Balanced Assessment

Complete the questionnaire by checking the box at your current confidence level for each statement.

	I'm uncertain about my confidence	I'm not very confident	I'm somewhat confident	I'm very confident
Clear Purpose				
1. I understand the various users of classroom assessment information, including students, and can accommodate their various assessments *for* and *of* learning needs.				
2. I balance assessment *for* and *of* learning in my classroom and have a plan for integrating them over time.				
3. I use classroom assessment information to guide and revise teaching.				
4. I know the difference between formative and summative assessment practices.				
Clear Learning Intentions				
5. I can clearly describe the learning targets I want my students to hit.				
6. I can define in writing the specific *patterns of reasoning* students are to master.				
7. I can articulate in writing the performance skills I expect students to learn and demonstrate.				
Designing Student Assessments				
8. I can develop high-quality selected response/short answer assessments.				
9. I can develop high-quality performance assessments.				
10. I can select among assessment types based on target type and purpose.				
11. I provide more descriptive feedback than evaluative feedback to students.				
12. I can record and combine assessment information to accurately reflect student learning.				

	I'm uncertain about my confidence	I'm not very confident	I'm somewhat confident	I'm very confident
Communicating with Students				
13. I make learning targets clear to students.				
14. My students can describe what learning targets they are to achieve.				
15. I give students opportunities to self-assess and set goals for further learning.				
16. I give students opportunities to reflect on and share their learning progress with others.				
Questioning and Discussion				
17. I create questions based on student misconceptions.				
18. I use open-ended questions to invite students to think and/or offer multiple possible answers.				
19. I challenge students' cognitive demand, advance high-level thinking and discourse, and promote metacognition through questioning.				
Professional Responsibilities				
20. I regularly collaborate with peers as I analyze student work to inform my own teaching practices.				
Student Growth Goals				
21. I use data to set growth goals from students, and design assessments to demonstrate progress toward meeting the goal.				

Prerequisites to Accurate Self-assessment and Meaningful Goal Setting

Teachers: To what extent is each of these prerequisites in place in the classes you teach?

Instructional coaches and administrators: To what extent is each of these prerequisites in place in classrooms in your school or district?

Prerequisite	All of the time	Some of the time	Not Yet
1. Students have a clear vision of the learning targets. Targets are communicated to them in language they understand. Rubrics are designed to function as effective feedback about level of quality and are written in language students can understand.			
2. Instruction centers on the learning targets.			
3. Assignments and assessments align directly with the intended learning and instruction provided.			
4. Students have practice evaluating anonymous work samples, e.g., differentiating between strong and weak work, identifying problems with correctness or quality, flaws in reasoning, and misconceptions.			
5. Students receive feedback during the learning, pointing out strengths and offering guidance on improvement. Students have opportunities to act on the feedback before the graded event.			
6. Assignments and assessments are designed so that students can interpret the results in terms of the intended learning. The results function as effective feedback. 7. Students have practice offering each other effective feedback.			

Which of these prerequisites is your highest priority to address?

Reviewing My Results

Name: ____________________ Assignment: ____________________ Date: __________

Please look at your corrected test and mark whether each problem is right or wrong. Then look at the problems you got wrong and decide if you made a simple mistake. If you did, mark the "Simple Mistake" column. For all the remaining problems you got wrong, mark the "Don't Get It" column.

Problem	Learning Target	Right	Wrong	Simple Mistake	Don't Get It

ETS Assessment Training Institute, 2009.

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Analyzing My Results

Name: ____________________ Assignment: ____________________ Date: ____________

I AM GOOD AT THESE!

Learning targets I got right: ____

____

____

____

I AM PRETTY GOOD AT THESE, BUT NEED TO DO A LITTLE REVIEW

Learning targets I got wrong because of a simple mistake: ____________________

____

____

____

What I can do to keep this from happening again: ____________________________

____

____

____

I NEED TO KEEP LEARNING THESE

Learning targets I got wrong and I'm not sure what to do to correct them: ______________

____

____

____

What I can do to get better at them: ______________________________________

____

____

____

ETS Assessment Training Institute, 2009.

