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Informal Assessment Strategies: A-Z for the Math Classroom

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A-Z INFORMAL ASSESSMENT TECHNIQUES

Informal assessments allow teachers to track the ongoing progress of their students regularly and often. These assessments are designed to determine whether students are learning what is being taught, for the purpose of adjusting instruction. By using informal assessments, teachers can target students' specific problem areas, adapt instruction, and intervene earlier rather than later. Provided below is a description of the A-Z list of informal assessment techniques.

ANECDOTAL RECORDS

Anecdotal Records represent informal written descriptions of a student's academic progress in the classroom involving a specific problem or area of difficulty. The record is a result of a direct observation. Anecdotal records can be used to document student achievement in mathematics. Be careful - anecdotal records should be written carefully, avoiding judgmental words.

APPLICATION CARDS

After teaching about an important theory, principle, or procedure, ask students to write down at least one real-world application for what they have just learned to determine how well they can transfer their learning.

BLOG

A Blog is short for weblog and represents an online journal that is frequently updated by the students based on the current content or problem under investigation. Blogs are typically updated daily and require little or no technical background to update and maintain the blog. Blogs can be used by students to create their own online math journal.

BRAINSTORMING

Brainstorming is a technique used to determine what a student may already know about a particular topic. Students often feel free to participate because there is no criticism or judgment.

CHAIN NOTES

Students pass around an envelope on which the teacher has written one question about the class. When the envelope reaches a student he/she spends a moment to respond to the question and then places the response in the envelope.

CHECKLISTS

Checklists (e.g., Misconception/Preconception Checklist) specify student behavior or products expected during daily progression through the curriculum. The items on the checklist may be behavior or content area objectives. A checklist is considered to be a type of observational technique. Because observers check only the presence or absence of the product or behavior, checklists generally are reliable and relatively easy to use. Used over time, checklists can document students' rate and degree of

2 accomplishment within the math curriculum.

A-Z INFORMAL ASSESSMENT TECHNIQUES

DEBATES

Debates enable the teacher to informally evaluate students' oral work by assessing their oral presentation skills in terms of their ability to understand concepts and present them to others in an orderly fashion.

DIRECTED PARAPHRASING

Ask students to write a layman's "translation" of something they have just learned - - geared to a specified individual or audience -- to assess their ability to comprehend and transfer concepts.

EXIT CARDS

Exit Cards are a quick assessment tool for teachers to help them become more aware of student understanding of concepts taught. Exit cards are written student responses to questions posed at the end of a class or learning activity, or at the end of a day. They may be used at any grade level and every subject area.

FOLLOW-UP QUESTIONING

Quality follow-up questions generated by either a teacher or student from an observation, comment, or prior question extend beyond simple rote memorization such as *What is...?* or *Where did...?* by encompassing the higher levels of Bloom's taxonomy.

GALLERY WALK

In small groups students move around the room from station to station at set times and discuss questions or problems raised during class. For example, a math teacher could post 3-5 questions about a particular math problem on separate sheets of paper taped as stations on the wall. Groups of students would pause at each station, discuss the question, write comments on the sheet, and then go to the next question when a signal is given.

GRAPHIC ORGANIZERS

Graphic Organizers or concept maps provide students with a visual representation that supports their understanding of simple or complex processes. Sample graphic organizers include: T-charts, Venn diagrams, and KWL charts. Graphic organizers can be used to assess students' understanding of relationships, ideas, or concepts.

GUIDED RECIPROCAL PEER QUESTIONING

Guided Reciprocal Peer Questioning enables students to develop questions about new material or recognize what they don't know. Students are given open-ended questions (e.g. "explain how...", "what if...?", "how does ____ affect ____?") that they ask each other.

A-Z INFORMAL ASSESSMENT TECHNIQUES

HAND SIGNALS

Hand signals range from students raising their hands to respond to a question posed by the teacher to a group "thumbs up/down" signal to determine students "acknowledged" understanding of a concept or process.

INTERVIEWS

Perform either a structured or unstructured interview with one or more students to ascertain their understanding of a particular concept or process.

JOURNALS - LEARNING/REFLECTION

Reflection or Learning Journals enable students to reflect on the learning going on within the classroom. Daily journals provide students with a daily conversation with themselves allowing them to reflect on key concepts or ideas raised during class.

KWL CHART

A KWL Chart is one type of graphic organizer that allows students to determine "What they *know* about a specific topic," "What they *want to know/learn* about a specific topic," and "What they *learned* from the lesson." This method is used to gauge students' understanding of a particular concept or process.

LEARNING LOGS

Learning Logs provide opportunities to gauge student progress. A learning log represents a student's ongoing commentary relating to a particular course of study. Entries are made frequently and are dated.

MINUTE PAPER

The Minute Paper is an informal assessment technique that asks students a simple question about some aspect of the class that they can answer in a minute. The responses are then collected by the teacher on 3x5 cards, reviewed, and distributed back to the students with comments or other interesting points.

MUDDIEST POINT

The Muddiest Point is an informal assessment strategy used to help the teacher identify a lesson's most confusing points. Students are asked to write down the most confusing or problematic concept from a given lesson via a 3x5 card or email message to the teacher. The teacher, in turn, collects the "muddiest points" from the students and then addresses these issues more completely during a follow-up lesson to improve students' understanding.

"NO HANDS UP"

A "No Hands Up" rule gives the whole class thinking time to prepare a response, before the teacher chooses a student. Another approach is allowing hands up only when a student has a question of his/her own.

