

Some Formative Assessment Classroom Techniques

1. Clarifying, sharing and understanding learning intentions

It is important that students know where they are going in their learning and what counts as quality work.

WALT & WILF

These are acronyms used by teachers to focus students' attention on what they will learn and how they will recognise when they are making progress. WALT stands for "We are learning to..." and WILF for "What I'm looking for..." Teachers use them in different ways to help them make sure that students know what they are going to learn (the learning intention) and how they will recognise progress (the success criteria).

Choose-Swap-Choose

Choose-Swap-Choose learners choose a good example of their own work from several they have made. They then submit these to a partner who then chooses the one he/she thinks is best. The two students discuss their choices if there is disagreement.

Design Test Items with Correct Answers

Design their own test or test items for mid-term or end-of-term tests. This should be done while there is still time to make use of the feedback that emerges from this activity. In making test items, students clearly show what they think they have learned and what they think is important.

2. Eliciting Evidence of Learners' Achievement

It is important that teachers plan carefully and thoughtfully how to engage all students to ascertain what students know and understand.

Popsicle Sticks

The Popsicle stick approach to student engagement provide a random selection for answers, which means that the consistent hand-raiser isn't dominating classroom discussion and evaluation. Have each student write their name on a Popsicle stick and place all the sticks in a cup. Ask a question of the class, draw a stick from the cup and have the student whose name is on the stick respond to the question. All-student (random) response systems like this engage all students and sets an expectation that all students are worth hearing, dispel notions of favoritism, and perhaps more importantly identify gaps in student understanding.

KWL Chart – Know, Wonder, Learned

The KWL chart is useful to complete formative assessment in the classroom. It allows the teacher to find out the students prior knowledge on a particular topic. From this knowledge the teacher is then able to gear their lessons based upon this information. The KWL chart can be completed when starting a new topic and be added to throughout the unit. Further, the teacher is able to find out what the students have learned by the end of their lessons.

Topic:		
Things you already <u>know</u>	Things you <u>wonder</u>	Things you <u>learned</u>

Think-Pair-Share

Think-Pair-Share is a strategy in which the teacher poses a statement or asks a question of the class. Each student is given time to think and/or write down their answer. Once they have ample time to think and write, they pair-up with another student in the class, where they can discuss their answers. After they have had a chance to discuss their answers amongst themselves, they share their answers with a larger group or the rest of the class. Teachers can circulate through the class, as students are paired in discussion, to determine understanding.

All squares are rectangles

ABCD Cards

Each student receives one set of four cards individually marked A, B, C, and D. A, B, C, D cards can be used for questions having a single answer. However, they can also be used to respond to questions having more than one correct response and even questions that have no right or wrong answer.

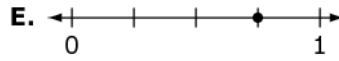
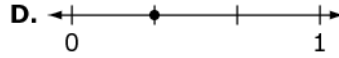
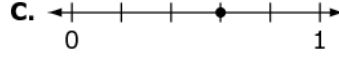
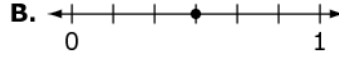
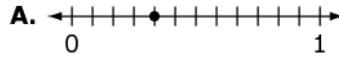
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Look at point P on the number line.



Look at number lines A – E. Is the point on each number line equal to the number shown by P ? Choose Yes or No.



