

Alternative Assessments

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Interview

An oral interview-based assessment is a structured interview used to assess a student's understanding. Teachers evaluate learning based on responses to specific questions about learning outcomes. Notes are taken during the interview as evidence of learning; there is an example interview graphic organizer on the back. Interviews work well for students who may know a lot more than what they have shown on a written assessment. Although it is a good idea to have all students participate in an interview, you may use this type of assessment with students that may struggle with traditional assessments.

Protocol for conducting individual interviews

1. Take notes before the interview(s) on what a proficient student should be able to say. Pay attention to vocabulary.
2. Prepare a checklist of things to say and questions to ask about the topic in order to stay on task.
3. Choose a time when the rest of the class is engaged to minimize distractions.
4. Keep the interview quick and specific. Be transparent with intent and expectations.
5. Begin with an open-ended question. It is important to determine what students have internalized without any prompts.
6. Ask questions that will provide insight into conceptual understandings and depth of understanding.
7. Question without leading or funneling.
 - a. Tell me more about...
 - b. Can you explain your statement further....
8. Provide paper and pencil or a whiteboard to encourage the use of multiple representations to support their explanations.
9. Use plenty of wait time to learn more about the students depth of understanding.
10. Allow students to self-reflect on their own understanding at the end of the interview.

Guiding Lens for Conducting Interviews

1. Use initial questions as launching points.
2. Pursue a curiosity. The goal is to understand how they are thinking and why.
3. Monitor student actions and speech for the Standards for Mathematical Practice
4. Focus on conceptual understandings.
5. Seek to answer...What do they understand? (Asset thinking rather than deficit thinking)
6. Do not panic if there is a misconception...pursue it.
7. Do not teach or correct; that is for another time. However, you may try to challenge their thinking in order to learn more about their understandings or misunderstandings.
8. Try not to give correctness cues with your face and body language; Use your face to show that you are really curious in what they are thinking and you want to understand. You can look puzzled or confused but don't indicate if an answer is correct or incorrect.
9. The same is true with words. Be careful with praise. If needed, praise persistence, thinking, and work ethic but not correct answers.

Interview Resources

Data Collection

Mathematics Goal:			
Assessing	Student Response	Feedback to Students(s)	Teacher Comments/Observations
Conceptual Understanding			
Procedural Fluency			
Strategies Used			
Student Prerequisites and Misconceptions			
Disposition or Agency			
General Comments:			
<input type="checkbox"/> Sense Making, <input type="checkbox"/> Perseverance, <input type="checkbox"/> Reasons Abstractly, <input type="checkbox"/> Constructs Viable Arguments, <input type="checkbox"/> Critiques Reasoning, <input type="checkbox"/> Modeling, <input type="checkbox"/> Uses Appropriate Tools, <input type="checkbox"/> Demonstrates Precision, <input type="checkbox"/> Demonstrates Structure, <input type="checkbox"/> Uses Repeated Reasoning			

Source: Adapted from Larson, M.R., Fennel, F., Adams, T.L., Dixon, J.K., Kobett, B.M., & Wray, J.A. (2012). Common core mathematics in a PLC at work: Grades 3-5 (pp. 145, 146), IN.

Student Self Reflection

Mathematics Goal:	
Conceptual Understanding	<input type="text"/>
Multiple Strategies	<input type="text"/>
Attitude	<input type="text"/>
General Comments:	
<input type="checkbox"/> Sense Making, <input type="checkbox"/> Perseverance, <input type="checkbox"/> Reasons Abstractly, <input type="checkbox"/> Constructs Viable Arguments, <input type="checkbox"/> Critiques Reasoning, <input type="checkbox"/> Modeling, <input type="checkbox"/> Uses Appropriate Tools, <input type="checkbox"/> Demonstrates Precision, <input type="checkbox"/> Demonstrates Structure, <input type="checkbox"/> Uses Repeated Reasoning	

Whole-Class Interview

A whole-class interview allows the teacher to verbally pose a problem and for students to work independently or in their teams to develop a solution. They can be done as a formative assessment of topics students may encounter in the Review & Preview or at a hinge point in the lesson when you are quickly checking understanding. A more comprehensive whole-class interview might be done upon completion of a chapter section. It is important to be transparent with your students about when you are planning a whole-class interview, and what topics you plan to assess.

Protocol for conducting whole class interviews

1. To have an artifact of the interview, have students record their answers on their own paper.
 - a. Consider using a blank sheet of paper so students have to listen to and interpret your verbal question.
 - b. You may allow students to ask clarifying questions, but be careful not to remove the productive struggle.
2. Circulate and look at students' solutions throughout the entire interview. This will allow for additional follow-up questions or a change in direction if needed. It will also provide for quick identification of struggling students and students with quite sophisticated understandings. You may want to use a data collection form as you circulate.
3. Begin with an open-ended question. It is important to determine what students have internalized without any prompts.
4. Ask questions that will provide insights into conceptual understandings and depth of understanding. Encourage students to use multiple representations and examples.
5. Periodically ask students to write how they know, how they would convince someone else they are correct, or how they would explain the idea to a younger or new student.
 - a. As you monitor student solutions, consider selecting solutions that you can leverage later to support learning and connections.
6. Allow students to self-reflect on their understanding at the end of the interview. You could also have students peer-edit each other.

