HANDOUTS

Handout 1: Agenda

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Agenda

I. Welcome and Introductions

Purpose and Agenda

II. Assessment for Learning: The 5 Keys

III. Purpose: Seven Strategies

IV. Target Method Match
Deconstructing Standards

V. Communication: Descriptive Feedback

VI. Student Involvement in Formative Assessment
Rubrics
Reliability
Validity

VII. Reflection/Practice

Table 2.1 INTRODUCTION TO ASSESSMENT FOR LEARNING 1

Table 2.1 Assessment *for* and *of* Learning: Selected Key Differences

	Assessment FOR Learning	Assessment OF Learning
Reasons for Assessing		
Audience for Results		
Focus of Assessment—Learning Targets		
Place in Time		
Primary Users		
Typical Uses		
Teacher's Role		
Student's Role		
Primary Motivator for Students		
Example(s)		

State in your own words why the distinction between assessment *for* and *of* learning is important:

_____

_____

Classroom Assessment for Student Learning—SUPPLEMENTARY MATERIAL

How Do You Do Assessment FOR Learning?
Putting Teacher and Student Practices Together

Royce Sadler identified a progression of three questions to define students' information needs met by effective formative assessment. They are:

- **Where am I going?**
- **Where am I now?**
- **How can I close the gap?**

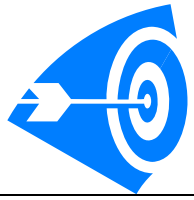
The seven strategies listed below (some of which are teacher actions and some of which are student actions) are designed to help students answer Sadler's three questions. The seven strategies are explained more fully on the following pages.

Activity directions: As you read the explanations on the next four pages, identify which of Sadler's three questions each strategy is designed to answer.

Using Assessment for Learning: Seven Strategies

1. Provide an understandable vision of the learning target.
2. Use models of strong and weak work.
3. Offer regular descriptive feedback.
4. Teach students to self-assess and set goals for learning.
5. Design lessons to focus on one aspect of quality at a time.
6. Teach students focused revision.
7. Engage students in self-reflection. Let them keep track of and share what they know.

Key 2: Kinds of Achievement Targets



Learning targets are achievement expectations we hold for students; statements of what we want students to know and be able to do.

Master Factual and Procedural *Knowledge*

Some to be learned outright
Some to be retrieved using reference materials

Use Knowledge to *Reason* and Solve Problems

Critical Thinking
Problem Solving
Decision Making
Analytical, comparative, inferential, deductive, and/or evaluative reasoning.

Demonstrate Mastery of Specific *Skills*

Speaking a second language
Giving an oral presentation
Working effectively on a team
Science process skills

Create Quality *Products*

Writing samples
Term projects
Artistic products
Research reports
Shop projects
Science exhibits

Acquire Positive *Affect/Dispositions*

Positive self-concept
Desire to learn/read/think critically,…
Positive attitude toward school
Good citizenship
Respect toward self and others
Flexibility
Perseverance

From CASL, Chapter 3, pages 61-74. Examples of each kind of target can be found on page 63.

What Kind of Target Is This?

Sample Hawaii Standards

1. **Reading, Comprehension Processes, Grades 2-3—**Relate critical facts and details in narrative or information text to comprehend text.

2. **Reading, Comprehension, Processes, Grades 6-8—**Interpret text(s) from multiple perspectives (e.g., historical, cultural, gender, political).

3. **Writing, Rhetoric, Grades 4-5—**Conveys meaning, provides important information, makes a point, fulfills a purpose.

4. **Writing, Rhetoric, Grades 9-12—**Has an organizing structure that gives the writing coherence (e.g., weaves the threads of meaning into a whole).

5. **Social Studies, Political Science/Civics, Grades K-3—**Create and use surveys, interviews, polls, and/or tallies to find information to solve a real problem or make a decision, e.g., create tally sheets to monitor frequency and amount of littering.

6. **Social Studies, Political Science/Civics, Grades 6-8—**Explain and apply tools and methods drawn from political science to examine political issues and/or problems.

7. **Science, Domain I, Inquiry, Grades 4-5—**Design and conduct simple investigations to answer their questions or to test their ideas about the environment.

8. **Science, Domain I, Inquiry, Grades 9-12—**Communicate and defend scientific explanations and conclusions.

9. **Science, Domain II, Grades K-3—**Explain how sanitary practices, vaccinations, medicines, and other scientific treatments keep people healthy.

10. **Science, Domain II, Grades 6-8—**Describe and exemplify how information and communication technologies affect research and work done in the field of science.

11. **World Languages, Cultures, Grades 4-5—**Identify and use appropriate gestures and other forms of non-verbal communication.

12. **World Languages, Comparisons, Grades 9-12—**Use knowledge of contrasting structural patterns between the target language and the student's own language to communicate effectively.

13. **Music, Singing, Grades K-3—**Sing expressively with appropriate dynamics and phrasing.

14. **Music, Singing, Grades 6-8—**Sing expressively with appropriate dynamics, breath control, phrasing, and nuance, demonstrating understanding of text and style.

What's the Target?

Examples of learning targets taken from a 4th grade social studies text:

Knowledge Targets (recall)

- Name at least two regions of which Washington is a part.
- Tell at least one way that location has affected Washington's history.
- Name five main parts of Washington State and describe key land and water forms of each.
- Define the term *natural resources* and give examples of those found in Washington.

Examples of key words: *tell, understand, name, describe, list, identify, give examples.*

Knowledge Targets (procedural)

- How to use map scales to measure distance.
- How to use latitude and longitude to locate places on a map or globe.

Examples of key words: *how to (followed by some procedure).*

Reasoning Target

- Give examples of differences between coastal and plateau cultures and relate these to differences in the natural environment.

Examples of key words: *classify, compare, contrast, analyze, synthesize, determine, evaluate, justify, construct support, draw conclusions.*

Skill Target

- Use map scales to measure distance.

Examples of key words: *read aloud, speak, assemble, operate, use, demonstrate.*

Product Target

- Make a relief map of any region of the whole state, or make maps of products, points of interest, or land uses.

Examples of key words: *create, design, make, produce, write, draw.*

Key 2: Clear Targets
Deconstructing Standards

The goal of state standards is to set priorities on what students need to know and be able to do. Sometimes standards are broken down into *benchmarks* or *indicators* to further define what is meant. But, have you ever looked at a content standard, benchmark, or indicator and still been confused on what it meant? Have you ever asked yourself:

- What am I going to teach here?
- How do I explain the target to students?
- Will my colleagues interpret this the same as I do?
- What do I *do* to enable students to do well on *this*?

No matter how careful we are in listing, describing, and breaking down content standards, many still need to be translated into daily classroom teaching activities. We've found that it's helpful to "deconstruct," or break down, unclear standards to see what knowledge, reasoning proficiencies, skills, and/or products underpin student success. Classroom instruction and assessment is then built around these "deconstructed" learning targets.

The Process:

1. Choose a standard, indicator, or benchmark that is unclear—it isn't immediately clear what you might teach—or—teachers might have different interpretations of that the indicator might mean. For example, "Knows the binomial theorem" might mean:

   1a. Knowledge interpretations: (1) Knows it by sight—can pick it out of a list. (2) Can reproduce it when asked.
   1b. Reasoning interpretations: (1) Can use it to solve a problem when instructed to do so. (2) Can choose the problems which would best be solved by using the binomial theorem. (3) Can write a problem that would require the binomial theorem to solve.

   Each of these interpretations would have different implications for instruction. Which interpretation is correct?

2. For your chosen standard, identify whether it is, ultimately, a knowledge, reasoning, skills, or product learning target. Use definitions of target types and key words in *CASL* on p. 64.

3. Next, consider the knowledge, reasoning, and/or skills prerequisite to and underpinning competence on your selected standard, benchmark, or indicator. Ask yourself the following four questions. Don't list every little piece of knowledge or itty-bitty skill, just the major ones.

