Embedded Formative Assessments

Research shows that:

1. Random selection of students to answer questions is preferable to calling on hands.
2. Wait time after asking the question and before selecting the student increases student learning.
3. Wait time after the student response before the teacher evaluation of the response increases learning.
4. Statements followed by an invitation to discuss can be as effective as asking questions.
5. Teachers listen for ***evaluation*** (correctness of the answer) OR ***interpretation*** (how to better teach something). We need to move from evaluative to interpretive listening.
6. To make decisions about the readiness of the whole class teachers need to use all-student response systems routinely. All student responses should be based on cognitive questions rather than affective questions.
7. Discussion questions are used to determine the reasons why students provide responses. Diagnostic questions are used to determine whether students have mastered the learning objective.
8. ‘Hinge-point’ questions placed part way through the class provide teachers with the necessary information to best proceed before the class ends. They should take no longer than a minute or two to answer and should be based on what the students have just learned. They should be designed so that the teacher can view and interpret the whole class’s response in thirty seconds.

Teachers should focus on just two things: 1) is there anything that a significant portion of the class answered incorrectly and which needs to be re-taught?, and 2) which two or three students would benefit from individualized instruction?

Five Key Strategies for Day-by Day Formative Assessment

1. Clarifying learning intentions and sharing criteria for success: [C-3]
2. “sharing exemplars” - Teacher has students rank order a range of sample work. Share the rankings and co-construct a rubric to score the work.
3. “what not to do” - Teacher has students identify errors and weaknesses in others’ work. Students then share what they recommend others to avoid.
4. “analyze and rewrite” - review students’ writing and select the best three. Record a provisional mark but do not write anything on the papers. Pass back all papers with the copies of the best three attached. Discuss in class what makes the three samples high quality and then have all students rework and resubmit their assignment.
5. “daily sign in”. Teacher has students “sign-in” to class each day by performing some indicator for a learning goal. At the end of the week each student goes to the sign-in board with a peer and together they decide which indicator is the best.
6. “choose-swap-choose”. Teacher has the student provide ten samples of a specific work and then circle the one he/she perceives as best. They then swap with a peer who circles the one the peer perceives as best. If they disagree they discuss why.
7. Have students design test questions and the correct answers.
8. Have students design an experiment to find out a key learning point.
9. Use WALT (We are learning to), WILF (What I’m looking for) and TIB (This is because)

1. Engineering effective classroom discussions, questions, and learning tasks that elicit evidence of learning. Effective questions either: a) cause students to think OR b) provide teachers with information about what to do next. [C-4]
2. Initiation-Response-Evaluation (IRE) questions. Teacher asks the question, student responds, and the teachers evaluates the student response
3. Pose-Pause-Pounce-Bounce. Teacher asks the question, waits, chooses a student, and without evaluating moves on to ask another student for their answer.
4. “I’ll get back to you”. Teacher asks a question, waits, chooses a student who then says she doesn’t know, asks another student who responds but does not evaluate the response, asks a third student and a fourth and then returns to the first student and gets them to choose the best answer and tell why.
5. Getting back to them. Teacher asks a question, waits, chooses a student who then says she doesn’t know, asks another student who responds and then evaluates the response. Then returns to the first student and re-asks the question. Continues to go back and forth until the first student can respond fully. Humorously praises the second student each time.
6. “Phone a friend” Teacher asks, student doesn’t know. Teacher provides opportunity to get help from another student.
7. “Ask the audience” Teacher asks, student doesn’t know. Teacher provides opportunity to get help from the class.
8. “Go fifty-fifty” Teacher asks, student doesn’t know. Teacher removes all but two answers and re-asks the question.
9. “Think-Pair-Share”. Teacher makes a statement and gives time for each student to think of an answer, then has student to share their answer with a classmate and then has each pair share their ‘best’ answer with the class.
10. “Question shells” (Is? Why?). Teachers move from questions that require ‘yes’ or ‘no’ responses to questions that require higher level thinking.
11. “Hot seat & Summary”. Teacher asks a student a question and then follows up with series of additional questions. Then the teacher asks another student to summarize what the first student said.
12. “Thinking thumbs” all students respond to a question by thumbs up (yes), thumbs down (no), or thumb sideways (not sure).
13. “Fist to five” all students respond to a question by holding up a fist (zero), one finger (1) …….. five fingers (5) to indicate their response.
14. “ABCD cards”. All students respond by holding up cards that show the correct answer(s).
15. “Letter corners”. When students use ABCD cards and each letter is chosen by at least three students, the students are sent to the four corners of the room to come up with ways to convince the rest of the class that their answer is correct.
16. “Mini-white boards”. Students have a surface upon which they write their answer and when signaled, all student raise their answers.
17. “Exit slips”. Each student is required to write an answer on a card and put their name on the back. Teacher uses responses to plan instruction for next class and to rearrange seating to maximize learning.
18. “Entrance slips”. Teacher begins the class with a question posted on the board. Upon entering the room students are expected to sit quietly, take a sheet of paper, and respond to the question. Responses can diagnose class-wide or individual difficulties and, if the class is carefully planned, the slips can be reviewed during class and lead to instructional changes.
19. Providing feedback that moves learners forward. [C-5]
20. “Three questions”. Teacher reads the students work and writes three questions at the end along with a few blank lines for the student to use for a response. The next class begins with 10-15 minutes in which students respond to the questions.
21. “Match the comment”. Teacher worked with student groups and when returning their work she provided comments on separate slips of paper and gave the slips to the group without identifying which belonged to each student. The students were required to identify their own feedback slips.
22. “Less is more”. Provide less but more focused feedback.
23. “Focus the feedback”. Provide feedback that relates to the learning goals that have been shared with the students. Relate the feedback to a rubric if one has been given.
24. “Find it and Fix it”. Teacher provides feedback that there are a certain number of errors and then tells the students to find them and fix them.
25. “Find it and Fix it”. Place a dot in the margin beside a line that contains an error and students are then required to find the error and fix it. Weaker students may be given a single letter hint as what type of error it is (e.g. - g for grammar, s for spelling, p for punctuation)
26. Activating students as owners of their own learning. [C-7]
27. “ self analysis”. Teacher informs students to focus on factors that can be self-controlled and then has them respond to a question such as: “I would learn better if I …… “ Answers are then used by students to develop 2-3 learning goals.
28. “Traffic lights”. Teacher begins the lesson by providing a sheet that shows the learning objectives and any success criteria to the students. At the end of the period each student places a coloured circle in the column to the right of the sheet beside each criteria. Red circle indicates the student has a problem, yellow indicates ambivalence, and green indicates confidence that learning has occurred. Reds are called over for teacher help, while greens help the yellows.
29. “Red-Green discs”. (good way to re-cycle old CDs) Each student has a CD , which is green on one side and red on the other placed on the corner of their desk. As the class proceeds students indicate their understanding by flipping the disc to green for yes OR red for no. Students who become frustrated can hold their disc up if the teacher fails to realize their concern.
30. “Coloured cups”. Similar to the discs but each student is given three cups, one of each colour. All students start with the green cup on the top of the others. A yellow cup signifies that the teacher is going too fast, a red indicates that the student wants to ask a question. If a student shows a red cup the teacher then uses the pop-cycle randomizing method to call another student to the front of the class to answer the question.
31. “Learning portfolios”. Unlike the performance portfolio in which the student replace lesser work with better work, the learning portfolio keeps all work so the student can compare current work with past work and see the incremental improvement.
32. “Learning logs”. At the end of each lesson students are invited respond to no more than three of these questions:

