

Questioning

Asking better questions affords students an opportunity for deeper thinking and provides teachers with significant insight into the degree and depth of student understanding. Questions of this nature engage students in classroom dialogue that expands student learning. Questions should go beyond the typical factual questions requiring recall of facts or numbers. Paul Black, a noted authority on formative assessment, suggests that "more effort has to be spent in framing questions that are worth asking: that is, questions which explore issues that are critical to the development of students' understanding." (Black et al., 2003)

Links for Questioning:

Tips for Teachers - Asking Good Questions

<http://www.edb.utexas.edu/minliu/pbl/TIPS/question.html#hots>

Questioning Techniques: Research-Based Strategies for Teachers

http://onramp.nsd.org/eserv/onramp:1244/oct08_pl_tas.html

Edutopia: The Right Way to Ask Questions in the Classroom

<http://www.edutopia.org/asking-students-good-questions>

Inviting Student Engagement with Questioning

http://www.redorbit.com/news/education/258931/inviting_student_engagement_with_questioning/

Using "Think Time" and "Wait Time" Skillfully in the Classroom

<http://www.ericdigests.org/1995-1/think.htm>

Observations

The more we know about students, the more we can help them. Observations, sometimes called kid watching, can help teachers determine what students do and do not know. There are several instruments and techniques that teachers can use to record useful data about student learning. Here are a few:

Anecdotal Notes: These are short notes written during a lesson as students work in groups or individually, or after the lesson is complete. The teacher should reflect on a specific aspect of the learning (sorts geometric shapes correctly) and make notes on the student's progress toward mastery of that learning target. The teacher can create a form to organize these notes so that they can easily be used for adjusting instruction based on student needs.

Anecdotal Notebook: The teacher may wish to keep a notebook of the individual observation forms or a notebook divided into sections for the individual students. With this method, all of the observations on an individual student are together and can furnish a picture of student learning over time.

Anecdotal Note Cards: The teacher can create a file folder with 5" x 7" note cards for each student. See [Observation Folder](#). This folder is handy for middle and high school teachers because it provides a convenient way to record observations on students in a variety of classes.

Labels or Sticky Notes: Teachers can carry a clipboard with a sheet of labels or a pad of sticky notes and make observations as they circulate throughout the classroom. After the class, the labels or sticky notes can be placed in the observation notebook in the appropriate student's section.

Whatever the method used to record observations on students' learning, the important thing is to use the data collected to adjust instruction to meet student needs.

Links on Observation:

Observing Students

<http://www2.scholastic.com/browse/article.jsp?id=3749065>

Methods for Documenting Student Progress

http://newteachersupport.suite101.com/article.cfm/methods_for_documenting_student_progress

Anecdotal Records

http://www.saskschools.ca/curr_content/saskatoonint/1/Anecdotal.html

Discussion

Classroom discussions can tell the teacher much about student learning and understanding of basic concepts. The teacher can initiate the discussion by presenting students with an open-ended question. The goal is to build knowledge and develop critical and creative thinking skills. Discussions allow students to increase the breadth and depth of their understanding while discarding erroneous information and expanding and explicating background knowledge (Black and William 1998; Doherty 2003). By activating students as learning resources for one another there is the possibility of some of the largest gains seen in any educational intervention (Slavin, Hurley and Chamberlain 2003). The teacher can assess student understanding by listening to the student responses and by taking anecdotal notes. To prepare students for the discussion, the teacher could have students complete the [Decision Making Chart](#).