   1. What does a student need to *know* and *understand* to attain mastery on this standard?
   2. What *patterns of reasoning*, if any, are required to attain mastery on this standard?
   3. On what specific *performance skills*, if any, must students attain proficiency to attain mastery on this standard?

Assessments to Evaluate

Sample 1: Everett Math Assessment and Instructional Guide
Intended Grade Levels: Grade 4-12; Grade 6 reviewed

This 90-page booklet includes the following:

- Rubrics used in Everett district to assess mathematics problem solving.
- The relationship between these rubrics, the rubrics used on the state assessment, and state content standards.
- Results of Everett's 2002 assessment.
- Description of the problem-solving process in student-friendly language.
- The rubric itself in student-friendly language.
- 20 pages of scored student responses to mathematics problems.
- 20 pages of student responses on which to practice scoring, with instructions on how to use them instructionally (pp.45 and 63).
- Instructional strategies for teaching problem solving.
- Description of legitimate test-preparation strategies.

The goal of the booklet is to "provide meaningful information back to teachers on how our students performed on this assessment, how these results can be used to better inform math instruction, and how to improve student performance on future assessments" (p.3). Examples follow of the materials included.

"Math Problem Solver in Control" Framework (p.20)

Math Problem Solver is in Control (Range of 4s and 5s)
The math problem solver controls what is on the page of work. Strengths clearly outweigh the weaknesses, if the latter are present at all. Math skills are evident or extended, and the reader does not have to infer the student's intent or the explanation the student is using to solve the problem. Work communicates and is more than functional via its use of process, words, and graphics.

Problem Solver is Balancing Control and Non-Control (Range from 2.5 to 3.5)
Strengths and needs for improved math problem solving skills are vying for balance. The work needs more explanation, justification, and verification, but at the same time demonstrates more than an emerging understanding of mathematics skills. The solution serves as a communication tool at a functioning level, but the reader wants more development of conceptual understanding, reasoning, and the use of appropriate mathematical terminology, calculations, strategies, and checking of work.

Problem Solver is yet to be in Control (Range of 1s and 2s)
"Strategy finding" controls the student. Need for improvement overshadows the student's mathematical efforts. Skills may not be present or they are emerging with hints of what the student intends. Usually the reader needs to infer meaning. Work is not yet functional for communicating the solution or the process used.

Selected Activities for Mathematics Problem Solving for Students (p.63)

1. Cut the scoring guide's point levels into strips and use them in teaching/learning the traits or to practice evaluating each other.
2. Cut up the scoring guide level descriptions. Place different traits and levels into envelopes. Have the students sort the strips of descriptions back into the correct scoring guide order and traits(s).
3. Have students score a sample paper; then check their scores against the "real" scores rated by professional readers of the same sample.
7. Take one of the annotations for a Level 1 of the scoring guide and have the students rewrite it to make it a Level 3 response.
8. Mount the scoring guides on the wall. Have students improve the scoring guide by placing Post-It™ notes with wording to improve or inform others better of what the guide's description should mean.
11. Put on the wall each teams' approach to solving a math problem. Have all the teams rotate around the room and rate/evaluate the solutions using the scoring guide.

Checklist: Solving Mathematics Problems, Grades 5-12 (p.72)

My work will be more successful when I. . .

1. Problem solve correctly. That means I. . .

   ___ Made a plan and used it to solve the problem.
   ___ Verified or checked my solution.

2. Use mathematical language correctly. That means I. . .
   ___ Used correct math terms.
   ___ Used mathematical language that is clear and appropriate so that my solution is meaningful.

3. Communicate clearly. That means I. . .
   ___ Used a diagram, chart, table, graph, and/or word picture to help solve the problem.
   ___ Made the representatives in my solution clear to read when they are read by others.

4. Make connections. That means I. . .
   ___ Know of other ways to get the answer.
   ___ Extended the solution to the general case.
   ___ Showed how this problem related to other problems, mathematical ideas, or applications.

5. Make a quality presentation. That means I. . .
   ___ Showed the steps to getting the solution.
   ___ Had a solution that was clear for others to follow and understand.

Four-Trait Mathematics Assessment (p.13)

Conceptual Understanding (CU) **"'What' of it"**	**Process & Strategies** **"'How' of it"**
A. Understanding of problem is 5 THOROUGHLY demonstrated. 4 BASICALLY demonstrated. 3 PARTIALLY demonstrated. 2 INCORRECTLY demonstrated. 1 Not demonstrated. **B. Problem information/data are** 5 Used CLEARLY & WELL. 4 Used ENOUGH. 3 MOSTLY used. 2 Used INCORRECTLY. 1 Not Used.	**A. Graphs, pictures, or models** 5 VERY CLEARLY support the solution. 4 Support BASIC solution. 3 PARTIALLY support the solution. 2 Are NOT CONNECTED to the solution. 1 Are Missing. **B. Strategy/Skills are** 5 MULTIPLE and appropriate to problem. 4 APPROPRIATE to problem. 3 PARTIALLY appropriate to problem. 2 INAPPROPRIATE to problem. 1 Missing. **C. Plan is/does** 5 EFFECTIVELY IMPLEMENTED to find solution. 4 APPLIES to problem. 3 Applies to PART of problem. 2 Not apply to problem. 1 Missing.

Communication of Reasoning (CR) = "Explain it"	**Accuracy & Reasonableness (AR) "Defending/Connecting it"**
A. Math terms are 5 ALL used correctly 4 MOSTLY used correctly. 3 PARTIALLY used correctly. 2 Used INCORRECTLY. 1 Not used.	**A. Calculations/diagrams are** 5 COMPLETELY accurate. 4 BASICALLY accurate. 3 PARTIALLY accurate. 2 ATTEMPTED, but incorrect. 1 Missing.
B. Thinking is 5 THOROUGHLY explained. 4 BASICALLY explained. 3 PARTIALLY explained. 2 ATTEMPTED to be explained. 1 Not explained.	**B. Solution is** 5 Justified, verified, AND extended. 4 Justified, verified, OR extended. 3 PARTIALLY justified, verified, or extended. 2 UNSUCCESSFULLY justified or verified. 1 Missing or there is only an answer.
C. Solution explanation is 5 COMPLETELY understandable. 4 BASICALLY understandable. 3 PARTIALLY understandable. 2 CONFUSING. 1 Not given.	**C. Connections are** 5 Made between solution and general situations. 4 BASICALLY made. 3 PARTIALLY made. 2 ARE ATTEMPTED. 1 Not made.
D. Work is/has 5 Clearly presented and VERY logical. 4 CLEARLY presented with some logic. 3 SOME logic. 2 WITHOUT logic. 1 Not (or little) given.	**D. Work is** 5 Checked a DIFFERENT way. 4 Checked same way as originally. 3 Checked SOMEWHAT. 2 Checked with INAPPROPRIATE method(s). 1 Not checked.

Source: Everett, WA Public Schools. Used with permission.

Sample 2: Fish Tank
Intended Grade Level: Grade 5

Description
The following lesson/assessment is about how to set up an aquarium. The lesson has two parts. In part one the student read an information sheet and then observe the instructor actually setting up a new tank. In part 2, students work in small groups to actually set up a tank using the directions provided by the instructor. We have attached the information sheet, a set of test specifications to guide the development of a test, and the test the instructor developed to assess learning.

Setting up a Tropical Fish Tank-Information Sheet
Have you ever thought of setting up a fish tank as a hobby? It's fun and easy to do. To get started, you need seven things: a tank, some gravel, a pump, an underwater filter, a light, a heater, and water. Of course, you also need a place to put the tank and a place to plug in the heater, pump, and light. That's it. You don't need a fish. They come later. Don't be in a hurry to put fish into a new tank. If you rush things, you'll kill them.

