Eliciting Evidence: Engaging All Students

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About This PDF Document

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The functionality consists of:

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- page navigation to move forward and back through the PDF
- fillable text fields indicated by a blue background color
- check boxes to make selections

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Monitoring My Progress

	New to me	I can define it, but may not yet understand it	I get it	I can teach it	I can apply it in another way	What questions do I have? Add more questions, connections, or thoughts throughout the day.
Connect current practice to research about why we should elicit evidence of learning						
Now	☐	☐	☐	☐	☐	
My goal is...						
Later	☐	☐	☐	☐	☐	
Identify strategies to engage all students in providing evidence of learning						
Now	☐	☐	☐	☐	☐	
My goal is...						
Later	☐	☐	☐	☐	☐	
Outline how to make adjustments based on the data collected						
Now	☐	☐	☐	☐	☐	
My goal is...						
Later	☐	☐	☐	☐	☐	
Identify elements of a plan for engaging all students in providing evidence						
Now	☐	☐	☐	☐	☐	
My goal is...						
Later	☐	☐	☐	☐	☐	

Formative Assessment Process

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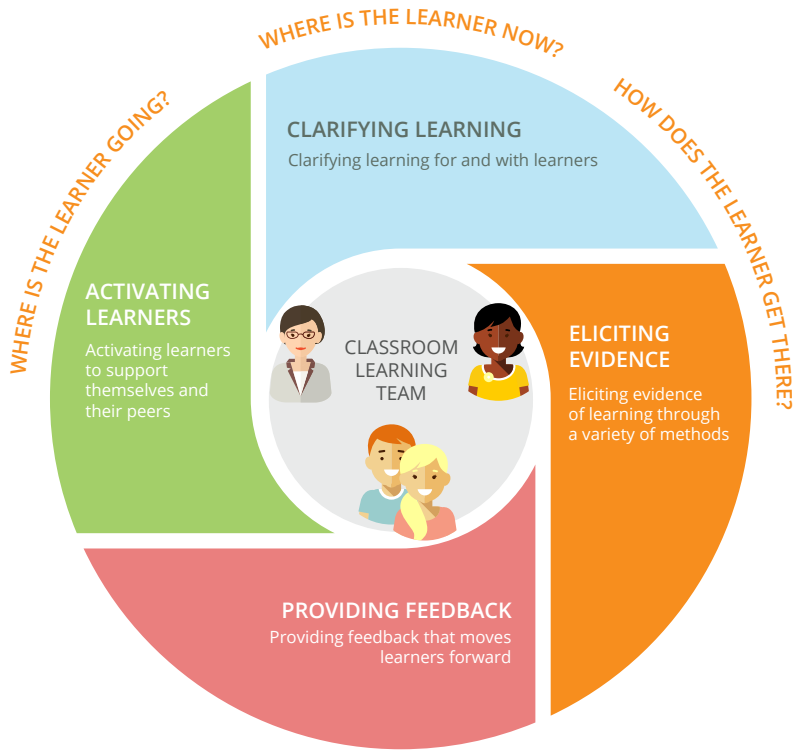

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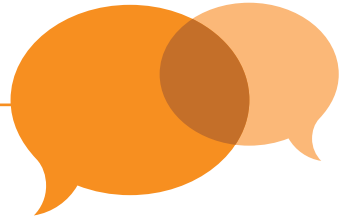
Questions about Questioning

- What percentage of teachers' questions is concerned with recalling facts?
- What percentage of teachers' questions is concerned with managing the class?
- What percentage of questions asked caused students to analyze or make inferences?
- How many questions does the average teacher ask in a working lifetime of 40 years?



Say Something

Quote 1

The goals of assessment in support of prospective learning require a *present-to-future* perspective, in which the concern is not solely with the actual level of performance but with anticipating future possibilities. (Heritage 2013)

Quote 2

Griffin argued that humans can only provide evidence of cognitive and affective learning through four observable actions: (1) what they say, (2) write, (3) make, or (4) do. (Heritage 2013, Griffin 2007)

Quote 3

Shavelson suggested that to find the gap between what students know and what they need to know . . . teachers need to develop a set of central questions that get at the lesson. Additionally, teachers have to know the right moment to ask these questions so that they can enable students to reveal what they understand and what evidence they can provide to back up their knowledge. (Heritage 2013, Shavelson 2008)

Quote 4

Erickson introduced the notion that there can be threats to the "formativity" of formative assessment (p.189). He argued that for assessment to be formative it must be both timely and produce information that can inform teaching practice during its ongoing course. For this reason, the immediate or proximate timing of evidence is a key component of formative assessment validity. Moreover, and in addition, for formative assessment to be valid it must also yield tractable insights: insights into students' current learning status that are sufficiently tractable to be used in subsequent pedagogical moves. (Heritage, 2010, 2013; Erickson 2007)

McMillan, James H., ed. SAGE *Handbook of Research on Classroom Assessment*. Thousand Oaks, CA: SAGE Publications, 2013.