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Reviewing and Analyzing Results, Secondary Version

Name: ____________________ Assignment: ____________________ Date: __________

As you answer each question, decide whether you feel confident in your answer or are unsure about it and mark the corresponding box.

Problem #	Learning Target #	Confident	Unsure		Right	Wrong	Simple Mistake	Don't Get It

Analyzing My Results

1. After your test has been corrected, identify which problems you got right and which you got wrong by putting Xs in the "Right" and "Wrong" columns.
2. Of the problems you got wrong, decide which ones were due to simple mistakes and mark the "Simple Mistake" column. (If it was a simple mistake, you can correct it without help.)
3. For all of the remaining wrong answers, mark the "Don't Get It" column.

ETS Assessment Training Institute, 2009.

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Reviewing and Analyzing Results, Secondary Version *(continued)*

Name: ____________________ Assignment: ____________________ Date: ____________

My Strengths

To identify your areas of strength, write down the learning targets for problems you felt confident about **and** got right.

Learning Target #	Learning Target or Problem Description

My Highest Priority for Studying

To determine what you need to study most, write down the learning targets for problems you marked "Don't Get It" (problems you got wrong, NOT because of a simple mistake).

Learning Target #	Learning Target or Problem Description

What I Need to Review

To determine what you need to review, write down the learning targets for problems you were unsure of and for problems on which you made simple mistakes.

Learning Target #	Learning Target or Problem Description

ETS Assessment Training Institute, 2009.

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Goal and Plan (Form E)

Name:	Date:
Where Am I Going?	
My goal:	
Where Am I Now?	
What I can do:	What I need to work on:
How Will I Close the Gap?	

- With help from: ______________________________
- Using these materials: ______________________________
- Actions I will take:

  What: ______________________________

  When: ______________________________

ETS Assessment Training Institute, 2009.

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Self-assessment and Goal Setting

Name:

Complete this portion at the beginning of an assignment	
Learning target I am working on:	
Assignment:	Date:
Complete this portion after you look at corrections/feedback on your assignment	
Strengths:	
What to improve:	

Name:

Complete this portion at the beginning of an assignment	
Learning target I am working on:	
Assignment:	Date:
Complete this portion after you look at corrections/feedback on your assignment	
Strengths:	
What to improve:	

ETS Assessment Training Institute, 2009.

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Transformation of Energy Study Guide

I can give examples of energy.

The seven major categories of energy are: heat, light, chemical, mechanical, sound, electrical, and nuclear. You are generally familiar with heat, light, sound, and electrical. Mechanical energy is contained in objects that are moving, or could be moving if released. Chemical energy is contained in any object that could burn. It is also contained in food. Nuclear energy is the energy that is stored within atoms. You will **not** have any questions about nuclear energy on the test.

I can give examples of energy transfer. That means when energy is moved from one object to another.

During an energy transfer, energy is moved from one object to another. The energy form remains the same, it's just where the energy is located that is different. Examples of energy transfer would be hitting a baseball, throwing a football, or hitting a golf ball (mechanical energy transferred from one object to the other). Other examples would be cooking bacon in a skillet (heat energy transferring from the burner to the skillet to the bacon), sticking your hand into hot water (heat energy transferring from the water to your hand), or a car running into the bumper of another car (mechanical energy transferring from one car to the other).

I can give examples of energy transformations. That means when energy is changed from one form to another form.

During an energy transformation, energy is changed from one form to a different form. Energy transformations occur around us all the time. We use the chemical energy in the food we eat to power our muscles. We change the chemical energy into mechanical energy. Some of the chemical energy gets changed into heat energy also. That explains why we get hot when we run around a lot (we are changing bunches of chemical energy into mechanical and heat energy). The chemical energy in a candle is transformed into heat and light energy. The mechanical energy in a car is transformed into heat energy when the brakes are used.
The most common energy transformation involves electrical energy. We use electrical energy every day for a variety of purposes. We transform it into sound energy for our radios and iPODs. We transform it into heat/mechanical/sound energy with hairdryers. We transform it into heat for our homes. We change it into light for our cars, homes, and schools. Electrical energy is so common because it is relatively easy to move from one place to another through wires. All of our electrical energy is produced through the transformation of other energy types into electricity. Mechanical energy (moving water, wind, tides) is used to turn turbines that generate electrical energy. The chemical energy in coal and gas is transformed into electrical energy as well. Light energy (solar) is transformed into electrical energy through solar panels.