* Today I learned …..
* I was surprised by …..
* The most useful thing I will take form this lesson is …..
* I was interested in …..
* What I liked most about this lesson was …..
* One thing I’m sure about is …..
* The main thing I want to find out more about is …..
* After this class I feel …..
* I might have gotten more form this lesson if …..

1. Activating students as instructional resources for one another. [C-6]
2. “C3B4ME”. Before students can approach the teacher for help they must first seek assistance from three other students.
3. “Peer evaluated homework”. Teacher provides a rubric and students swap homework either in partners or between groups to mark each others’ homework.
4. “Homework help board”. At the beginning of the day(elementary) or the period (middle secondary) students indicate on the homework help board the questions they have about the homework. Time is given as students seek help from their more capable peers.
5. “Two stars and a wish”. A peer assessment approach whereby when providing feedback a student uses sticky notes to provide two things good about the work and one suggestion for improvement. Once the feedback has been used the teacher collects the sticky notes and reviews them with the class to see if the feedback comment would be useful to others. The quality of feedback is then discussed and the best criteria are displayed on a poster in the classroom.
6. “End of Topic Questions”. Once a learning activity is completed student groups are given the opportunity to discuss any questions. Some teachers require at least one question per group. Any questions that cannot be answered within the group are then collected by the teacher. Teacher then arranges the common questions and deals with them.
7. “Error classification”. Teacher collects student work and underlines errors and then passes the work back to the students. Students are asked to classify the errors using common themes/criteria and then buddy with a student who has complementary strengths to get peer help.
8. “What did we learn today?”. Students work in groups to produce a list of things they have learned in the class. Each group then reports one thing to the class.
9. “Student reporter/Captain’s Log”. A student is selected as reporter before the lesson. Ten minutes before the class is over the student reporter is called upon to summarize the main points of the lesson and tries to answer any questions that other students may have. If the reporter cannot answer the question he/she asks for another student to help out.
10. “Pre-flight check list”. Before an assignment can be submitted it must be signed off by a buddy who checks off a list of items provided by the teacher. When the teacher grades the assignment any substandard checklist items are taken up with the buddy.
11. “I-You-We Checklist”. At the end of a group activity each student records something about his or her contributions, something else about a peer’s contributions and an evaluation of the quality of the work as a whole.
12. “Reporter at Random”. Rather than select the group recorder at the beginning of the activity, wait until the end to ensure everyone is more accountable.
13. “Group-based Test Prep”. Teacher organizes the class into groups of five to six and assigns each student one aspect of the work to review. The student reviews are guided by a brief descriptive paragraph provided by the teacher to each student. Next day each student presents their review task to the group. Groups members rate the member presentations using “traffic light” and then add to any weak reviews to make them into reviews for the test.