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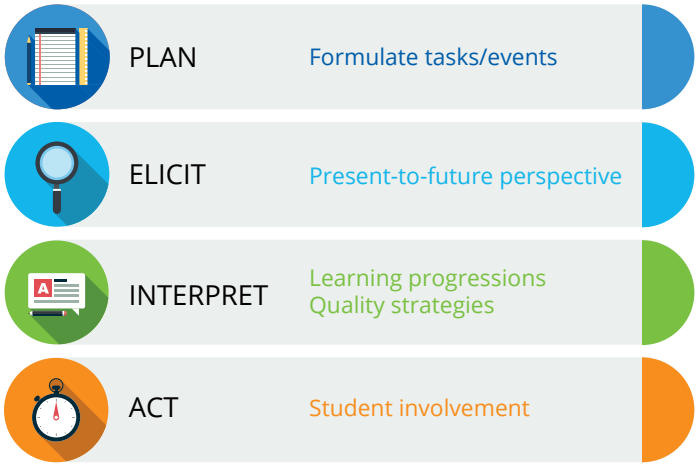
Eliciting Evidence from ALL Students



What purpose do all-student response systems (ASRSs) support?

Strategic questions:

- Promote formative discourse
- Are planned
- Clarify student thinking
- Incorporate wait time
- Generate actionable results

Affective questions:

- Self-assessment practice
- Self-reflection practice
  - Where did you succeed in your learning today?
  - What challenges did you encounter?
  - How did you manage the challenges?

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Learning Centers

Learning Center 1: Strategy Jigsaw: In a small group, explore a variety of strategies designed to elicit evidence of learning (or not) from students. Engage in dialogue about what moves the strategy beyond just a good strategy to make it formative. Identify one to two strategies to use in your classroom.

Learning Center 2: Digital Tool Exploration: With a partner investigate free digital tools that support eliciting evidence of student learning. Collect information about the tool as well as notes regarding using the tool in a formative manner.

Learning Center 3: Strategy Use Continuum of Practice: Work in small groups to develop a continuum of what using specific all-student response systems look like at four levels within a classroom. Levels include Accomplished, Developing, Exploring, and Unaligned.

LEARNING CENTER 1

Strategy Jigsaw

1. Form groups of three.
2. Use the table below.
3. Each person reads and shares two or three of the strategies and implementation notes.
4. Engage in dialogue about what moves the strategy beyond just a good strategy to make it formative.

STRATEGY	DESCRIPTION	IMPLEMENTATION NOTES
Anticipatory Guide	The teacher generates three to six statements about a topic, some true and some false. These statements are related to key ideas supporting learning targets. Typically used as a pre-/post-assessment, these data help identify understandings and misunderstandings, which the teacher uses to adapt the lesson as needed.	Model the process with students when introducing the strategy. Explain how the evidence (data) will be used pre and post. May be completed by students individually and not shared or may be recorded on charts anonymously with dots or checks.
Class Poll (ABCD cards, Clickers)	The teacher surveys the class for students' attitudes toward (affective) or thinking (cognitive) about a certain topic. The teacher quickly and efficiently asks students what their opinion or "gut feeling" is toward a specific topic/idea. The teacher then performs a short assessment of the results and incorporates the information into the lesson in a way that contributes to student learning.	In the beginning it may be useful to have students respond anonymously, later moving to public responses. This is not data collection for graphing purposes. Students can respond to a short question orally, by a show of hands, devices, or the use of cards.
Consensogram, Histogram, Scatterplot	This strategy helps teachers and students assess needs, attitudes, or knowledge. The teacher poses a question and asks each student to record his or her thoughts on a chart that everyone can see. Once everyone has placed his or her mark on the chart, the teacher and class analyze the results and determine next steps.	Use pre/post with different colored marks. In place of charts, have students stand in lines to represent where they would fall on the scale. The use of a scatterplot allows the teacher to collect pieces of data at the same time. It can also be done either on chart paper or by having students stand between axes.
Individual Response Boards	The teacher asks or presents a question and waits an appropriate amount of time while students write responses on whiteboards, and then the students individually and simultaneously hold up their boards for the teacher to see. This is an example of an all-student response system that helps the teacher quickly get a sense of what students know or understand while engaging all students in the class. The teacher may choose to orally ask the questions or to present them to the class digitally or written on the board. Students answer one or more well-designed questions that reveal information about their understandings and misunderstandings, which the teacher uses to adapt the lesson as needed.	A whiteboard may be simulated with a white sheet of cardstock inserted into a clear, plastic transparency sleeve or a plastic plate. It usually includes a dry-erase marker and a wiper tissue/cloth. For other purposes such as graphing or geography, a sheet of graph paper or a map of the area may be inserted into the plastic sleeve.