Links on Discussion:

Ten Techniques for Energizing Your Classroom Discussions

http://web.grcc.edu/CTL/faculty%20resources/ten_techniques_for_energizing.htm

The Importance of Classroom Discussion

http://www.drscavanaugh.org/discussion/inclass/importance_of_discussion.htm

How to Encourage Classroom Discussion

http://www.ehow.com/how_2128561_encourage-classroom-discussion.html

Classroom Instruction: The Discussion Technique

<http://www.brighthub.com/education/special/articles/5481.aspx>

Real World Model of Classroom Discussion

<http://learnercenteredteaching.wordpress.com/teaching-resources/real-world-model-of-classroom-discussion>

Exit/Admit Slips

Exit Slips are written responses to questions the teacher poses at the end of a lesson or a class to assess student understanding of key concepts. They should take no more than 5 minutes to complete and are taken up as students leave the classroom. The teacher can quickly determine which students have it, which ones need a little help, and which ones are going to require much more instruction on the concept. By assessing the responses on the Exit Slips the teacher can better differentiate the instruction in order to accommodate students' needs for the next class.

Admit slips are exactly like Exit Slips, but they are done prior to or at the beginning of the class. Students may be asked to reflect on their understanding of their previous night's homework, or they may reflect on the previous day's lesson if the question required a longer response time. Exit and Admit Slips can be used in all classes to integrate written communication into the content area.

[3-2-1 Exit Slip](#)

Links on Exit/Admit Slips:

Readingrockets: Exit Slips

http://www.readingrockets.org/strategies/exit_slips

AdLit.org: Exit Slips

<http://www.adlit.org/strategies/19805>

Writing Across the Curriculum: Entry/Exit Slips
<http://writing2.richmond.edu/wac/entexit.html>

Exit Slips: Effective Bell-Ringer Activities
<http://www.teachhub.com/news/article/cat/14/item/377>

Admit Slips and Exit Slips
http://literacy.kent.edu/eureka/strategies/admit_slips09.pdf

Learning/Response Logs

[Learning Logs](#) are used for students' reflections on the material they are learning. This type of journal is in common use among scientists and engineers. In the log, students record the process they go through in learning something new, and any questions they may need to have clarified. This allows students to make connections to what they have learned, set goals, and reflect upon their learning process. The act of writing about thinking helps students become deeper thinkers and better writers. Teachers and students can use Learning Logs as classroom assessment for learning, as students record what they are learning and the questions they still have, and teachers monitor student progress toward mastery of the learning targets in their log entries. By reading student logs and delivering descriptive feedback on what the student is doing well and suggestions for improvement, the teacher can make the Learning Log a powerful tool for learning.

[Response Logs](#) are a good way to examine student thinking. They are most often connected with response to literature, but they may be used in any content area. They offer students a place to respond personally, to ask questions, to predict, to reflect, to collect vocabulary and to compose their thoughts about text. Teachers may use Response Logs as formative assessment during the learning process.

[Math Journals](#)

Websites on Learning Logs and Response Logs:

Instructional Strategies Online: What Are Learning Logs?
<http://olc.spsd.sk.ca/DE/PD/instr/strats/logs/>

Writing to Learn: Learning Logs
<http://www.wku.edu/3kinds/mflmpg.html>

Field Trip Planner: Active Learning Log
<http://www.oms.edu/teachers/fieldtrips/all.cfm>

Learning (B)logs: Time to Give Students a Voice

http://edu.blogs.com/edublogs/2005/10/learning_blogs_.html

Learning Logs Online: Examples and Photos of Learning Logs

<http://www.learninglogs.co.uk/>

Response Logs for Content Classrooms

<http://www.wku.edu/3kinds/rjprlmain.html>

Reading Response Logs - PDF

<http://faculty.owc.edu/CHSForumForSuccess/best-practices-reading/1ReadingResponseLogs.pdf>

Rubric for Response Logs

<http://www.geocities.com/EnchantedForest/Mountain/9112/journalrubric.html>

Graphic Organizers

Graphic organizers are visual models that can assist students in organizing information and communicating clearly and effectively. Students can use graphic organizers to structure their writing, brainstorm ideas, assist in decision making, clarify story structure, help with problem solving, and plan research. These are a few of the more common graphic organizers and there are links to sites for more at the bottom of the page.