Don't buy any tank smaller than 20 gallons. Bigger is better. A 10-gallon tank will only hold a very few small fish. Figure out where you want the tank before you set it up; it's tough to move later. You don't have to buy a special stand, but make sure that whatever you set the tank on will hold plenty of weight. A 20-gallon tank filled with water weighs well over 150 pounds. Put the tank somewhere away from light. Even small amounts of natural light encourage the growth of algae which, though actually beneficial to some fish, will also cloud the water and turn it an unattractive murky green.

When you have your tank where you want it, install the filter. This needs to go in before anything else. Do not plug anything in yet, however. Next add the gravel. You need 10 pounds for every 10 gallons of water in the tank. You don't need to rinse or clean gravel from a pet store; it's ready to go.

Once the gravel is in place, add the water. Use clear water from your tap. It's a good idea to add dechlorinator to neutralize any chemicals in the water before adding fish. Dechlorinator is available from any pet shop. Fill the tank close to the top, remembering that you will need to add the heater.

Next, hook up the heater and set it to 80 degrees. Make sure it's well submerged in the tank. Most heaters are fully submersible, cord and all. Be careful not to set the temperature too high; not all fish can stand water temperatures of 90 degrees or more.

Now, turn on the light, admire how nice everything looks, and plug in the pump to start your filter system. Keep in mind that the pump forces air through the system. As you turn it up you add more air to the water. You also move the water around more. Some species of fish do well with all that commotion but others do not, so keep this in mind later when you choose your fish.

Finally, let the tank "cure" for five to ten days-or even more, if you can stand the wait. This allows for establishment of healthful bacteria to deal with pollution in the tank. When you're finally ready to add the fish, add just a few-perhaps one (or two at most) for every five gallons until you are sure the bacteria are sufficiently well established to keep your fish alive.

Test Specifications Chart (Blueprint)

Content	Knowledge	Analysis	Inference	Evaluation
Setting up a new fish tank	4	2	6	1

Unit Test

Multiple Choice

1. About how much gravel is needed in a new tank?
   a. About 10 pounds.
   b. *About 10 pounds for every 10 gallons of water.
   c. It depends on the size of the tank.
   d. About 1,000 pounds.

2. Of the seven basic items you need to start up a new fish tank, which of the following is not one of them?
   a. *Fish.
   b. Gravel.
   c. A filer.
   d. All of the above.

3. The first step in setting up a new fish tank is to
   a. Buy a fish.
   b. Buy the tank.
   c. *Put the tank where you want it.
   d. Put in the water.

4. The main purpose of decholorinator is to
   a. To kill algae in the water.
   b. Encourages the growth of beneficial bacteria.
   c. It cleans the gravel.
   d. *Make the water safe for the fish.

5. If you add fish to a new tank too soon, which of the following undesirable results will occur?
   a. The fish will get sick.
   b. *The fish will die.
   c. The fish will grow rapidly.
   d. Healthful bacteria will begin to grow.

6. The main purpose of the air pump is to
   a. *Pump air into the water.
   b. Empty water from the tank.
   c. Keep the fish moving at a fast pace.
   d. Stir up the water so it will look cloudy.

7. It would probably be a good idea to set up a new fish tank
   a. Near a window.
   b. On a small bookcase.
   c. *Slowly, taking your time.
   d. Close to an electrical outlet.

*Correct answer

True/False

8. It is a good idea to not put a new fish tank too far away from natural light.
   True False

9. Natural light can stimulate the growth of algae, thus killing some fish.
   True False

Fill in

10. You should set the temperature in your tank at _____ _____

11. After your fish tank has cured for _____ weeks, add _____ fish for every _____ gallons of _____

Matching

12. Match items on the left with those on the right. Use each item on the right once or more than once.

a. Pump
b. Filter
c. Algae
d. Heater
e. Bacteria
f. Filter
g. Decholorinator
h. Pollution
i. Light
j. Gravel

____ 1. Cleans the water
____ 2. Reduces pollution
____ 3. Adds air to water
____ 4. Dangerous to fish
____ 5. Turns water murky
____ 6. Harmful to fish
____ 7. 90 degrees
____ 8. 80 degrees
____ 9. Don't add too soon
____ 10. Helpful to fish
____ 11. Kills fish
____ 12. Add last
____ 13. Add first
____ 14. Causes algae
____ 15. Ready to go
____ 16. Helps show off fish attractively

Essay

13. Choose one of the following and write a one-paragraph answer (30 minutes, 50 points).
    a. Explain why it is important not to add new fish to your tank too soon.
    b. Do you agree or disagree that setting up a new fish tank is a simple process? Explain your reasons.

Source: Adapted from Practice with Student-Involved Classroom Assessment (pp. 369-371), by J.A. Arter & K.U. Busick, 2001, Portland, OR: Assessment Training Institute. Adapted by permission.

Sample 3: Culminating Project
Intended Grade Levels: Grades 8-9

Description

The following assessment is given at the end of middle school social studies courses to document competence in the skills listed. Students write a paper and give an oral presentation. A group of teachers rate the research paper. Presented here are the exit outcomes, a description of the research project, and a rubric that the raters use for the research paper. No information is provided on scoring the oral presentations.

Exit Outcomes

Skills and Habits of Mind

- Research
- Writing in a variety of modes
- Analytical reading
- Working cooperatively in a group setting
- Working independently
- Effective listening
- Ability to speak publicly
- Effective time management
- Organization of materials, readings, etc.
- Good study habits
- Effective questioning
- Group discussion

Attitudes/Dispositions

- Good citizen
- Respectful
- Open minded
- Curious
- Reflective
- Persevering
- Lifelong learner
- Positive academic self-concept

Content

- The L.E.A.R.N.S. analytical model (Law/government, Economics, Arts, Research, News/current events, Science/technology)
- Analytical thinking
- Cause and effect thinking
- Inferential thinking
- Deductive thinking
- Evaluative thinking
- The origins of western civilization

Essential Questions

- How does change occur?
- What does “human rights” mean?
- Where do governments come from?
- Where do economic systems come from?

Description of the Research Project
Students will pick a topic, write a research paper at least 10 pages long (and with 10 refereces), and give an oral presentation at least three minutes long.

Rubric for Research Report
Criteria:
Neatness, spelling, punctuation, grammar, capitalization, understanding.
Rubric:
Distinguished-Writing shows creativity in theme and development. It is correct in all mechanics.
Proficient-Writing correctly uses information and supportive details. Few errors in mechanics are apparent.
Apprentice-Writing does not have a theme and/or few supportive details. Errors in mechanics are common.
Novice-Research report is begun but not concluded. Writing shows lack of understanding. Contains several errors in mechanics.

Source: Adapted from Practice with Student-Involved Classroom Assessment (pp. 372-373), by J.A. Arter & K.U. Busick, 2001, Portland, OR: Assessment Training Institute. Adapted by permission. Sample 4: Emerson Essay Test

Intended Grade Levels: Grades 10-12

Description
This test is intended to assess mastery of content knowledge (knowledge of Emerson) and reasoning skills. The test consists of predicting Emerson's stand on various issues and citing evidence from various sources to support the prediction. This was practiced during class using statements different from those on the test. The author teaches and assesses Emerson in this fashion because he has found that students have trouble understanding Emerson and relating what he says to their own lives.

Students get one point for the right answer to each of the statements in the test and one point for their rationale. However, the author notes that even if a student doesn't provide the "right" answer as denoted in the scoring key, he will still give credit if the rationale for the answer as denoted in the scoring key, he will still give credit if the rationale for the answer is compelling. Results are used as 10 percent of the final grade in a literature class.

The Test

"Read each of the statements below and put a check if Emerson would most likely complete the activity or put an X if he would disagree or not do the listed activity. For each answer, find a statement from Emerson's work to support your check or X. Be sure to quote the statement directly and give the page number in parentheses. Use the introduction to Emerson, Nature, and 'Self Reliance.' Emerson would:

1. _____ reject organized religion.
2. _____ look to the past for guidance.
3. _____ claim that religious truth comes from intuition.
4. _____ rely on others for his success and happiness.
5. _____ join a popular civic organization.
6. _____ take solitary walks in the woods.
7. _____ dress in the most popular style of the day.
8. _____ speak boldly his opinions and thoughts.
9. _____ attend a seminar, 'How to Get Ahead and Reach Financial Success.'
10. _____ ask advisors what to do with his career."

