

Assessment Toolbox

GRADES 9-12

North American Division
Adventist Education



Adventist Education
A JOURNEY TO EXCELLENCE

GRADES 9-12

Introduction to Assessment

Assessment provides instruction and learning feedback to teachers and students. Information gained through informal assessments provides opportunities for teachers to make adjustments to the ways in which they deliver instruction. Teachers use assessments both to provide **feedback** to students about their progress and to **guide decisions** about next steps in the learning process, thereby closing the gap between the learner's current and desired states. Popham (2008) defines formative

assessment as "a planned process in which teachers or students use assessment-based evidence to adjust what they are currently doing". The operative word in this definition is process, in that formative assessment happens throughout the learning, as opposed to summative assessment, which is often a one-time event that occurs at the end of a learning unit and is used to make judgments about student competence.

This toolbox is designed to provide strategies and resources that support assessment practices in math for grades 9-12.

WEB LINKS:**Cognitive Rigor: Blending the Strengths of Bloom's Taxonomy and Webb's Depth of Knowledge to Enhance Classroom-level Processes**

<http://scformativeassessment.com/wp-content/uploads/2012/06/Cognitive-Rigor-Matrix.pdf>

BOOKS:

Frey, N., & Fisher, D. (2011). *The formative assessment action plan: Practical steps to more successful teaching and learning*: Association for Supervision & Curriculum Development.

Greenstein, L. (2010). *What teachers really need to know about formative assessment*: ASCD.

Hess, K. K., Jones, B. S., Carlock, D., & Walkup, J. R. (2009). Cognitive Rigor: Blending the Strengths of Bloom's Taxonomy and Webb's Depth of Knowledge to Enhance Classroom-level Processes. *Online Submission*.

Himmele, P., & Himmele, W. (2011). *Total participation techniques: making every student an active learner*: Association for Supervision & Curriculum Development.

Marzano, R. J., Pickering, D., & Pollock, J. E. (2001). *Classroom instruction that works: Research-based strategies for increasing student achievement*: ASCD.



GRADES 9-12

Assessment Strategy: Think-Pair-Share

DEFINITION:

Think-Pair-Share is a cooperative discussion strategy that allows students to discuss their responses with a peer before sharing their ideas with the whole class. The teachers can listen as pairs of students discuss their responses and note how responses are being shared.

1. Think.

Teacher engages students' thinking with a question, prompt, reading, visual, or observation. Students are given a few moments to THINK about the question.

2. Pair.

Students PAIR up to discuss their responses they compare their thoughts and identify responses they think are the best, most convincing, or even most creative.

3. Share.

After students have met in pairs for a few moments, the teacher asks the pairs to SHARE their thinking with the rest of the class.

STRATEGIES:**Activity Worksheet:**

<http://www.studenthandouts.com/Assortment-01/Graphic-Organizers/Think-Pair-Share-Diagram-Chart-Instructions.html>



GRADES 9-12

Assessment Strategy: Writing Prompts (Admit/Exit Slips)

DEFINITION:

Students write on a topic or questions that the teacher supplies, and they hand the paper to their teacher on the way out of class. This exit slip is a good closure activity. The teacher then reviews the slips for content information, making decisions about what students understand and what they still need to be taught.

Example writing prompts:

1. Awards-

students recommend someone or something for an award that the teacher has created, such as “Most Interesting Character,” “Most Dangerous Chemical,” or “Most Destructive War.”

2. Take a Stand-

Students discuss their opinions about a controversial topic such as “What is race, and does it matter?” or “What’s worth dying for?”

3. Yesterday’s News-

Students summarize the information presented the day before, from a film, lecture, discussion, or reading.

4. Letters-

Students write letters to others, including elected officials, authors, inventors, scientists, etc. who have made a difference.

STRATEGIES:**Description of Activity:**

http://cte.ed.gov/docs/Handout_3_Using_Writing_Prompts_Across_Curriculum.pdf

Activity Worksheet:

http://712educators.about.com/od/essaysparagraphpapers/a/academic_expos.htm



GRADES 9-12

Assessment Strategy: RAFT (writing-to-learn prompts)

DEFINITION:

Raft prompts are designed to help students incorporate different perspectives into their writing (Santa & Havens, 1995). RAFT prompts provide a scaffold for students as they explore writing by taking on various roles, audiences, and formats.

Role-

What is the role of the writer?

Audience-

To whom is the writer writing?

Format-

What is the format for the writing?

Topic-

What is the focus of the writing?

Essential question:

“Can you buy your way to happiness?”

R- a human being, maybe you

A- other humans

F- free verse poem

T- buying happiness

STRATEGIES:**Description of Activity:**

<http://www.adlit.org/strategies/19783/>

Activity Worksheet:

<http://www.readwritethink.org/files/resources/printouts/RAFTWriting.pdf>



GRADES 9-12

Assessment Strategy: Quizzes

DEFINITION:

Tests should be constructed to rely on recall as opposed to merely recognition. If introduced in the right way, quizzes can be useful tools, especially for assessing basic facts, discrete skills and knowledge of new vocabulary. Questions can include multiple choice, true-false, matching exercises, cloze tests and short answer fill-in-the-blank items.