I can describe the exchange of energy between hot objects and cold objects.

Heat energy is exchanged between objects that are different temperatures. Objects with lower temperatures with gain heat energy from their surroundings. Objects with higher temperatures than their surroundings will lose heat energy. For example a hot cup of chocolate will gradually lose energy to its cooler surroundings. The transfer of heat energy will stop when the objects reach the same temperature. Likewise, a block of ice will absorb heat from warmer objects around it. Remember though that if we put a cup that's 32 degrees Fahrenheit in a room that is 0 degrees Fahrenheit the cup will lose heat energy to the room because it is warmer than the room.

I can explain how heat energy is transferred.

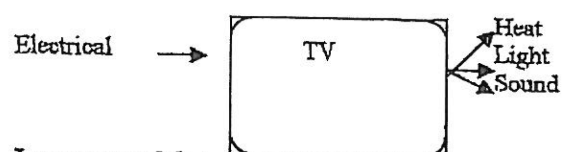
Heat is transferred by three different methods: conduction, convection, and radiation. Conduction occurs in solid objects. The heat travels through the objects by causing their particles to vibrate more, then those particles bounce into their neighbors causing them to bounce, and this continues through the object. Some objects are better conductors (metals are good conductors of heat) than others (wood and plastic are poor conductors of heat).
Convection occurs in liquids and gasses. During convection, liquids or gasses that are near the heat source gain heat energy. This causes them to expand and become less dense. The less dense liquid or gas rises, while more dense liquid or gas sinks to take its place. Convection will move heat from the bottom of a liquid or gas to the top.
Radiation occurs when heat energy is transferred without the help of solids, liquids, or gasses. Heat energy is transferred as waves (similar to how light is transferred) by radiation. The heat energy from the sun travels this way to the earth.

I can describe examples of systems that are powered by energy.

A system is parts working together to do something. All systems need energy to do their work. A TV is a system. It requires electrical energy (which it transforms into heat/light/sound energy) to work. A car is a system that requires chemical energy (which it transforms into heat/sound/mechanical energy) to function.
An ecosystem is powered by energy. Plants transform light energy (from the sun) into chemical energy (food). Animals eat the chemical energy and transform it into mechanical, heat, sound energy. Some of the chemical energy is stored in the animal (that's how we can eat a hamburger and get chemical energy from it). Without these energy transfers and transformations ecosystems would not function.
The weather is a system that is powered by energy. The heat energy from the sun warms the earth. This causes water to evaporate, eventually producing precipitation over different parts of the earth. The heat energy also warms the atmosphere causing warmer less dense air to rise and cooler more dense air to sink (thereby producing wind). Without these energy transfers and transformations there would be no precipitation or movement of the atmosphere (wind).

I can use models to show the transformation of energy in a system. That means I can show the energy forms that enter a system and how they change form until they leave the system.

Diagrams help show the types of energy that enter a system and the types that exit the system. For example:



I can use models to show that the amount of energy in a system is conserved. That means the total amount of energy stays the same, no matter how it has been transferred or transformed.

The amount of energy that enters a system (like a TV) is equal to the amount that leaves the system. The only difference is the form it takes. With a TV the energy arrives as electricity but leaves as heat, light, and sound. If we total the amount of electricity and compare it to the total amount of heat, light and sound, we will find that they come to the same amount.

Energy Transfer and Transformation Re-Test

This test contains one question for each learning target from our energy unit. You will only need to answer the questions that go with the learning targets you want to show improvement on. The questions are very open-ended (that means they have many different correct answers) so you will have choice in how you show understanding of the learning target. However, you should do your best to prove to me that you have a **clear and complete** understanding of the learning target in order to get a 3.

Learning Target #1 - I can give examples of energy.

a. List 3 different types of energy.
b. For each type of energy, give two examples of objects, systems, or organisms that use or contain that energy type.