Guiding Lens for Conducting Interviews

1. Use initial questions as launch points.
2. Pursue a curiosity.
3. Monitor student actions and speech for the Standards for Mathematical Practice
4. Focus on conceptual understandings.
5. Seek to answer...What do they understand?
6. Do not panic if there is a misconception...pursue it.
7. Do not teach or correct. That is for another time. But you may try to challenge their thinking in order to learn more about their understandings or misunderstandings.
8. Do not cue with your face. Use your face to show that you are really curious in what they are thinking and you want to understand. You can look puzzled or confused but don't indicate if an answer is correct or incorrect.
9. The same is true with words. Be careful with praise. If needed, praise persistence, thinking, and work ethic but not correct answers.

Interview Resources

Data Collection

Student	Math Content focus	Practices	Learning Task	How did you solve that?	Why did you solve the problem that way?	What else do you know that I didn't ask you?
		<input type="checkbox"/> Sense Making, <input type="checkbox"/> Perseverance, <input type="checkbox"/> Reasons Abstractly, <input type="checkbox"/> Viable Arguments, <input type="checkbox"/> Critiques Reasoning, <input type="checkbox"/> Modeling, <input type="checkbox"/> Uses Appropriate Tools, <input type="checkbox"/> Demonstrates Precision, <input type="checkbox"/> Demonstrates Structure, <input type="checkbox"/> Uses Repeated Reasoning				
		<input type="checkbox"/> Sense Making, <input type="checkbox"/> Perseverance, <input type="checkbox"/> Reasons Abstractly, <input type="checkbox"/> Viable Arguments, <input type="checkbox"/> Critiques Reasoning, <input type="checkbox"/> Modeling, <input type="checkbox"/> Uses Appropriate Tools, <input type="checkbox"/> Demonstrates Precision, <input type="checkbox"/> Demonstrates Structure, <input type="checkbox"/> Uses Repeated Reasoning				
		<input type="checkbox"/> Sense Making, <input type="checkbox"/> Perseverance, <input type="checkbox"/> Reasons Abstractly, <input type="checkbox"/> Viable Arguments, <input type="checkbox"/> Critiques Reasoning, <input type="checkbox"/> Modeling, <input type="checkbox"/> Uses Appropriate Tools, <input type="checkbox"/> Demonstrates Precision, <input type="checkbox"/> Demonstrates Structure, <input type="checkbox"/> Uses Repeated Reasoning				

Source: Adapted from Fennel, F., Kobett, B., Wray, J.A. (2017). *The Formative 5* (pp. 55).

Portfolio

Portfolios are a useful tool to formatively assess student learning in Chapter 1. Because portfolios develop over time teachers can observe student's progress during the learning process. Google Docs, Slides, or even Desmos allow teachers to check in on portfolio progress which may prevent assessment anxiety for some of your students. Portfolio assessment enables students to present their real understanding--to reflect on both areas of weakness and areas of strength which encourage students to take responsibility for their own learning. This self-reflection is individualized and creates opportunities for communication between the teacher and student. Because portfolios may support on-going communication, portfolios are a useful alternative assessments when teaching virtually.

In your eBook select Assessment in the Teacher tab of the navigation bar. Then select Portfolios/Hwk. Be sure to explore the links to the pdfs at the top of the page. In the high school books you will find a portfolio entry within each chapter closure in the Portfolio: Evidence of Mathematical Proficiency activity. In the middle school series you could use the Summarizing My Understanding activity. In pre-calculus you could use the How Can I Solve It or the How Can I Apply It activities.

Closure Activities by Course

CC1, CC2, CC3	Summarizing My Understanding
CCA, CCG, CCA2, Int I, Int II, Int III	Portfolio: Evidence of Mathematical Proficiency
Pre-Calculus	How Can I Solve It How Can I Apply It

Presentations

Presentations happen frequently in a CPM classroom when a teacher plans specific Study Team and Teaching Strategies. For example, a Proximity Partner or an Elevator Talk are examples of students presenting to each other. A Hosted Gallery Walk is a presentation that takes more preparation than the previously mentioned strategies. However, presenting in front of the entire class will be the most challenging of all types of presentations. Your expectations for both the presenters and the viewers need to be planned--especially if you are taking a grade.

Presentations can often be lackluster if the teacher does not carefully plan for engagement. Think about your own experience with viewing a conference presentation for example. You view the presentation through a lens that agrees with your best interests. In class, the students viewing the presentation are the learners. You may need to provide them a lens through which to view the presentation. For example, if you gave each team a Standard for Math Practice that they had to investigate and ask questions about during a presentation, there would be considerably more engagement. Another option might be to give each team a previous chapter with which they had to make connections during the presentation so they may feel a greater sense of urgency to pay attention.

In your eBook select Assessment in the Teacher tab of the navigation bar. Then select presentations. Be sure to explore the links to the pdfs at the top of the page.

Performance-Based Tasks

For teachers looking to integrate Academic and Career Planning or 21st Century Skills into their assessments, performance tasks may be a solution for assessing student understanding. Students in CPM courses may be comfortable with these types of assessments because, like CPM's core lesson problems, performance tasks ask students to perform to demonstrate their knowledge, understanding and proficiency. Chapter closures provide an activity that is a good starting point for building performance-based tasks. These closure activities (see table) often yield a tangible product and/or performance that serve as evidence of learning. Teachers would need to connect appropriate learning targets and add expectations to develop more rigor or relevance as needed (see the framework). For example, the teacher may add expectations or prompts that require students to apply their learning to real-world unpredictable situations. Another option would be to create a rubric that requires students to determine applications or performances.

Closure Activities by Course

CC1, CC2, CC3	Summarizing My Understanding
CCA, CCG, CCA2, Int I, Int II, Int III	Portfolio: Evidence of Mathematical Proficiency
Pre-Calculus	How Can I Apply It

RIGOR/RELEVANCE FRAMEWORK[®]