Quizzes should be presented as learning devices and not as tests that always merit a grade. They should be informative to the learner.

STRATEGIES:**Description of Activity:**

<https://k12teacherstaffdevelopment.com/tlb/types-of-formative-assessments-quizzes/>

Activity Worksheet:

These will differ according to content and grade level.



GRADES 9-12

Assessment Strategy: Four Corners

DEFINITION:

Corners are labeled: strongly agree, agree, disagree and strongly disagree. Present a controversial statement and have students go to the corner that best fits their opinion. Students then pair up to discuss why they feel as they do. Teacher circulates and records comments. Next, there can be a whole group discussion, where opinions are defended and or students can work individually to write a defense of their own opinion.

This method provides a quick and visual way to preview what students may know or believe prior to instruction. Teachers should be sensitive to individual students who may be less comfortable making a public statement. Note also that this strategy can be adapted to any number of possible responses.

STRATEGIES:**Activity Worksheet:**

http://www.carla.umn.edu/articulation/polia/pdf_files/fourcorners.pdf



GRADES 9-12

Assessment Strategy: Presentations

DEFINITION:

Students practice a presentation model, with peer feedback. They are working on verbal work as well as presentation skills and demonstrating knowledge on the subject matter.

Create a standards-based rubric that students see before they prepare and as they peer evaluate.

STRATEGIES:**Description of Activity:**

<http://www.brighthubeducation.com/student-assessment-tools/78764-making-presentations-easier-for-students>

Oral Presentation Rubric:

http://www.readwritethink.org/files/resources/printouts/30700_rubric.pdf



GRADES 9-12

Assessment Strategy: Jigsaw

DEFINITION:

Jigsaw is a well-established method for encouraging group sharing and learning of specific content. This technique can be used as an instructional activity across several days and is best to use when there is a large amount of content to teach.

Jigsaw helps students learn cooperation as group members share responsibility for each other's learning by using critical thinking and social skills to complete an assignment. Subsequently, this strategy helps to improve listening, communication, and problem-solving skills.

The class is broken into groups ranging in size from four to six students. Each student is given an index card with a different question and reads their question aloud to the group.

One student in each group is assigned to be a record keeper, keeping track of the number of students that a) get it, b) sort of get it, c) aren't quite sure, or d) just don't get it. Once each question has been read, the groups reassemble so that the groups are comprised of students who all had the same question. They then work collaboratively as a team to prepare one answer. The groups then reform to their original members where the answers are shared and the record keeper rescores.

STRATEGIES:**Activity Worksheet:**

<http://www.msad54.org/district/literacyspecialist/pdf/jigsaw.pdf>



GRADES 9-12

Assessment Strategy: Learning Response Logs/Journals

DEFINITION:

Students maintain a log where they record their learning, or respond to a lesson regarding their understanding.

The teacher collects all or some of the logs after students have completed a task. Students will comment on their level of comfort with the information, as well as what was learned and what questions they may still have.

There are many kinds and purposes for journals. Journals can be unstructured, with teachers simply giving class time for learners to reflect about what they have learned. Response journals are more structured tools that ask learners to respond in a certain pre-designed way to what they are reading. Dialogue journals allow students to write and respond back and forth with one another or with the teacher.

STRATEGIES:**Description of Activity with Templates:**

<http://studyskillsforuniquelearners.wikispaces.com/file/view/learning-logs-and-learning-journals.pdf>



GRADES 9-12

Assessment Strategy: Individual White Boards

DEFINITION:

Students record their answer to a given question on their white boards. On the teacher's signal, the students raise their boards so the teacher can see if they arrived at a reasonable answer. This would drive later small group work.

The teacher posts a question, such as what are the three branches of government. Students record their response, and when requested, show their answer. Teacher notes students who are having difficulty.

STRATEGIES:**Alternative to Mini White Boards:**

<http://www.theartofed.com/2011/03/25/make-your-own-mini-whiteboards/>

Another alternative white board can be cardboard in a clear page sleeve or shower boards.



GRADES 9-12

Assessment Strategy: Graphic Organizers

DEFINITION:

A graphic organizer is a “visual representation of knowledge” on a concept or topic (Bromley, Irwin-DeVitis, and Modlo 1999). This information presented in a graphic organizer is arranged within a certain framework so that a student’s understanding of concepts can be assessed at a glance. As students work, the teacher can circulate around the room. The final product can drive further learning.

Graphic organizers also reveal students’ prior knowledge and promote active participation of students to facilitate comprehension (Kirylo and Millet 2000).

Conceptual graphic organizers assess students’ understanding of a concept or a central idea. Hierarchical graphic organizers assess students’ understanding of a concept or topic by asking them to break down the concept into sub-concepts or levels. Cyclical graphic organizers assess students’ comprehension of natural cycles.