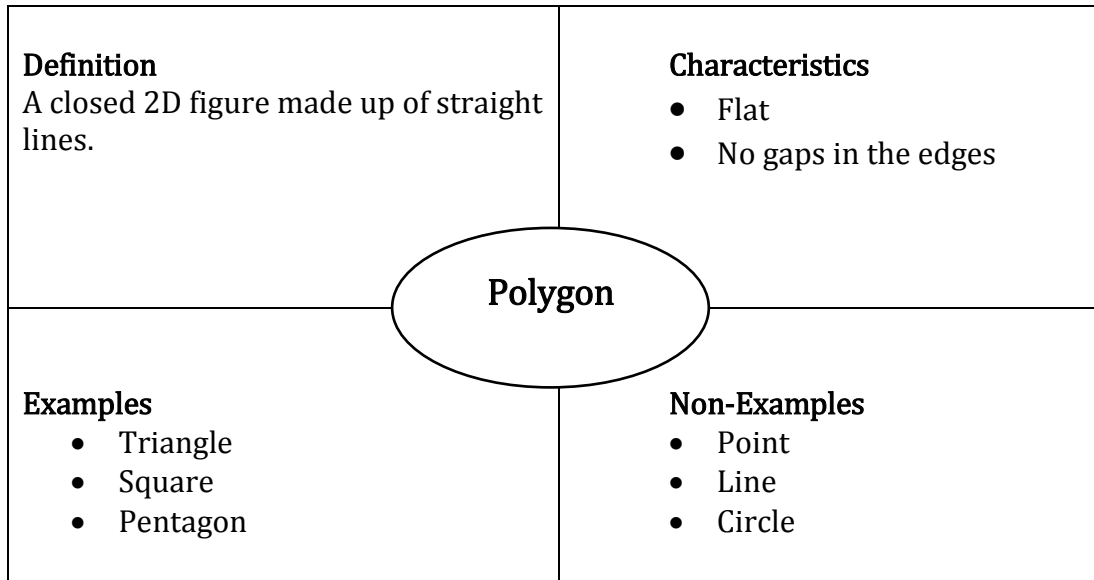
ABCD Corners or Four Corners

Students are presented with a problem and four possible solutions to the problem. Each student thinks through the problem, writes his or her explanations, and selects the possible solution that best matches his or her explanation. Each corner of the room is labelled with one of the possible solutions. Students then go to the corner of the room that is labelled with their choice of possible solutions. As small groups, students at each corner work through the problem and discuss. At any point, students may move to another corner.

- What is a good estimate for 5.3% of 41.9?
 - I think the answer is close to 8.
 - I think the answer is close to 20.
 - I think the answer is close to 2.
 - I think the answer is close to 80.

Frayer's Model

The Frayer Model is a vocabulary development tool. In contrast with a straight definition, the model helps to develop a better understanding of complex concepts by having students identify not just what something is, but what something is not. The center of the diagram shows the concept being defined, while the quadrants around the concept are used for providing the details.



Sticky-Note

Collect and organize data quickly by giving each child a sticky-note and asking him or her to answer a question and post his or her response on a class graph, in a Venn Diagram, or similar to ABCD cards.

Card Sorts

Students work individually or in small groups to sort a set of cards according to a given characteristic or category. The cards can be numbers, shapes, symbols, words, or pictures.

Variations: Have students sort the cards but do not give pre-defined categories – have students sort and then explain and justify.)

7/10

3/4

5/12

1/8

6/8

Example/Non-Example

Students provide examples and non-examples for a specific math definition or concept.

Shapes with four sides that are rectangles	Shapes with four sides that are not rectangles
What rule did you use to decide whether a four-sided shape is a rectangle or not	

Hot Seat and Waiting Time

In the Hot Seat technique, one student is chosen to answer several teacher questions. Another student is then chosen to summarize or report on what the first student answered. The teacher then gives his or her evaluation. The reason for this is to give learners enough waiting time to process and evaluate in their own heads the answers of their peers before the teacher provides the “correct” answer. Without that waiting time, learners just listen and wait for the right answer from the teacher rather than develop the habit of evaluating ideas themselves.

Without using the square root button on your calculator, estimate $\sqrt{800}$ as accurately as possible to two decimal places.

Exit Passes/Exit Pass Place Mat

The exit pass is simply a question that is posed to all students prior to class ending. Students write their answer on a card or piece of paper and hand it in as they exit (hence exit pass). This formative assessment technique engages all students and provides evidence of student learning for the teacher.

Why can't you have a probability greater than 1?

The exit pass is a great in class assessment tool that can also help plan instruction. Teachers gain understanding of who knows what and if additional instruction is needed. **Exit Pass place mat** can be used if students place their names on the back of their exit card. The teacher can use the exit pass as a place setting to create homogeneous to work with students who are having difficulty, or heterogeneous groups in which students can work through ideas.

Why is a square a trapezoid?

3. Providing Feedback that Moves Learning Forward

Effective feedback should be focused and related to the learning goal causing students to think. The primary purpose of feedback should be to increase the extent to which students are owners of their own learning.

Three Questions

This is a technique teachers use to respond to students' writing and problem solving. As a teacher reads student's work, when she see something on which she would like the student to reflect, she place a number circle at that point in the text. Underneath the student's work the teacher writes a question relating to the numbered circle, leaves a number of lines for the student to respond; writes a question for the second, leaves a space and then writes a third question.

Comment only marking

The teacher provides only comments—no grades—on student work, in order to get students to focus on how to improve, instead of their grade or rank in the class. This will more likely pay off if the comments are specific to the qualities of the work, designed to promote thinking, and to provide clear guidance on what to do to improve. Consistently writing good comments that make students think is not easy to do, so it is a good idea to practice this technique with other teachers for ideas and feedback.

Plus, minus, equals

The teacher marks student work with a plus, minus, or equals sign to indicate how this performance compares with previous assignments. If the latest assignment is of the same quality as the last, the teacher gives it an "="; if the assignment is better than the last one, she gives it a "+"; and if the assignment is not as good as the last one, she gives it a "-". This technique can be modified for younger students by using up and down arrows.

