

Higher Order Thinking Skills With Question Cubes

by [Carla Huck](#)

This year, I have been working with an ESL teacher, Mrs. Soto who is using a new, literature-based curriculum for her ESL 3 classes and also working toward a professional growth goal of engaging students in activities that require higher order thinking skills, such as elaborative inferences. Additionally, our primary school-wide goal is to transition to a more student-centered approach, characterized by more frequent use of group and pair work, monitoring students and providing real-time feedback, and engaging students in self-assessment.

During a preliminary visit to Mrs. Soto's class, I observed and recorded a group of students as they worked on a collaborative task that involved predicting what a story would be about based on a photograph. The diverse group was engaged, and the room buzzed with boisterous conversation, but, afterward, as we studied my transcript from this activity, we noted the following:

1. The groups should have been formed more intentionally, and discussion questions should have been differentiated by ability level of each group.
2. Many students were not speaking in complete sentences, using key vocabulary for the lesson, nor were they using academically rigorous language.
3. Students lacked critical conversational skills such as turn-taking, building on ideas, listening attentively, and clarifying or negotiating meaning.

The Lesson: Introduction and Practice

Using this information, we decided to plan a lesson that would include enough scaffolding to help students meet both content and language objectives. The next story in Mrs. Soto's text was "Superman and Me," by Sherman Alexie. After both guided and independent reading activities, she introduced a handout with selected conversational skills prompts and response starters that students were to refer to while working with partners. She modeled the use of this protocol with two students in front of the class, then set up students in small groups and actively circulated and listened for use of this language, providing immediate feedback and correction as needed. Once students were familiar with this protocol, they were ready for our larger activity in which they would use their conversational skills to discuss and respond in writing to literature-based questions of increasing difficulty.

Using Question Cubes

As we have been working on incorporating more higher order thinking skills, Mrs. Soto and I designed question cubes with comprehension questions. The sides of each cube are numbered with 1 through 6 and have questions corresponding to Bloom's Taxonomy. (Tip: cover square tissue boxes in fun wrapping paper, print out questions, and cut and paste onto sides.)

Differentiation

For differentiation, we had three sets of cubes—for lower, average, and higher language

proficiency students—with three sets of questions. This way, all students would be challenged with higher levels of critical thinking about the content, but with accessible language demands. During the whole class sharing at the end of the activity, groups of lower performing students would benefit from hearing the questions and answers from the higher level students.

Modeling

To facilitate this activity, Mrs. Soto invited two students to the front of the room to model the cubing process. They each took a turn rolling the cube, then read aloud the question on the side. The student who rolled would be responsible for leading the discussion and bringing his or her group to consensus on an answer, which would then be recorded on the group response sheet.

Group Work and Monitoring

Each group had a laminated “accountable talk checklist” to use as a reference to keep the conversation moving productively. Mrs. Soto had selected two prompts and two sentence starters for each skill (create, negotiate, fortify, clarify) as students would need to use all of these skills to successfully answer their questions and complete the task (see Zwiers, O’Hara, & Pritchard, 2014).

To track student progress, Mrs. Soto used a cooperative learning observation checklist. As she monitored the activity—which had a game-like appeal due to the novelty of rolling a cube—she listened to conversations and entered marks and notes on her checklist in each category as appropriate. One of our goals was for each group to be able to function independently and with minimal assistance from the teacher. With the proper scaffolding in place, students were able to keep the discussion moving forward and respond to questions using evidence from text, while at the same time deepening understanding of academic text (content objective) and using accountable talk strategies during group discussions (language objective).

Assessment

At the end of the lesson, exit tickets were distributed and collected for analysis. They included a rating scale and open-ended questions for group processing:

I improved my understanding of the story after discussing it with my group today 1 2 3
I used the accountable talk stems in my group to discuss questions 1 2 3
One way that my group could improve for our next task would be _____
One thing that my group did well today was _____

This lesson was beautifully executed: The students knew exactly what was expected from them, they had viewed a demonstration of the cubing activity, and they had supports in place for reference to keep them on task. Each student not only worked his or her way up through the levels of Bloom’s Taxonomy as groups analyzed and discussed text, but students also knew they were held accountable individually with the monitoring checklist and the self- and peer-assessment questions on the exit ticket. This process could be replicated in content-area classrooms as well, as a means of fostering academic language through constructive

conversations about text.

Reference

Zwiers, J. O'Hara, S. & Pritchard, R. (2014). Constructive conversation skills poster. *Common Core Standards in diverse classrooms: Essential practices for developing academic language and disciplinary literacy*. Portland, ME: Stenhouse.

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