



STEMD<sup>2</sup>

# Module IV: Formative Assessment

Unit 4: Implementation Scenario for Middle School  
Mathematics

Ne'epapa Ka Hana Program

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## **Summary: Implementation Scenario for Middle School Mathematics**

Formative assessments provide you with information about your students and their level of understanding or mastery. The goal of the AISLM is to use that information to teach each student at their level so they continue to make progress. Social networks and social technologies provide resources to individualize instruction for your students to get them engaged and involved in math at their level so they can experience more success and growth. The following are simple but effective strategies for implementing inclusive mathematics assessments in AISLM.

### **Understand the role of summative and formative assessments.**

- Summative assessments are important measures of mastery but are rarely used to guide instruction, as they are given after the standards have been taught. Summative assessments are given at the end of a unit of study to measure mastery of concepts or standards. Therefore, your summative assessments should only be given after you have multiple points of evidence from formative assessments that show your students have mastered the standards. Formative assessments should be embedded, ongoing, diverse, and used to guide instruction. Include formative assessments in your instruction and use them to help students move toward mastery of math standards.

### **Embed formative assessments into your math instruction.**

- Formative assessments should be planned as part of your math lesson, not as a separate activity after the lesson. Assess your students while facilitating their learning as they work in social networks and with social technologies. Walk around the room asking questions and help your students move along in their thinking and their work.

### **Assess students daily using formative assessment.**

- Formative assessment in the math classroom should be an ongoing process that happens daily. Since formative assessments are embedded in the lesson, they should just be a part of your lesson every day. Try to connect with and assess your students every day. Using formative assessment every day allows you to have an in-depth knowledge of each student's level of understanding which leads to better instruction.

### **Use a blend of self-assessment, peer-assessment, and teacher formative assessments.**

- Teach your students how to utilize self-assessments and peer assessments to improve their learning. Your students will achieve mastery by learning to assess their own ideas and solutions. Give your students the opportunity to use self-assessment. Encourage your students to assess their own learning and place value on their assessments. Use peer-assessment to strengthen the collaborative skills of your students. Use teacher formative assessment to provide feedback and guide future instruction. Assessment should be a

collaboration between you and your students to increase student achievement. Place value on self-assessment and peer-assessment just as you do on teacher assessment. Provide feedback on all three categories of formative assessment.

### **Provide a variety of options for formative assessment.**

- Your students should be able to present their learning in a variety of ways during formative assessments. Remember that not all of your students have to be assessed the same way at the same time. Use multiple formative assessments to meet individual student needs. Inform your students of the skills or concepts that are being assessed and ask them to show their understanding in any way that makes sense to them. Place equal value on all methods.

### **Use performance assessments in the math classroom.**

- Performance assessment can be used during any math lesson but is particularly useful during PBL. Performance assessments should be open-ended and require students to show their process and thinking rather than just provide an answer. Use performance assessments to assess both math content and math practice, including 21<sup>st</sup>-century skills. Performance assessments give your students the opportunity to justify and clarify their thought processes.

### **Provide immediate feedback from formative assessments.**

- Students cannot make corrections if they do not know what needs to be changed. Provide your students with immediate feedback from your assessments. Self-assessments and peer-assessment can be used by students to improve their work ethic or understanding. However, you still need to be involved to help your students make sense of their thinking and provide suggestions for improvements. Feedback does not have to be formal. Feedback can be provided by helping a student find their mistake in a math problem or asking guiding questions to help their thinking. Make it a comfortable and low-stress activity for the students. Feedback should feel collaborative and helpful, not judgmental. No feedback is better than judgmental feedback. Work to help your students view feedback as an opportunity, not a criticism.

### **Use assessment information to differentiate math instruction.**

- The ultimate goal of formative assessment is to help move students toward mastery. Differentiating instruction provides each student with the opportunity to receive the individualized help needed to achieve mastery. Use assessment data to create small groups of students who need additional instruction. Remember that instruction for the purpose of re-teaching has to be done in new ways and engage your students in different learning experiences that are more appropriate for them. Don't forget about the advanced learners in the classroom. Assessment data can show you which learners are ready to be challenged. Provide these students with opportunities to apply their knowledge in engaging PBL or individualize tasks. Encourage networks of students to share knowledge and strategies to advance all learners. Social technologies in the connectivist math classroom can be used to provide a different mode of instruction to help or challenge learners.

### **Possible Pitfalls to Watch for and Avoid.**

- **Don't think of formative assessments as an extra task added to your lesson.** Your formative assessments should be part of your lesson. If you try to add it as an extra task,

you may become overwhelmed and frustrated. If you look at your current practices, you are probably already using formative assessments, but you just haven't thought of them as assessments.

- **Don't reteach the same way you taught the concept the first time.** If you have students who need to be retaught a particular concept, you have to approach the lesson in a new way. If they did not understand it the first time, teaching it the same way again will not have different results. Use websites, videos, or manipulatives to vary your teaching methods. Ask other teachers if they have other strategies for teaching that particular concept.
- **Differentiated instruction does not mean you have to create completely different lessons for every student.** Differentiated instruction simply means you are providing each of your students with strategies that allow them to achieve success. The strategies of the AISLM are designed to differentiate instruction. Often just allowing students to access their social networks and technology provides the differentiation your students need. As you build relationships and get to know your students you will learn what they need to be successful.
- **Formative assessments do not replace summative assessments.** Formative assessments are used to ensure that your students will achieve mastery on summative assessments. When you incorporate formative assessments and provide valuable feedback, your students should be more successful during their summative assessments.

#### **Teacher Reflection 20**

Share your formative assessment strategies. Explain why you chose these strategies and how you can improve them.

### **Resources for Assessment**

With a quick search on the internet, you can find a wide variety of formative assessments. Find formative assessments that you are comfortable with and your students will find engaging. The sky is the limit when it comes to formative assessments. So have fun developing your assessments and your students will enjoy them too.