Source: Brother Martin High School, New Orleans, LA. Adapted from Practice with Student-Involved Classroom Assessment (p. 374), by J.A. Arter & K.U. Busick, 2001, Portland, OR: Assessment Training Institute. Adapted by permission. Used and adapted with permission.

Sample 5: Reading Rate Assessment
Intended Grade Levels: Grade 2-3

Description

The teacher assesses the reading rate of students once per quarter. The teacher chooses a book each quarter that she judges is at an appropriate reading level. All students read the same book each quarter, but the books might differ as the year progresses. The students read for one minute while the teacher marks miscues. Reading rate is defined as the total number of words read in one minute minus the number of words that were skipped or misread.

For example, at the beginning of second grade, the teacher chose the book, Look Out Ronald Morgan, as being of reading level 2.2. Lucy read the first 30 words in one minute with one error. Her reading rate was 29 words per minute. John read 105 words in one minute with 3 errors. His rate was 102.

The teacher uses the information to report progress to parents. Copies of the letters she sends in October and April follow.

Letters to Parents
October 1997

Dear Parent,

As part of the first quarter assessment of your child, I checked your child to see how many words per minute he/she could read using a book at the second grade level. The book was Look Out Ronald Morgan.

Research shows that when an individual can read at a rate of 150-200 wpm, they are reading proficiently and will comprehend at a high rate. Students should be able to reach that goal by the end of 5th grade. The goal for 2nd graders is 80 wpm, and the goal for 3rd grade students will be to read 110 wpm at the 3rd grade level. It only makes sense that the more at ease we are in reading, the more we will understand what we have read.

Next quarter your child will again be tested, but at the 3rd grade level instead of the 2nd grade.

Please read your child's results and see where they are and how they compare with his/her peers. Oral reading at home will greatly improve your child's reading rate.

_____ is currently reading 2nd grade material at a rate of _____ wpm.

April 1998

Dear Parents,

Your child was tested last week on the story "The Recital," a story that every child has read twice. It is a story that comes from our third-grade reading book.

Please remember that our goal is to read 110 words per minute by the end of the year. As you can see we have quite a range from 37 words per minute, all the way to 208 words per minute.

Who has it easier in school? Yep, you go it. . .those who can read at a good rate have a much easier time, it only makes sense. Those of you who faithfully listen to your child or read with your child, pat yourself on the back. I applaud you.

Keep reading with your child this quarter. Let's see what percentage of our class can make that 110 word goal.

_____ is currently reading 3rd grade materials at a rate of _____ words per minute.

3rd Quarter Reading Rates

Source: Colleen Eaton, 1998, Eatonville Elementary School, PO Box 669, Eatonville, WA 98328. Adapted from Practice with Student-Involved Classroom Assessment (p359-361), by J.A. Arter & K.U. Busick, 2001, Portland, OR: Assessment Training Institute. Used and adapted with permission.

Descriptive Feedback

Research:

Effective learners operate best when they have insight into their own strengths and weaknesses and access to their own repertoires of strategies for learning. (Brown, 1994)

The quality of the feedback rather than its existence or absence is what determines its power. (Bangert-Dewns, Kulik, Kulik, & Morgan, 1991; Sadler, 1989)

Feedback is most effective when it points out success and is designed to stimulate correction of errors relevant to the task. (Bloom)

With regard to feedback, research makes the case for the use of descriptive, criterion-based feedback as opposed to numerical scoring or letter grades without clear criteria. (Butler & Neuman, 1995; Cameron & Pierce, 1994; Kluger & deNisi, 1996)

The giving of marks and the grading function are overemphasized, while the giving of useful advice and the learning function are underemphasized. (Black & Wiliam, 1998)

Grading every piece of homework is misdirected. A numerical grade does not show students how to improve their work. Further, students ignore comments when grades are given. (Butler, 1998)

Effective Descriptive Feedback:

- Descriptive features of work or performance
- Relates directly to learning targets and/or standards of quality
- Points out strengths and gives specific information about how to improve

Descriptive or Evaluative Feedback?

Mark each example of descriptive feedback with a D and each example of evaluative feedback with an E.

_____ Try harder next week.

_____ 70%

_____ You maintained eye contact with the audience throughout your whole presentation.

_____ Good job of getting ready for lunch.

_____ Table 3 is ready for lunch. They have their desks clear, they are sitting down, and they are quiet.

_____ 

_____ +

_____ What you have written is a hypothesis. You can improve it by writing it as an "if…then…" statement.

_____ B+. Good work

_____ Your writing is a '5' for Ideas and Content, but a "2" for Conventions.

_____ You have maintained a tight focus throughout your paper.

_____ Some of your details don't seem to fit where they're placed.

_____ You made some simple mistakes with multiplying three-digit numbers. Next time, take a few minutes when you've finished to check your work.

_____ Emerging

_____ Your work is consistently above average

_____ Meets standards in mathematics.

_____ You are so close to the standard. With a little more work, you'll be there.

_____ 

Handout 7: Criteria T-Chart for Rubric Development

Criteria	Details

Handout 8: Rubric

Criteria	5	4	3	2	1

Accessing Information

Health Education Standard 2

Students will demonstrate the ability to access valid health information and health-promoting products and services.

Characteristics of Student Work

This skill category evaluates the student's ability to access valid health information and health-promoting products and services. The quality of student responses may vary from low, where the student provides little or no evidence that appropriate sources of health information have been accessed, to high, where the student provides considerable evidence that she or he understands what considerations should apply when evaluating health information or selecting a health-related product or service.

Skill Cues

- Identifies or cites specific sources
- Evaluates validity of source
- Provides rationale for appropriateness of source
- Demonstrates ability to access appropriate community resources to meet specific needs
- Identifies the type of help available from source

Generic Skills Rubric

4 The response shows evidence of the ability to apply health skills; the response is complete and shows proficiency in the skill.

3 The response shows evidence of the ability to apply health skills; the response is mostly complete but may not be fully proficient.

2 The response shows some evidence of the ability to apply health skills; the response may have inaccuracies or be incomplete.

1 The response shows little or no evidence of the ability to apply health skills.

Item and Scoring Criteria

Middle School **Extended Response**
Accessing Information/Nutrition **Module 222**

Item 11

Write a brief article for a school newspaper in which you inform people your age about balancing their food intake with their level of physical activity. Include in the article the reasons why it is important to balance food intake and physical activity. Also include reliable resources that a young person could turn to for information on how to balance food intake and physical activity. Explain why each resource is reliable.

Scoring Criteria

Core Concepts

The content score is based on the student's ability to explain why it is important to balance food intake and physical activity, such as:

- The risk of many chronic diseases, such as coronary heart disease, colon cancer, diabetes, high blood pressure, obesity, and osteoporosis, could be reduced.
- It can help one develop and maintain healthy bones, muscles, and joints.
- It can reduce symptoms of anxiety and depression.
- It can relieve pain and maintain joint mobility in people with arthritis.
- It can help one maintain a healthy weight.

Accessing Information

The skill score is based on student's ability to access valid health information and/or health-promoting products and services. This may include:

- Identifies or cites specific sources
- Evaluates validity of source
- Provides rationale for appropriateness of source
- Demonstrates ability to access appropriate community resources to meet specific needs
- Identifies the type of help available from source

Middle School Module 222
Scoring Key

Important: While practice papers can be scored on both the concepts rubric and the skills rubric, the keys for these practice papers are provided only for the rubric score (concepts or skills) used in the corresponding Anchor set.

Extended Reponses

Skills Rubric
Score Point: 1) 3 2) 2 3) 4 4) 2 5) 2 6) 3 7) 2 8) 2

Student Samples Follow.