A-Z INFORMAL ASSESSMENT TECHNIQUES

OPEN-ENDED QUESTIONS

Open-ended Questions resist a simple or single right answer; are deliberately thought-provoking, counterintuitive, and/or controversial; require students to draw upon content knowledge and personal experience; and address the highest level of Bloom's Taxonomy (Evaluation).

ONE-SENTENCE SUMMARY

This simple technique challenges students to answer the questions "Who does what to whom, when, where, how, and why?" (represented by the letters WDWWWWHW) about a given topic, and then to synthesize those answers into a simple informative, grammatical, and long summary sentence.

PAIRS CHECK

Pairs Check is a technique in which teams of 4 work in pairs on a problem. One student works on the problem while a second student coaches and then these students switch roles. In the next step, each pair checks their work by checking with the other pair.

PERFORMANCE TASK

A Performance Task is a learning event that allows for multiple solutions, relates to the student's prior knowledge, has personal meaning, and is challenging. Performance tasks are used to determine what students know and what they are able to do relating to the eligible content.

QUICK WRITE

A Quick Write is an informal assessment tool requiring students to write for a short time (less than 10 minutes), focusing on content, not grammar.

ROVING REPORTER

A Roving Reporter is a member of a team who roams around the room seeking ideas and help from other groups.

RSQC2 (RECALL, SUMMARIZE, QUESTION, COMMENT AND CONNECT)

RSQC2 is a classroom assessment technique in which students are asked to recall and review information presented in prior lessons. Students are asked to write down a few of the main points from a previous lesson (recall) and then bring those separate ideas together into a single summary statement (summarize). Students then generate one yet unanswered question (question) they have from the previous lesson and then provide connection from the concepts in that lesson to the overall goals for the course (connect). Student can also be asked for comments they may have regarding their understanding of the concepts.

A-Z INFORMAL ASSESSMENT TECHNIQUES

RUBRICS

A Rubric provides written guidelines by which student work is assessed. Grading rubrics articulate clearly how student work is judged and give standards needed to achieve each grade. Rubrics are useful for both students (what is expected on them is clearly articulated) and staff (makes grading easier and less subjective).

SHORT QUIZZES

Short Quizzes are usually one to three questions and may be in the form of short answer, multiple-choice, fill-in-the-blank, or open-ended. Short quizzes are used informally to gauge what students have learned about the content.

STUDENT-GENERATED TEST QUESTIONS

Student-generated test questions allow students to write test questions and model answers for specified topics in a format consistent with course exams. This approach gives students the opportunity to evaluate the course topics, reflect on what they understand, and determine good potential test items.

SURVEYS/RATING SCALES

Surveys and Rating Scales provide an easy-to-use format to acquire information about students' understanding of important content. Online surveys, in particular, give students an opportunity to express their understanding of a concept or process without any potential embarrassment issues. Results from all students are tabulated online and aggregated into a class graph or data table.

TRAFFIC LIGHT CARDS

Every student has a red, yellow and green card. If a student shows their yellow card, it means the teacher is going too fast. If they want to stop and ask a question, they show red. The teacher can then choose a child showing green or yellow to answer.

THINK-PAIR-SHARE

Think-Pair-Share involves students thinking about a question, pairing off and discussing the question with a classmate, and then sharing their answers with the whole class.

THINK-PAIR-SQUARE

Think-Pair-Square is the same as Think-Pair-Share except that students share their answers with another pair.

TURN-TO-YOUR-NEIGHBOR

This is a very useful technique for any size class. With this approach, staff give their students a problem to work on (e.g., figures or tables to interpret, a written question) and simply ask them to "turn to their neighbors" in the class and discuss the problem. Students should work in small groups of 3-4.

A-Z INFORMAL ASSESSMENT TECHNIQUES

UMPIRE

Umpire is a technique whereby one student responds to a teacher question, then the teacher immediately looks down the row of chairs or tables and points to another student or group of students to determine if they agree with the initial student's response (e.g., "Do you agree with Tim's definition of circumference?", "Is his answer correct?", or "What do you think?")

VIDEOS OF STUDENT PORTFOLIO CONFERENCES

Using Video to document student products is a convenient way to determine what students have accomplished and what they know relative to the content standards.

WIKIS

A wiki is a website or similar online resource which allows users to add and edit content collectively.

WRITE BEFORE DISCUSSION

Write Before Discussion is an approach used to enhance a discussion with "low stakes" writing. Students are asked a question and given a few minutes to briefly write answers or comments. What they write is for their use only and not handed in to the teacher. Students need to understand why this is useful for the discussion and can help them write better (otherwise they may not take the exercise seriously).

X GAMES

X Games is a spin-off of the extreme sports version whereby students are given "extreme" math problems to solve working in teams of four. The games can be held quarterly and broken into seasons based on the current math benchmark.

Y GRAPHIC ORGANIZER

A Y Graphic Organizer is a three-part chart embedded in a pie chart. In other words, the pie chart is divided into three sections forming the letter, Y. A student can use a Y-Chart to help organize what they know about a topic by writing and/or drawing what the topic looks like, feels like, and sounds like. The student must think about a topic with respect to three of their senses, sight, hearing, and touch.

Z CHART

Z Charts show student progress over time and can result in many different charts to show various viewpoints. A Z-chart can reduce at least three different line charts into one simple line chart. When reviewing progress of their performance in class, students will want to look at :

- In the short term, I want to know 'How did I do this month (/week/etc.)?'
- In the longer term, the rate of academic growth or decline may be of significant interest.
- In the intermediate term, it is interesting to connect these two, to see how short-term achievement is building up to longer-term goals.

NOTES