[Venn Diagram](#)

[KWL Chart](#)

[KWLS Chart](#)

[KWHL Chart](#)

[KNWS Chart](#)

[Brainstorming Web](#)

[AlphaBoxes](#)

[Mind Map](#)

[T Chart](#)

[Double Entry Journal](#)

[Sense-O-Gram](#)

[Chain of Events](#)

[Problem - Solution Chart](#)

[Somebody-Wanted-But-So](#)

[Summary Star](#)

[Frayer Model](#)

[Knowledge Rating Scale](#)

[Concept Map](#)

[Word Detective](#)

[Decision Making Chart](#)

[Show My Thinking Chart](#)

[Event Analysis Chart fo Social Studies](#)

[Map the Character](#)

Graphic Organizers on the Web:

Venn Diagram

<http://www.sdcoe.k12.ca.us/score/actbank/tvenn.htm>

Venn Diagram on a computer

<http://www.readwritethink.org/materials/venn/>

Graphic Organizers

<http://www.educationplace.biz/graphicorganizer/>

Printable Graphic Organizers

<http://www.teachervision.fen.com/graphic-organizers/printable/6293.html>

Graphic.Org

<http://www.graphic.org/goindex.html>

Graphic Organizers

<http://www.ncrel.org/sdrs/areas/issues/students/learning/lr1grorg.htm>

Peer/Self Assessments

Peer and self assessment help to create a learning community within the classroom. When students are involved in criteria and goal setting, self evaluation becomes a logical step in the learning process. Students become metacognitive and are more aware of their personal strengths and weaknesses. With peer assessment students begin to see each other as resources for understanding and checking for quality work against previously determined criteria. The teacher can examine the self assessments and the peer assessments and identify students' strengths and weaknesses. "When students are required to think about their own learning, articulate what they understand, and what they still need to learn, achievement improves." (Black and Wiliam 1998)

[Two Stars and a Wish Strategy](#)

[The Mirror](#)

[As I See It](#)

[Windshield Check](#)

[Signals](#)

Links for Peer/Self Assessments:

Assessing Learning: Peer and Self-Assessment

<http://www.nclrc.org/essentials/assessing/peereval.htm>

Self Assessment in Learning

http://www.ehow.com/way_5434631_self-assessment-learning.html

Peer Feedback and Self Assessment

<http://www.teachingexpertise.com/articles/two-stars-and-a-wish-1394>

Peer and Self Assessment

<http://www.teachingexpertise.com/articles/peer-and-self-assessment-2867>

Practice Presentations

Just as in sports, practice before a classroom presentation is vital. Through practice and peer review, students can improve their presentation skills and the content of the presentation itself. The practice presentation should take place a few days

before the final presentation due date. Students run through their presentations with the audience, their peers, evaluating the performance based on the previously established rubric criteria. An easy way for students to furnish feedback is through a [T Chart](#). Students use the left column of the chart to comment on the positive aspects of the presentation, and they use the right columns to suggest changes that the presenter might make to improve the quality of the presentation. By listening to both the practice and final presentations the teacher can easily gauge the level of student understanding of critical concepts.

Links on Presentations:

Classroom Presentation Tips

http://www.ehow.com/list_6137068_classroom-presentation-tips.html

Making Class Presentations

<http://socserv2.mcmaster.ca/Inquiry/presentationmaking.htm>

9 Presentation Tips for Students

http://presentationsoft.about.com/od/classrooms/tp/student_tips.htm

Fearless Public Speaking: Oral Presentation Activities

http://goliath.ecnext.com/coms2/gi_0199-6309433/Fearless-public-speaking-oral-presentation.html

Teaching Good Communication Skills in the Classroom

http://www.essortment.com/all/communicationte_rqmd.htm

Visual Representations

There are several forms of visual representation, or nonlinguistic representation, but one that offers assessment data for the teacher is the use of drawing. Graphic organizers can be used as visual representations of concepts in the content areas. Many of the graphic organizers contain a section where the student is expected to illustrate his/her idea of the concept. The [Mind Map](#) requires that students use drawings, photos or pictures from a magazine to represent a specific concept. The [Verbal and Visual Word Association \(VVWA\)](#) asks students to illustrate a vocabulary term. Both of these offer the teacher a quick way of assessing student depth of understanding regarding a specific concept.