Sample Student Rubric

Health Education Standard #2: Accessing Information

Score Point	Health Standard #2 Accessing Information	How did I do? Student Comments:
4	• I showed where I got my information (or products or services). • I used a variety of sources. • I gave all the details about where I got my information. • I told why my sources are the best ones. • I showed that I know where to go to get help to solve problems most of the time.	
3	• I showed where I got my information (or products or services) • I gave most of the details about where I got my information • I told why my sources are good ones. • I showed that I know where to get help to solve problems some of the time.	
2	• I gave some general information about sources-not really specific. • I may have given some information that is incorrect or incomplete • I didn't really find out or explain why my sources are good.	
1	• I didn't give my sources for information, products, or services. • I couldn't tell if my sources were good or not. • I didn't evaluate my sources.	

Practice Paper #01-AI-ER-MS

Extended Response

11. Write a brief article for a school newspaper in which you inform people your age about balancing their food intake with their level of physical activity. Include in the article the reasons why it is important to balance food intake and physical activity. Also include reliable resources that a young person could turn to for information on how to balance food intake and physical activity. Explain why each resource is reliable.

Hello my fellow classmates! I was asked to teach you about balancing your diet and level of physical activity. We all want to be fit right. You can by eating nutritional foods and exercising. Yes you can still eat a little junk food once in awhile. This is important to do so you don't get any eating disorders like obesity, anorexia or bulimia. Also so you won't have high cholesterol and blood pressure. Your pedittrician is someone you can talk to if you have any questions on your nutrition. He will tell you the truth and could even help you if you need it. Another reliable resource would be your parents. They almost always are honest with you and they are usually around you a lot. They have also been around longer than you have.

Practice Paper #02-AI-ER-MS

Extended Response

11. Write a brief article for a school newspaper in which you inform people your age about balancing their food intake with their level of physical activity. Include in the article the reasons why it is important to balance food intake and physical activity. Also include reliable resources that a young person could turn to for information on how to balance food intake and physical activity. Explain why each resource is reliable.

If you're one of the many sports-active people in our school, you should make sure you're balancing your food intake with your level of physical activity. Really, it's not that hard and it will benefit you greatly in your sport. If you eat too much and exercise too little, you will begin to gain excess weight and lose stamina and physical endurance. If you eat too little and exercise to much, you will lose energy and become weaker overall due to malnourishment. The best thing to do is talk to your New Food groups and develop a routine schedule. You could always check with gym leaders, coaches, or doctors to find out the most effective ways to balance weighing out.

Practice Paper #03-AI-ER-MS

Extended Response

11 Write a brief article for a school newspaper in which you inform people your age about balancing their food intake with their level of physical activity. Include in the article the reasons why it is important to balance food intake and physical activity. Also include reliable resources that a young person could turn to for information on how to balance food intake and physical activity. Explain why each resource is reliable.

Balancing one's food intake and physical activity is very important for people my age. Having too much fat and sugar in your diet can be harmful to your health. Physical activity is important so you can work off some excess calories. Also, physical activity gets your heart going and generally makes on feel much better. If one has a question about their current diet and how they can improve their diet, they can turn to a local dietician for help. A registered dietician is usually a very trustworthy and reliable source for answers to one's diet needs.

If one has questions regarding physical activity, they could go to their local fitness gym or even their physical education teacher. A gym can give you helpful hints to help increase your physical activity, and could also offer their facilities to you to exercise on. Your gym teacher, also a reliable source, can tell you the physical activity rate of someone your age, and they can give excersices for you to try to increase your physical activity.

Practice Paper #03-AI-ER-MS ***continued***

If you feel you have eaten an excess amount of food one day, then maybe you should increase your physical activity. One shouldn't forget though, that food is essential for good health. It is generally not a very good idea to perform physical activity on an empty stomach. Food provides carbohydrates and protein which help produce energy. Energy is essential in performing physical activity. If one performs physical activity the whole day, or extreme activity for an extended period of time, one could use up all of your bodies nutrients and it would be a necessity to eat a well balanced meal after physical activity.

TIME

Practice Paper #04-AI-ER-MS

Extended Response

11 Write a brief article for a school newspaper in which you inform people your age about balancing their food intake with their level of physical activity. Include in the article the reasons why it is important to balance food intake and physical activity. Also include reliable resources that a young person could turn to for information on how to balance food intake and physical activity. Explain why each resource is reliable.

Many teenagers do not eat the necessary minerals they should. Others skip the most important meal of the day, breakfast, which supplies energy for the entire day.

It is extremely important to eat right and exercise often. People who don't eat the right nutrients have a disability in athletics and in the classroom. Heart Disease, the number one cause of death in the U.S., is caused by bad eating habits and little exercise.

If you believe you have a disadvantage because of your eating habits you can contact your doctor or a registered dietitian. A dietitian's job is to set up healthy diets and exercise plans.

Practice Paper #05-AI-ER-MS

Extended Response

11 Write a brief article for a school newspaper in which you inform people your age about balancing their food intake with their level of physical activity. Include in the article the reasons why it is important to balance food intake and physical activity. Also include reliable resources that a young person could turn to for information on how to balance food intake and physical activity. Explain why each resource is reliable.

You know many kids and adults don't exercise enough. The more that you exercise, the more that you should eat. Also, the more junk food that you eat, the more you should exercise. If you don't exercise and you are old, you would gain weight and you could become unhealthy. Many people that don't exercise a lot or don't at all, then they shouldn't eat too much because they will become overweight more easily. A reliable source for a young person to turn to for information on how to balance food intake and physical activity would be either a dietitian or a doctor because they know what is best for your health.

Practice Paper #06-AI-ER-MS

Extended Response

11. Write a brief article for a school newspaper in which you inform people your age about balancing their food intake with their level of physical activity. Include in the article the reasons why it is important to balance food intake and physical activity. Also include reliable resources that a young person could turn to for information on how to balance food intake and physical activity. Explain why each resource is reliable.

People of our age feel like that we'll live forever and that our health is not a concern. Imagine being at [illegible] twenty five years from now. Imagine not being able to play basketball because of the fact you're not in shape. Imagine having a heart attack at age [illegible] because you have high cholesterol. All of the problems can be avoided by taking care of yourself now and staying fit.

Stay healthy. You might think you are fit but are you really? Everybody should balance their food intake according to their physical activity. By doing this you will better your health and maybe even live longer. But imagine staying healthy benefits you in every

Practice Paper #06-AI-ER-MS *continued*

many

There are many places and sources you can turn to for more information on the subject. Some sources: registered dietitians, health trainers, gyms, the internet, encyclopedia and many more. The registered dietitians have been specialized in this field, as well as the health trainers. Gyms have people there who share my opinion and will be able to help with the amount of properly [illegible] for well [illegible] information also. Nearly, people in gyms would be more than happy to tell you information because they [illegible] your good goals to [illegible] people healthy.

In conclusion, staying healthy is your best bet. But don't just take my word for it. There are many sources out there that can give you more information about this matter

Practice Paper #07-AI-ER-MS

Extended Response

11 Write a brief article for a school newspaper in which you inform people your age about balancing their food intake with their level of physical activity. Include in the article the reasons why it is important to balance food intake and physical activity. Also include reliable resources that a young person could turn to for information on how to balance food intake and physical activity. Explain why each resource is reliable.