STRATEGIES:**Description of Activity:**

<http://www.inspiration.com/visual-learning/graphic-organizers>

Activity Worksheet:

<http://www.cobbk12.org/Ceathamhill/LFS Update/Graphic Organizers.htm>



GRADES 9-12

Assessment Strategy: Laundry Day

DEFINITION:

This is a student self-assessment where they select a group with which to study for a summative assessment. Previous class work can also be used as criteria.

There are four groups: Tide (those who feel they are drowning in information); Gain (understand basics but missing some key parts); Bold (fairly confident, just some missing details); Cheer (sure of success, looking for enrichment).

The teacher can readily assess the students' level of understanding of the basic concepts covered in the unit or chapter. The teacher provides support as needed, as well as help being provided by students who are sure they have mastered the content.

STRATEGIES:**Description of Activity:**

<http://www.teachersfirst.com/single.cfm?id=14442>

Additional Information:

http://13formativeassessments.eportalnow.net/uploads/1/0/1/6/10161949/1a_wy_state_conf_hos-3.pdf



GRADES 9-12

Assessment Strategy: Kinesthetic Assessment

DEFINITION:

This assessment requires students to incorporate movement to demonstrate their understanding. The teacher can make notes on their understanding for further learning. Although usually connected with the Arts (dance, playing a musical piece) or physical education (dribbling a basketball, serving a volleyball), kinesthetic assessments can be used in the core content classrooms to furnish teachers with insight into their students' understandings and misconceptions concerning a concept.

Kinesthetic assessments are a good way to add movement in the classroom and allow teachers to determine the depth of student learning to inform their instructional decisions.

STRATEGIES:**Additional Information:**

<http://www.facstaff.bucknell.edu/jvt002/Docs/ASEE-2008b.pdf>

Activity Worksheet:

<http://wvde.state.wv.us/teach21/documents/DebateCircles.doc>



GRADES 9-12

Assessment Strategy: Discussion

DEFINITION:

The teacher asks targeted questions and records informally student responses. This can be done whole group or small group. Later this information can be transferred to student's grade page.

Propose an alternate ending to a book. Defend your change with information from the book and what you know about the characters.

It is important to connect classroom discussions to course goals, objectives and students' background knowledge.

STRATEGIES:**Description of Activity:**

http://www.niu.edu/facdev/resources/guide/strategies/classroom_discussions.pdf

Activity Worksheet:

<http://www.meade.k12.sd.us/PASS/Pass%20Adobe%20Files/March%202007/BloomsTaxonomyQuestionStems.pdf>



GRADES 9-12

Assessment Strategy: Observation

DEFINITION:

The teacher walks around the room as students are engaged in an activity.

There is a specific skill that is being addressed and the teacher will record what he/she sees on informal notes to be transferred to the student's grade pages to drive further instruction.

Suggestion: Students are working on a math challenge requiring using manipulatives to determine various equivalent fraction. The teacher will walk around and record what is observed, who demonstrates mastery and who needs more support.

Create a sheet with student names down the left and open slots at the top. List the standards being addressed with a given activity, then use a system to record those having difficulty and those who need more of a challenge. Those not marked show mastery. Transfer data to student record sheets later. Create the next day plan from the results.

STRATEGIES:**Description of Activity:**

<http://eduwithechn.wordpress.com/2007/11/03/observing-students-as-part-of-formative-assessment/>



GRADES 9-12

Assessment Strategy: One Minute Paper

DEFINITION:

The Minute paper provides real-time feedback from a class to find out if students recognized the main points of a class session—or were confused by them! This helps the instructor when crafting changes for the next class.

The Minute paper is traditionally done at the end of a class. The instructor asks the students, either individually or in groups, to respond to a short question posed by the teacher. They take a minute or two to write a response anonymously. The instructor then collects these minute papers, reflect upon them, note emergent themes, and formulate adjustments for the next class. The purpose is to investigate how well students understand important concepts presented during a class period, and to improve instruction in the succeeding class by modifications in teacher presentation. The teacher must focus on one concept, otherwise they are too complicated to analyze quickly. If students have limited reflective skills, minute papers are best done in groups, formal or informal. Because they focus on one concept in one class, they are not very beneficial for changes in overall course design. They are essentially assessments. Minute papers work best when done on a regular basis so that the teacher can tap into a class's conceptual progress for continuous improvement.

- What was the most important point of the class?
- What was the most surprising idea or concept?
- What question remains unanswered in your mind?
- What question from this class might appear on the next quiz/test?
- What was the muddiest point of the class?
- What was the main concept illustrated by the in-class demonstration/experiment?

STRATEGIES:**Description of Activity:**

<http://www.writing.ucsb.edu/faculty/dean/Upload2021-W08/minpapercat.pdf>

Activity Worksheet:

<http://homepages.math.uic.edu/~bshiple/MinutePaper.pdf>

<http://learnweb.harvard.edu/alps/thinking/docs/minute.doc>