4. Activating Students as Instructional Resources for One Another

When students provide feedback to one another, they are forced to internalized the learning intentions and success criteria but in the context of someone else's work.

Carousel Brainstorming

For Carousel Brainstorming the class is split up into groups of four to five students. Each group gets their own chart paper and colored marker. The idea is to have each group write down what they know about a topic or possible answers to an open-ended question. Place a time limit on each group and when the time is up, have each group pass their chart along to another group, or move to the next chart. Students must read what the other groups have recorded for answers and then add to the list. They can also circle or highlight answers that they feel hit the mark or add question marks to answers they feel missed the mark.

A recent survey asked groups of students to rate, on a scale of 1 to 3, how much they enjoyed their school lunches. The average rating was a 2.2. How many students might have been surveyed and what might their individual rating have been?

Two Stars and a Wish

Two Stars and a Wish is designed to provide student feedback via peer- and self-assessment. Two Stars – areas where the student's work excelled – and one Wish – an area where there can be some level of improvement. It can be administered in several ways, and ideally all three over time:

1. Review an anonymous piece of work with the entire class and have all students provide feedback
2. Break the class into pairs and have them review each other's work
3. Have each student assess their own work

Agree/Disagree/Depends

Statement	How Can You Find Out?
$\frac{7}{16}$ is larger than $\frac{3}{8}$ ___ agree ___ disagree ___ depends ___ not sure My thoughts:	
A trapezoid is a parallelogram ___ agree ___ disagree ___ depends ___ not sure My thoughts:	

Agreement Circles

Form a circle in the room. When a statement is read, students who **agree** with the statement step into the center of the circle. Those who **disagree** with the statement remain on the circumference of the circle. Those inside the circle then partner with students on the circumference to discuss and defend their thinking.

Examples:

- All squares are rectangles.
- All rectangles are squares.
- The opposite sides of a trapezoid are parallel.

Always, Sometimes, Never

Presented with statements, students decide if each statement is **always true**, **sometimes true**, or **never true**. This can be done in various ways for example as a card sort (create three sets of cards) or in partners using a sheet of paper.

Examples:

- Multiples of 5 end in 5.
- Multiples of 7 are odd numbers.
- Adding two numbers always gives an answer larger than the numbers you started with.
- Multiplying two numbers always gives an answer larger than the numbers you started with.

Peer assessment with a “pre-flight checklist” or rubric

Students trade papers and check each other’s work against a “pre-flight checklist” or rubric to improve the quality of the work they submit to the teacher. To close the feedback loop, there should be clear structures for when and how students are to take this feedback on board to improve their work. A pre-flight checklist is a list of the required, basic components for an assignment. The pre-flight checklist differs from a full-fledged rubric in that it is used primarily to check that all the required components are present, whereas a rubric is more likely to get into the quality of those components. Whether a checklist or rubric is used, peers should be taught to provide accurate feedback.

Homework help board

Students identify homework questions they struggled with, put them on the board, and solve them for one another. As students enter the classroom, they write the problem number or other identifier for homework questions that they could not figure out in a pre-designated section of the board. At the same time, they and classmates who succeeded at any of the identified problems show their solutions on the board, with minimal involvement from the teacher. This technique results in an efficient review of homework that is targeted to the areas of difficulty. The teacher need only assist on those problems that no one else can solve, and even then, this may only require the teacher to ask an appropriate question, offer a suggestion, or begin a solution—then the students can take over.

5. Activating Students as Owners of their Own Learning

All students can improve how they manage learning processes and become owners of their own learning.

Traffic Lights

Traffic Lighting is a means of self-evaluation that displays how well a student has understood a topic or activity based on the colors of a traffic light. Green means “I understand”; yellow means “I’m not sure”; and red means “I don't understand.” It is particularly effective when students know the criteria for success.

- Traffic lights can be used for test preparation.
- When students complete an assignment, they put a red, yellow, or green circle next to their name to indicate how well they understood the assignment.

I used to think..., but now I know...

This is a technique used to get students to reflect on their learning. At the end of a lesson/chapter/unit/discussion, students reflect on how their understanding has developed.

Learning Logs

Learning logs is a technique used to get students to reflect on their learning. At the end of a lesson/chapter/unit/discussion, students reflect on how their understanding has developed and provide feedback to teachers.

Examples of learning log prompts:

- One thing I am not sure about is...
- The main thing I want to find out more about is...
- I might have gotten more from this lesson if...
- What I like most about this lesson was...

A Picture Tells A Thousand Words

Photograph students during math activities and investigations. Use those images as writing prompts or discussion starters. “What were you doing in this activity?”