It is important to balance your food intake with your level of physical activity. Balancing them will keep you healthy and fit. If you get too much food you won't be able to burn it all off and become fat. If you exercise too much you will run of of energy too quickly and you will lose muscle mass. To find out how much food and exercise you need contact a dietacian. They will find out the right amount of food and exercise you need per day. Also, ask your doctor about ways to stay in shape

Sample Work

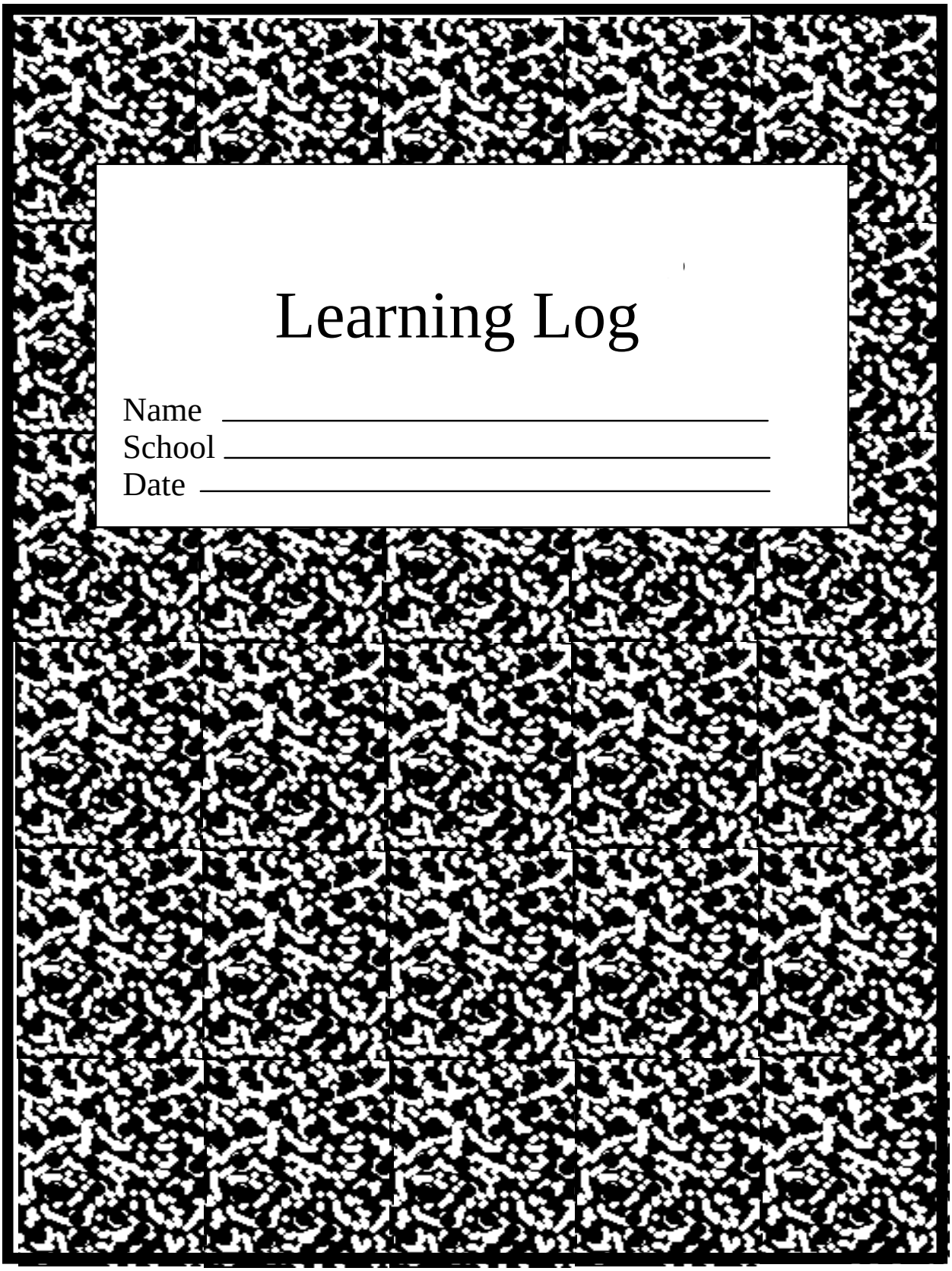
Practice Paper #08-AI-ER-MS

Extended Response

11. Write a brief article for a school newspaper in which you inform people your age about balancing their food intake with their level of physical activity. Include in the article the reasons why it is important to balance food intake and physical activity. Also include reliable resources that a young person could turn to for information on how to balance food intake and physical activity. Explain why each resource is reliable.

Ever wondered how to balance your food intake with your level of activity? It's really simple all you have to do is mix healthy snacks with your exercise. When you eat breakfast in the morning, have a little something from each food group, like eggs, sausages, toast, orange juice, milk, and a banana. You should repeat this at lunch, and dinner. Never eat a big meal right before exercise, and never, ever drink soda before, or during physic activity. If you're hungry, have a light snack like a granola bar or an apple. It's okay to have sweets, but just don't overdue them. If you play a lot of sports then it should be fine, to eat sweets because you lose the fat and the calories quicker than a non-active person.

For more information on this, you can talk to a dietician, your family physician or your health teacher.


Learning Log
Name
School
Date

Date:

What I already Know

What I Want to know

What I Learned

Learning Log

Insights	***Anomalies***

Notetaking

Notemaking

APPENDICES

(See Appendices Folder for PDF document)

(See Appendices Folder for PDF document)

(See Appendices Folder for PDF document)

(See Appendices Folder for PDF document)

(See Appendices Folder for PDF document)

Seven Strategies for Using Rubrics as Instructional Tools

Strategies for Answering the Question: Where Am I Going?

1. Provide an understandable vision of the learning target

Share with your students the learning target(s)/objective(s)/goal(s) in advance of teaching the lesson, giving the assignment, or doing the activity. Use language students understand, and check to make sure they understand, e.g. consistently ask "Why is it we are doing this activity? What is it we are learning?"

- Convert rubrics into student-friendly language by defining key words and putting the definitions into terms students would understand using "I can…" statements.
- Have students develop rubrics. Ask students to make a bulleted list of the elements of quality in the product or performance they are learning to create.

2. Use Models

Use models of strong and weak work – anonymous strong and weak student work, work from life beyond schools, and your own work. Begin with things that students have trouble with – problems students commonly experience, especially the problems that drive you nuts. Ask students to analyze these samples for quality (make sure you only use anonymous work), and then to justify their judgments.

Model creating the product of doing the performance yourself. Don't practice ahead of time because you want to show the messy underside of starting from scratch – the true beginnings, problems you run into, and how you think through decisions along the way. Don't hide the development and revision part, or students will think they are doing it wrong when it is messy for them at the beginning and they won't know how to work through the rough patches.

Strategies for Answering the Question: Where Am I Now?

3. Descriptive Feedback

Offer descriptive feedback instead of grades, on class work as well as homework. Students need descriptive feedback while they're learning. Descriptive feedback should reflect the specific learning target(s) they are trying to hit in a given assignment. Descriptive feedback tells them how close they are to achieving the target. It is most effective when we identify what students are doing right, as well as what they need to work on next. A good way to think of this is "stars and stairs" – what did the learner accomplish? And, what are next steps? Every learner, especially the struggling one, needs to know that she did something right, and our job as teachers is to find it and label it for her, before launching into what she needs to improve.

Remember that the learner doesn't need to know everything that needs correcting, all at once. Narrow it to the specific knowledge and skills emphasized in the current assignment and pay attention to how much feedback the learner can act on at one time. If you have been engaging students in strategy two, above, they will be developing a vision of what the product or

performance looks like when it's done well, so you don't need to worry that if you don't point out all of their problems, students will not be harmed. Point out as many as students can successfully act on independently, and then figure out what to teach next based on the other problems in their work.

4. Student Self-Assessment

Teach students to self-reflect, self-assess, track their progress over time, and set goals-for learning. Self-assessment is a necessary part of the learning process, not an add-on that you do if you have the time or the "right" students. Struggling students are the right students, too. Here are some things you can have students do"

- Identify their own strengths and areas for improvement. You can ask them to do this before they show their work to you for feedback, and then when you offer feedback, they will have some prior thought of their own to "hang" it on – your feedback will be more meaningful and will make more sense.
- Keep a list of the learning targets they are responsible for and keep track of which ones they have mastered.
- Write a response log at the end of class, recording key points they have learned and questions they still have.
- According to criteria, select a particular piece of work to be placed in a portfolio that proves a certain level of proficiency, and include an explanation of why the piece represents proficiency.