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Strategy Jigsaw, continued

STRATEGY	DESCRIPTION	IMPLEMENTATION NOTES
Signal Cards (Green-Yellow-Red)	This is an example of an all-student response system that helps the teacher quickly get a sense of what students know or understand while engaging all students in the class. Students answer one or more well-designed, multiple-choice questions that reveal information about their understandings, misunderstandings, and misconceptions. These questions may be affective in nature. Students use discs, cards, or other red/green materials to indicate that they understand (green) or that they need the teacher to slow down or provide help (red). The teacher must pay consistent attention to the student signals, and makes decisions about when and how to interrupt the flow of the lesson to address these. The teacher confirms that students signal their understanding appropriately.	Materials vary between cups, cards, and discs. Discs can be made by laminating together two circular pieces of colored (red and green) plastic.
Two-Tiered Probe	This strategy is a combination of asking a selected response question and having students respond with cards, hand signals, or clickers followed by whiteboard justification. This probing method allows teachers to gather initial responses and to glimpse student thinking behind the response.	Remember when introducing a new strategy that it is easier for students to learn when using a combination of tools with which they are already familiar.
Where Do You Stand?	This strategy is useful for identifying preconceived notions, assumptions, background knowledge, and information gaps. It also moves students to become instructional resources for one another. Provide students with two options, and have them physically move to stand on one of two places based on what they know. A potential third option is "don't know."	Physical movement is important. Letting students physically see whom they stand with and whom they don't stand with provides resources to tap into later.

LEARNING CENTER 2

Digital Tool Exploration

1. Work with a partner.
2. Use the table below.
3. Complete the table by investigating the digital tools and collecting information important to remember regarding the description of the tool, options available within the tool, and notes to remember about using the tool. Use the blank rows for any additional tools.
4. Discuss which tool you will be willing to try in your classroom and how you will use it.

TOOL	DESCRIPTION/OPTIONS	IMPLEMENTATION NOTES
Kahoot https://getkahoot.com		
Mentimeter https://www.mentimeter.com/app		
Plickers https://plickers.com		
PollEverywhere https://www.polleverywhere.com		
AnswerGarden http://answergarden.ch		
Tagxedo http://www.tagxedo.com		
Wordle http://www.wordle.net		
ClassKick http://www.classkick.com/#home		
Nearpod http://www.nearpod.com		
GoFormative https://goformative.com		

Strategy Use Continuum of Practice

1. Each strategy looks a little different in its levels of implementation, but some general principles are used in writing the description of each level.
2. Work in groups of three or four.
3. Take an ASRS currently used in your classrooms, and develop a continuum of practice, identifying potential look-fors at four levels.

ACCOMPLISHED	DEVELOPING	EXPLORING	UNALIGNED
The strategy is used in a way that generates high-quality data about student learning from all students. The teacher is able to analyze the data, and then uses the results of that analysis to influence future instruction or learning, either in the same lesson or the next lesson.	The strategy is used in a way that generates decent data on student learning, and the teacher gains a better understanding of where student learning stands as a result. The teacher doesn't appear to do much with the information.	The strategy is implemented weakly, so that the data collected are low quality and therefore of limited use in planning next steps. The strategy is used in a way that provides an opportunity for data to be collected about student understanding, but the teacher does not analyze or do anything with that information.	The strategy is used in a way that is not formative and does not have the potential to be formative: – The strategy is used in a ritualistic manner (going-through the motions). – The strategy is used in a context or manner that changes its original purpose so that it is not formative. – It may be used for classroom management purposes.
All-Student Response System			
Questions used cover both affective and cognitive demands. Students respond both anonymously and publicly. Used as both pre-assessment before instruction and checks for understanding during instruction. The teacher shares data collected with students. Results are used to make adjustments to instruction, allow students to engage each other as resources, or serve as feedback.	Questions are a mix of cognitive and affective. Responses may be made anonymously or publicly. The teacher offers limited discussion and feedback.	Questions focus on affective. Responses are public.	Student participation is limited. Tool is primarily used for classroom management. Responses allow students to be singled out. Data collection is not obvious.