Links for Visual Representation:

Painting Poetry: Using Visual Representation as a Response to Literature

http://198.104.156.44/lessons/lesson_view.asp?id=780

The Role of Visual Representation in the Assessment of Learning

http://www.readingonline.org/newliteracies/lit_index.asp?HREF=/newliteracies/jaal/2-04_column/index.html

Research on Graphic Organizers

<http://www.mentoringminds.com/pdf/pdfGraphicOrganizersResearch.pdf>

Classroom Instruction That Works: Nonlinguistic Representations

<http://www.ascd.org/publications/books/101010/chapters/Nonlinguistic-Representations.aspx>

Putting the Pieces Together: Using Non-Linguistic Representations

<http://gets.gc.k12.va.us/vste/2008/5nonlinguistic.htm>

Five Great Tools for Marzano's Strategies: Nonlinguistic Representation

<http://blog.esu10.org/dstall/2010/02/01/5-great-tools-for-marzanos-strategies-nonlinguistic-representation/>

Kinesthetic Assessments

These formative assessments require students to incorporate movement to demonstrate their understanding of a topic or concept. 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 variety to classroom assessments for learning.

[Math Graphing Example](#)

[ELA Grammar Example](#)

[Instrumental Music Example](#)

[Debate Circles](#)

[Inside-Outside Circle](#)

Websites on Kinesthetic Assessments:

Ideas for Learning through Movement in the Classroom

http://www.ehow.com/list_7793126_ideas-learning-through-movement-classroom.html

Individual Whiteboards

Individual slates or whiteboards are a great way to hold all students in the class accountable for the work. They actively involve students in the learning and are a terrific tool for assessment and immediate feedback. When students complete their work and hold their whiteboard up, the teacher can quickly determine who is understanding and who needs help. Individual whiteboards are easy to make from melamine or tile board which are usually carried at a local home supply store.

Links for Individual Whiteboards:

Education World: Whiteboards Stimulate Student Learning

http://www.educationworld.com/a_lesson/lesson/lesson251.shtml

Using Individual Whiteboards in the Math Classroom

http://www.associatedcontent.com/article/1064895/using_individual_whiteboards_in_the.html?cat=15

Using White Boards: Fun Ideas for Reading & Language Arts

<http://www.brighthub.com/education/k-12/articles/4730.aspx>

Teachnet.com: White Boards

<http://www.teachnet.com/how-to/manage/082398.html>

Teaching Tools: 7 Ways to Use Individual Student Whiteboards

<http://www.minds-in-bloom.com/2010/02/7-ways-to-use-individual-student.html>

Laundry Day

Laundry Day is a formative assessment strategy mentioned by Cassandra Erkens in her article entitled "Scenarios on the Use of Formative Classroom Assessment" (2007). This is a strategy where students evaluate their own learning in preparation for a chapter or unit test. They group themselves in the classroom around four different kinds of laundry detergent: Tide, Gain, Bold and Cheer. In their chosen corner they will work on activities to enrich or improve their understanding of the required content. 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. None of the work generated during this time counts as a grade, but students are scaffolded to increase their chances of success on the upcoming test.

For information on Laundry Day: .Scenarios on the Use of Formative Classroom Assessment (See page 4)

http://fai.tie.wikispaces.net/file/view/1a_WY+State+Conf+HOs.pdf

Four Corners

Four Corners is a quick strategy that can be used effectively for assessing student understanding. It can engage students in conversations about controversial topics. The four corners of the classroom can be labeled as Strongly Agree, Agree, Disagree, and Strongly Disagree. Present students with a statement, like "All students should wear uniforms to school," and have them move to the corner that expresses their opinion. Students could then discuss why they feel the way they do. The teacher can listen to student discussions and determine who has information to support their opinion and who does not. Another way to use Four Corners is associated with multiple choice quizzes. Label the corners of the classroom as A, B, C and D. Students respond the