Strategies for Answering the Question: How Do I Get There?

5. Design mini-lessons to focus on one aspect of quality at a time

If you are working on a learning target having more than one aspect of quality, center on one at a time- build competence one block at a time. For example, mathematics problem-solving requires choosing the right strategy as one component. A science experiment lab report requires a statement of the "hypothesis" as one component. Writing requires a catchy introduction as one component. Strategy five asks us to look at the components of success, and then teach those parts one part at a time, making sure that students understand that, ultimately, all of the parts must come together. You can then offer feedback focused on the component you just taught, which narrows the volume of feedback (as noted under Descriptive Feedback). This is a time-saver for you, and more instructionally powerful for the student.

6. Focused Revision

- Show students how you would revise a product or performance, and then let them revise similar, but different work. Begin by choosing work that needs revision on a single aspect of quality. Ask students to brainstorm advice for the (anonymous) author on how to improve his or her work. Then ask students, in pairs, to revise the work using their own advice. Or ask students to write a letter to the creator of the sample, suggesting what s/he could do to make it strong for aspect of quality discussed.
- Ask students to analyze your work for quality and make suggestions for improvement. Revise your work using their advice. Ask them to again revise it for quality.
- Ask students to work on a product or performance of their own that is currently in process, revising for the aspect of quality being discussed.

7. Student Self-Reflection and Communication About Learning

Engage students in reflecting on and communicating about their own progress. Encourage students to keep track of and share what they know. Any activity that requires students to reflect on what they are learning and to share their progress both reinforces the learning and helps them to develop insights into themselves as learners. These kind of activities give students the opportunity to notice their own strengths and to feel in control of the conditions of their success. By reflecting on their learning, students are learning more deeply, they will remember it longer, and it is the learner, not the teacher, who is doing the work.

Here are some things you can have students do:

- Write a process paper, detailing the process they went through to solve a problem or create a product of performance. This allows students to reflect on the problems they encountered and how they solved them. It causes them to think like professionals in your discipline.
- Write a letter to their parents about a piece of work, explaining where they are now in the process and what they are trying to next.
- Tell a partner how they arrived at an answer in mathematics.
- Offer feedback to peers.
- Write a description of quality as they now understand it.
- Reflect on their growth. "I have become a better reader this year. I used to …, but now I …"
- Use a collection of their self-assessments to summarize their learning and set goals for future learning. ("Here's what I've learned…Here's what I need to work on…)
- Help plan and participate in conferences with parents and/or teachers to share their learning.

These Strategies as a Progression

The strategies reflect a progression that needs to unfold in the classroom. Students have trouble engaging in later strategies (e.g., self-assessment) if earlier strategies (understanding learning targets and reliably assessing work) have not been used. Likewise, it is much harder for students to communicate their progress if the learning targets are not clear to students, students are not reliable in assessing work, students have not practiced self-assessing, and students have not practiced focused revision. (The strategy on descriptive feedback also helps because it models for students what descriptive feedback looks like so that they can do it for themselves and their peers.)

In other words, we can't just implement student self-assessment or student-led conferences and expect them to work if students don't have a clear understanding of the learning targets, know how to assess quality reliably, have had practice self-assessing, tracking progress, and goal setting, and have had practice revising work for quality.

References and Resources
Transforming Our Teaching And Learning
Professional Development Plan Resource Kit Contents

Module	Resource	Author	Title
Introduction	Book	Birchak, Connor, et al	*Teacher Study Groups: Building community through Dialogue and Reflection*
Introduction	Book	Eaker, DuFour & DuFour	*Getting Started: Reculturing Schools to Become Professional Learning Communities*
Introduction	Video Set	Eaker, DuFour & DuFour	*Let's Talk About PLC: Getting Started*
Module 1	Book	Ken O'Connor	*How to Grade for Learning*
Module 2	Packet	NREL	*Student Assessment Mini-lessons for your staff*
Module 2	Toolkit	OERI	*A Toolkit for Professional Developers*
Module 2	CD	OERI	*Improving Classroom Assessment*
Module 2	Book	Anne Davies	*Setting and Using Criteria*
Module 2	Book	Anne Davies	*Self Assessment and Goal Setting*
Module 2	Book	Richard Stiggins, Judy Arter, Jan Chappuis, and Steve Chappuis	*Classroom Assessment for Student Learning: Doing It Right—Using It Well*
Module 2	Book	Judy Arter	*Scoring Rubrics in the Classroom*
	Book	Steve Chappuis, Rick Stiggins, Judy Arter and Jan Chappuis	*Assessment FOR Learning: An Action Guide for School Leaders*
Module 3	Book	Heidi Hayes Jacobs	*Mapping The Big Picture*
Module 3	Book	Heidi Hayes Jacobs	*Getting Results with Curriculum Mapping*
Module 4	Video Inquiry Kit	ASCD (Blue Folder with DVD)	*Grading & Reporting Student Learning*
Module 4	Book	Anne Davies	*Conferencing and Reporting*
	Book	Anne Davies	*Making Classroom Assessment Work*
Module 4	Book	Thomas Guskey	*Developing Grading & Reporting Systems for Student Learning*
Module 4	Book	Robert Marzano	*Transforming Classroom Grading*
Module 4	Book	Jan Chappuis & Stephen Chappuis	*Understanding School Assessment*
Teach Timer for overhead (Stokes Publishing Company			

(See Appendices Folder for PDF document)

The Vocabulary of Standards

Achievement. *The demonstration of student performance measured against established criteria such as performance standards.*

Analytic rubric. A rubric with separate scales for two or more criteria is considered an analytic rubric. Generally provides more detailed information about student work that may be useful in planning and improving instruction and communicating with students.

Assessment. Student demonstration of learning; products and performances used as evidence of skill development and content understanding. The process of gathering evidence about a student's knowledge of, ability to use, and disposition towards mathematics and of making inferences from the evidence for a variety of purposes. (Mathematics Curriculum Framework.) 2) Vehicles for gathering information about students' achievement or behavior.

Backward mapping. A backward mapping model, such as *Understanding by Design* (UbD). Identifies desired results first; determines evidence of student learning next (how do we know what students know and are able to do); and plans learning experiences and instruction last.

Benchmarks. 1) Describe when certain aspects of the content should be taught. (Language Arts Curriculum Framework); 2) Indicate developmentally appropriate content knowledge and skills at specific grade levels or at a cluster of grade levels. *(Mathematics Curriculum Framework).*

Broker. A state resource person who will work with complex area teams to assist in planning and implementing the professional development plan.

Content. Subject matter, key concepts and facts; topics for the content; important information; "nouns."

Content standards. Knowledge and skills essential to a discipline that students are expected to learn. Broad statements that do not detail specific content or materials. (*Language Arts Curriculum Framework*)

Criteria. 1) Clear and specific statements that specify the dimensions or characteristics for judging student work. (*Mathematics Curriculum Framework*);

Criteria. 2) **"**Guidelines, rules, characteristics, or dimensions that are used to judge the quality of student performance. Criteria indicate what we value in student responses, products, or performances" (National Center for Research, Evaluation, Standards, and Student Testing 1996).

Criterion-referenced. *Assessment of students' success in meeting stated objectives, learning goals, expectations, or criteria.*

Curriculum mapping. A procedure for collecting data on the operational curriculum based on the calendar specific to a teacher and a school.

Desirable benchmarks and indicators. Expectations for some students. Decisions on which to address are made by school staff at the elementary level. At the secondary level, they are addressed by course offerings and students' selection of elective courses.

Essential benchmarks and indicators. Expectations for all students that must be addressed by schools in instruction. Students must be provided with opportunities to learn and attain essential benchmarks and indicators. (*Grade Level Performance Indicator Progression* for 10 content areas)

Essential question. The essence; the organizing question that serves as the heart of the curriculum; identifies what students will be accountable for; distills the content into what is critical to examine, explore, and learn.