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Strategy Use Continuum of Practice, continued

ACCOMPLISHED	DEVELOPING	EXPLORING	UNALIGNED
ABCD Cards (all students have ABCD cards, which they hold up to answer a multiple-choice question (MCQ))			
The teacher skillfully uses ABCD cards: all students are engaged in answering one or more well-designed MCQs that reveal their understandings and misunderstandings. The teacher uses the results to organize the ensuing discussion/ lesson.	The teacher uses ABCD cards in a way that engages all students, and with a reasonably good MCQ(s) for this purpose. The teacher makes limited use of the information that results.	The teacher uses ABCD cards as a way to ensure more students participate. The information collected doesn't appear to cause any adjustments. The teacher does not address incorrect answers. The MCQ(s) is poorly chosen/ written. Student responses are not probed.	Participation of a few students is accepted by the teacher. The cards are used for classroom management or to set students up.
Whiteboards (all students write answers on individual whiteboards and hold them up for the teacher to see)			
The teacher skillfully uses whiteboards: all students are engaged in answering one or more well-designed questions that reveal their understandings and misunderstandings. The teacher uses evidence to adapt the lesson as needed. Sharing helps students take more ownership of the learning process, which leads to better understanding class-wide, and is used to illustrate multiple pathways to a good answer or to illustrate/ counteract misconceptions.	The teacher uses whiteboards in a way that engages all students, and with a reasonably good question. The teacher becomes more aware of students' strengths/weaknesses. No apparent adaptations are made.	The teacher uses whiteboards as a way to ensure more students participate. The students' responses do not lead the teacher to change from the original instructional plan. The question used is not well designed or not well suited for whiteboard responses, so the quality of the resulting data makes the question impossible to use. Student responses are not probed.	Whiteboards are used as scratch paper, and seldom or never held up. Participation of a few students is accepted by the teacher.

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Strategy Use Continuum of Practice, continued

ACCOMPLISHED	DEVELOPING	EXPLORING	UNALIGNED

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Classroom Implications

Engaging All Students

1. When I use response cards with my class, I notice that some students copy the responses from their neighbors' cards instead of thinking of their own answers. What should I do about this?

2. How do you set up using an all-student response system in your class so that public responses are "safe"?

3. When and where would you use both cognitive and affective questions? Identify as beginning, middle, or end of a lesson.

4. How can you use think-alouds to process the data collected via an ASRS and to engage students?

Plan Components

- When and why
- Potential adjustments
- Tool
- Question
- Planning tools

> Without an attempt to support or influence new learning from the evidence, the label 'formative assessment' cannot be applied to the process of evidence gathering. Instead, the term 'dangling data' *(Sadler 1989, 121)* is more apt.
>
> – SAGE Handbook of Research on Classroom Assessment

Lesson-Planning Tools

Responsive Lesson Plan

TEMPLATE 1

Class	Date

Learning target

Strategy	Why (or reasoning)
Adjustments, changes, adaptations	Support/resources needed

Lesson outline and prep

Practice goals
Do less of
Evidence of student learning or success of strategy

Reflection
Next steps

Responsive Lesson Plan

TEMPLATE 2

LEARNING TARGET	SUCCESS CRITERIA

How and when will I gather evidence of learning in this lesson?		
BoL	**MoL**	**EoL**

When will I offer feedback to students?		
BoL	**MoL**	**EoL**

How and when will students assess their learning?		
BoL	**MoL**	**EoL**

How and when will I use the results of the evidence I collect?		
BoL	**MoL**	**EoL**

Responsive Lesson Plan (example)

TEMPLATE 3 EXAMPLE

1. Class on which to focus:

1st Period Math

2. Subject on which to focus:

Math

4. How will I elicit evidence of learning from all students?

When:

Pre-assess before the lesson begins

Check for understanding after "I do, We do"

Check at end of lesson

How:

Pre-assess with Anticipatory Guide

5. Adjustment options:

Option A:

Results of pre-assessment indicate 75% already can successfully solve two-step linear equations; ask for clarifying questions and move to multistep equalities

Option B:

Results of pre-assessment show 50/50 split; divide class into two groups

Option C:

Learning target:

Solve two-step linear equalities

3. Standards on which to focus:

Operations and Algebraic Thinking

Success criteria:

Identify key pieces of a word problem to set up equalities

Multiply without errors

Goals for myself:

Integrate three to four formative assessment strategies into the lesson

Plan the questions to use, the adjustment triggers, and the options for instruction based on two to three different sets of results

Resources to remember:

Teach.Learn.Grow – NWEA Blog

Teaching Channel

6. Tools/Resources

Responsive Lesson Plan

TEMPLATE 3

1. Class on which to focus:

2. Subject on which to focus:

4. How will I elicit evidence of learning from all students?

When:

How:

5. Adjustment options:

Option A:

Option B:

Option C:

Learning target:

3. Standards on which to focus:

Success criteria:

Goals for myself:

Resources to remember:

6. Tools/Resources

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Sharing Your Plan

a. How well do the activities and assessments align with the intended learning?

b. What options exist for potential adjustments?

c. What options exist for students to use results?

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