Links to Four Corners:

Four Corners Teaching Strategy

http://www.ehow.com/way_5809507_four-corners-teaching-strategy.html

Four Corners Activities

<http://www.suite101.com/content/four-corners-activities-a170020>

Four Corners

<http://www.angelfire.com/ok/freshenglish/fourcorners.html>

Four Corners Strategy

http://vels.vcaa.vic.edu.au/support/tla/collab_strategies.html#corners

Constructive Quizzes

Periodic quizzes are a great way to assess student learning during the learning process. Constructive quizzes will not only furnish teachers with feedback on their students, but serve to help students evaluate their own learning. The process is outlined in the document below. By using quizzes to furnish students with immediate feedback, the teacher can quickly determine the status of each student in relation to the learning targets, and students can learn more during the discussions that immediately follow the quizzes instead of having to wait until the next day to see the results of the assessment in the form of a meaningless grade on the top of a paper.

Constructive Quizzes Directions

Links to Quizzes as Formative Assessments:

Different Types of Formative Assessment

http://www.ehow.com/list_6385067_different-formative-assessment-lesson-plans.html

Using Pop-Quizzes as an Assessment

<http://www.suite101.com/content/using-popquizzes-as-an-assessment-a182537>

Think-Pair-Share

Think-Pair-Share (Lyman, 1981) is a summarization strategy that can be used in any content area before, during, and after a lesson. The activity involves three basic steps. During the "think" stage, the teacher tells students to ponder a question or problem. This allows for wait time and helps students control the urge to impulsively shout out the first answer that comes to mind. Next, individuals are paired up and discuss their answer or solution to the problem. During this steps students may wish to revise or alter their original ideas. Finally, students are called upon to share with the rest of the class. There is also a Think-Pair-Square-Share. In this strategy, partners discuss answers with another pair before sharing with the class. This activity ensures that all students are interacting with the information. Teachers can use this activity as a formative assessment as they walk about the room listening to student conversations.

[Think-Pair-Share My Partner's Thoughts](#)

Websites on Think-Pair-Share:

Instructional Strategies Online: What is Think-Pair-Share?

<http://olc.spsd.sk.ca/DE/PD/instr/strats/think/>

Reading Quest.org: Think-Pair-Share

<http://www.readingquest.org/strat/tps.html>

The Egyptian Cinderella Lesson Plan: Think-Pair-Share

<http://www.ncela.gwu.edu/practice/itc/lessons/dnthinkpairshare.html>

Intel® Teach Program: Think-Pair-Share - PDF

http://download.intel.com/education/Common/en/Resources/DEP/strategies/DEP_Strategies_TPS.pdf

Appointment Clock

The Appointment Clock is a simple formative assessment strategy that can be embedded within a lesson. The teacher directs students to find three people with whom to schedule appointments at the quarter hour, the half hour, and the 45-minute mark. The teacher begins the lesson and provides information to move

students to higher-order thinking. The teacher determines the stopping point and asks students to meet with their quarter hour appointment to discuss their thinking about a couple of questions the teacher has posed. The teacher walks around and listens to the conversations taking place between partners, noting any misconceptions or misunderstandings. The teacher uses this information to redirect the next segment of the lesson. Students meet with their half hour appointment and the teacher conducts the same informal observation and adjusts the third section of the lesson. Students continue this process until the lesson is complete. By structuring a lesson in the manner, the teacher is able to determine the current level of understanding for the class and for individual students, and make immediate adjustments to instruction to assist students in their learning.

Websites on Appointment Clocks:

Appointment Clock Buddies

http://www.teamstraus.com/SchoolDaysBorder_files/Teacher%20Farm/clockbuddies_Lower_El.pdf

Appointment Clock Partners

<http://www.ronnashandassociates.com/pdfs/Appointment%20Clock%20Partners.pdf>