Evaluation. 1) Making judgments about the quality of student achievement over a period of time, primarily for the purpose of communicating student achievement. The process of making judgments about the level of students' understanding or performance.

Evidence. Collection of student work over time.

Formative: Assessment designed to provide direction for improvement and/or adjustment to a program for individual students or for a whole class (e.g., quizzes, initial drafts/attempts, homework [usually], and questions during instruction).
Facilitated Conversation. A facilitator led discussion around a topic of interest/learning goal in which participants are actively engaged.

General vs. specific rubrics. Scoring rubrics may be specific to a particular assignment or they may be general enough to apply to many different assignments. Usually the more general rubrics prove to be most useful, since they eliminate the need for constant adaptation to particular assignments and because they provide an enduring vision of quality work that can guide both students and teachers. General rubrics may be applied to a wide range of assessments.

Grade(s): The number(s) or letter(s) reported at the end of a set period of time as a summary statement of evaluations made of students.

Grade Level Performance Indicators. 1) Descriptions of quality products or performances (Making Sense of Standards), levels of performance (*Language Arts Curriculum Framework*); 2) Statements of evidence that need to be included in students work at a specific grade level. (*Mathematics Curriculum Framework*); 3) descriptors of the knowledge and skills that need to be acquired by students to understand big ideas.

Holistic rubric. A scoring rubric that uses only a single scale that yields a global or holistic rating. Holistic scoring is often more efficient, but analytical scoring systems generally provide more detailed information that may be useful in planning and improving instruction and communicating with students.

Learning Teams. Collaborative dialogue focused on issues and concerns in which participants delve deeper through inquiry and action research.

Mark: See also score.
1) Number or letter given on a single test or performance. 2) Also in the State electronic report card, mark is the term used to denote the grade on the report card.

Mean. The mean of a list of numbers is also called the average. It is found by adding all the numbers in the list and dividing by the number of numbers in the list.

Example:

Find the mean of 3, 6, 11, and 8.

Add all the numbers and divide by the number of numbers in the list, which is 4.

(3+6+11+8) divided by 4 = 7

The mean of these four numbers is 7.

Example:

Find the mean of 11, 11, 4, 10, 11, 7, and 8 to the nearest hundredth. (11+11+4+10+11+7+8) divided by 7 = 8.857. . .which to the nearest hundredth rounds to 8.86.

Median. The median of a list of numbers is found by ordering them from least to greatest. If the list has an odd number of numbers, the middle number in this ordering is the median. If there is an even number of numbers, the median is the sum of the two middle numbers, divided by 2. Note that there are always as many numbers greater than or equal to the median in the list as there are less than or equal to the median in the list.

Example:

The students in Keoki's class have the following ages: 4,29, 4, 3, 4, 11, 16, 14, 17, 3. Find the median of their ages.

Placed in order, the ages are 3, 3, 4, 4, 4, 11, 14, 16, 17, 29. The number of ages is 10, so the middle numbers are 4 and 11, which are the 5^{th} and 6^{th} entries on the ordered list. The median is the average of these two numbers: (4+11)/2=15/2=7.5

Example:

The tallest 7 trees in a park have heights in meters of 41, 60, 47, 42, 44, 42, and 47. Find the median of their heights.

Placed in order, the heights are 41, 42, 42, 44, 47, 47, 60. The number of heights is 7, so the middle number is the 4^{th} number. The median is 44.

Mode. The mode in a list of numbers is the number that occurs most often, if there is one.

Example:

The students in Keoki's class have the following ages: 5, 9, 1, 3, 4, 6, 6, 6, 7, 3. Find the mode of their ages.

The most common number to appear on the list is 6, which appears three times. No other number appears that many times. The mode of their ages is 6.

Norm-referenced. Assessment/evaluation in relation to other students within a class or across classes/schools or a segment of the population.

Performance Assessment. A type of assessment in which the student performs a task or generates his or her own response. A performance assessment consists of two parts: a task and a set of scoring criteria.

Performance Task. An assessment exercise aimed at producing student work that demonstrates the attainment of selected outcomes or goals. It consists of an activity or assignment that is completed by the student and then judged by the teacher or other evaluator on the basis of specific performance criteria.

Proficient. To what level of quality a piece of work should be.

Professional Learning Communities. A structure of collaborative teams working together to clarify outcomes, develop assessment(s), analyze data and discover best practices.

Relevant. Appropriate to the grade level and learning needs of the student.

Reliability. *The consistency with which an assessment strategy measures whatever it is meant to measure.*

Rubric. 1) An assessment tool that is used to make judgments about students' work. Rubrics focus on measuring stated criteria, use a range to rate the criteria, and contain performance descriptors that tell the degree to which a standard is met. A scoring guide a set of authoritative rules to give direction to the scoring of assessment tasks or activities. (*Mathematics Curriculum Framework)*;
2) Assessment tool consisting of a set of scoring criteria used to measure student's work. The rubric is a scoring guide that is used to evaluate a student's performance based on the sum of a full range of criteria rather than a single numerical score. A rubric is a working guide for students and teachers, usually developed and shared before an assignment begins in order to get students and teachers to think about the criteria on which student work will be judged. Rubrics can be analytic or holistic, and can be created for any content area. Students can and should be involved in the rubric design process.

Score. The number(s) of letter(s) assigned to an assessment via the process of measurement. The terms *mark* and *score* are commonly used synonymously.

Skills. Targeted proficiencies, technical actions and strategies, specific actions that students do to learn content, "action verb."

Standards. What students should know, be able to do, and care about. (*Hawaii BOE Content and Performance Standards Policy 2015)*

Standards-based education.

Summative. Assessment designed to provide information about a student's achievement at the end of a period of instruction (e.g. tests, exams, final drafts/attempts, assignments, projects, performances).

System of Standards. A combination of standards statements which includes:

HCPS I

- **Content standards**. Knowledge and skills essential to a discipline that students are expected to learn. Broad statements that do not detail specific content or materials (*Language Arts Curriculum Framework*)
- **Benchmarks**. Describe when certain aspects of the content should be taught. (*Language Arts Curriculum Framework*); indicate developmentally appropriate content knowledge and skills at specific grade levels or at a cluster of grade levels. (*Mathematics Curriculum Framework*)

HCPS II

- **Performance Indicators**. 1) Descriptions of quality products or performances (*Making Sense of Standards*), levels of performance (*Language Arts Curriculum Framework*); 2) Statements of evidence that need to be included in students work at a specific grade level. (*Mathematics Curriculum Framework*); 3)descriptors of the knowledge and skills that need to be acquired by students to understand big ideas.
- **Performance standards**. Clear description of acceptable kinds of evidence of meeting content standards; include three pieces: performance indicators, student work, and teacher commentary on how well students demonstrate learning. . Give standards greater clarity and usability by giving concrete examples of work that has been done to meet standards. Behaviors expected of students or the degree to which they must perform these behaviors. (*Language Arts Curriculum Framework)*

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- **Desirable benchmarks and indicators**. Expectations for some students. Decisions on which to address are made by school staff at the elementary level. At the secondary they are addressed by course offerings and students selection of elective courses.

- **Essential benchmarks and indicators**. Expectations for all students that must be addressed by schools in instruction. Students must be provided with opportunities to learn and attain essential benchmarks and indicators. (*Grade Level Performance Indicator Progression* for 10 content areas).

HCPS III

- **Strand.** The big ideas that define a content area.
- **Content standards**. Broad statements of what a student needs to know or be able to do at the end of K-12 schooling.
- **Topic**. A category under which related benchmarks are grouped.

- **Grade-Level Benchmarks**. Specific statements of what a student should know or be able to do at a specific grade level or grade level cluster.
- **Sample Performance Assessment**. A generalized description of how a student can demonstrate significant aspects of the benchmark.

- **Rubric**. A tool to assess the quality of a student's achievement of the benchmarks at the specified taxonomic level.

Validity. The degree to which an assessment strategy measures what it is intended to measure.