they use for the given content area. This could be lesson plan books, texts, workbooks, rubrics, projects. It is easiest to begin with everyone using the text or program adopted in the district or school for being able to discuss a common teaching tool. This is most important to the teachers. The presenters ask the teachers to code the routines that they do within the content, things they do regularly with their students. Then the teachers share what they found.

8. **SHARING OF STRATEGIES/REFLECTION** 15 minutes
Teachers share how they have coded different components of the program they use. If there are portions that are not being used by teachers, have them include those in the coding. In several cases, teachers have found that the same component or part of a curriculum, taught in a slightly different way can achieve a much greater cognitive demand with students. For example, asking students to share strategies, working in small groups with assigned responsibilities, and using all the components of a program can greatly increase students’ cognitive demand.

9. NEXT STEPS-how does this translate to taking the SEC? 15 minutes-30 minutes

The presenter asks teachers to reflect a minute about their teaching. What comments do they have about cognitive demand? What about alignment of what they teach to their standards? Are they curious about coding all of the content they teach? What about being able to compare to all the standards?

The presenter now revisits the SEC. Explaining that when the teachers take the survey that they will be asked not only what content they teach, but also, what students in their class are asked to do with the content (cognitive demand).

10. THINGS TO KEEP IN MIND 15 minutes (optional)

Teachers are often concerned with time. With aligning what we teach to the standards-hopefully teachers will be able to feel confident that the time they do have is well spent and the emphasis within the content is where the standard put emphasis as well. Teachers may feel like they have to cover everything. It is our hope that the tools used today for understanding cognitive demand will assist teachers in that task.

The SEC is a reflective process. It is a tool for teachers to reflect upon their own individual practice, but also a tool to build a professional learning community for school improvement.

PLANNING AHEAD:

*Make the PPT specific to your state-title page

*If state assessment items are not available, provide a few released items from the state site or look to other state sites that release assessment items.

*If the teachers do not bring materials-bring copies of assessments from the text or school materials for the content.

*Bring copy of district and state curriculum.