Learning Target #2 - I can give examples of energy transfer. That means when energy is moved from one object to another.

a. List two examples of energy transfer.
b. Explain the energy transfer that is occurring in each example.

Learning Target #3 - I can give examples of energy transformations. That means when energy is changed from one form to another form.

a. List three examples of energy transformation.
b. Explain the energy transformation that is occurring in each example.

Learning Target #4 - I can describe the exchange of energy between hot objects and cold objects.

A room's temperature is 72°F. You place a cup of water at 140°F on a table in the room. You also place a cup of water at 38°F on a different table in the room.

a. Describe what will happen to the temperature of the cup of 140°F water.
b. Describe what will happen to the temperature of the cup of 38°F water.
c. Explain what caused these temperature changes.

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Learning Target #5 - I can explain how heat energy is transferred.

a. List an example for each heat transfer method: conduction, convection, and radiation.
b. Explain how heat is transferred in each example.

Learning Target #6 - I can describe examples of systems that are powered by energy.

a. List three systems that are powered by energy (at least one must be a natural system).
b. List the type of energy that powers each system.
c. Describe how each system uses that energy type.

Learning Target #7 - I can use models to show the transformation of energy in a system. That means I can show the energy forms that enter a system and how they change form until they leave the system.

Humans rely on energy transfers and transformations to meet our daily energy needs.

a. Describe the energy transformations that occur when a television is used.
b. Create a food chain, starting with the sun, which shows the energy transfers and transformations that occur for humans to get our energy to live.
c. Describe the energy transformations that occur in humans.

Learning Target #8 - I can use models to show that the amount of energy in a system is conserved. That means the total amount of energy stays the same, no matter how it has been transferred or transformed.

You roll a ball across the floor. It contains mechanical energy. The Law of Conservation of Energy states that the amount of energy in the system stays the same; it cannot be created or destroyed. You notice the ball is slowing down.

a. If the ball started with 20 units of energy, how much energy would there be when it stops moving?
b. Explain what happened to the energy.
c. An object in space keeps moving in a straight line. Use the Law of Conservation of Energy to explain why it doesn't slow down.

Plants study guide

Test on ______________________ Name ______________________

Vocabulary words to know:

Structure	Flower	Photosynthesis	Seedling/sprout
Function	Fruit	Gene	Pollinate
Roots	Photosynthesis	Trait	Runners
Stem	Nutrient	Embryo	Tubers (bulbs)
Leaf	Carbon dioxide	Germination	Spores

Target 1: I can identify and explain the function of each structure of a plant. This means I can label each part of a plant and tell the job it does.

Roots – absorb water AND nutrients (like vitamins) from the soil; roots also anchor the plant in the ground

Stem – Transports water and nutrients from the roots to the leaves; gives the plant support so it can maintain its shape

Leaves – Absorbs sunlight and carbon dioxide that combines with water to make food for the plant (photosynthesis); releases oxygen back into the atmosphere

Flowers – Attracts pollinators so seeds can develop

Fruit- If a flower has been pollinated, it may develop into a fruit containing seeds

Target 2: I can explain the process of photosynthesis. This means I can tell you how a plant makes its own food -sugar.

Photosynthesis is a process, sort of like baking. The leaf of a plant starts with carbon dioxide and water. As the leaf absorbs energy from the sun, a chemical reaction takes place to make sugar and oxygen. The plant uses or stores the sugar as its food and releases the oxygen back into the atmosphere.

Target 3: I can identify the basic needs of a plant.

Water
Sunlight
Carbon dioxide (from air)
Nutrients (like vitamins and minerals)
Space

Target 4: I can identify characteristics of plants that are inherited (come from their parents).

Plants grow to look like their parents because the seed they grow from contains genes. The embryo contains genes that carry instructions for how living things grow and develop. This means the plant will have traits like their parent. A trait is a characteristic that is passed from parent to offspring. For example the trait of color; if a rose is yellow, the seeds will produce yellow roses- it can't produce red roses because that's not in the genes. Another trait that plants inherit is the number of petals they have. Traits also include characteristics such as the shape of leaves or the height of a plant.

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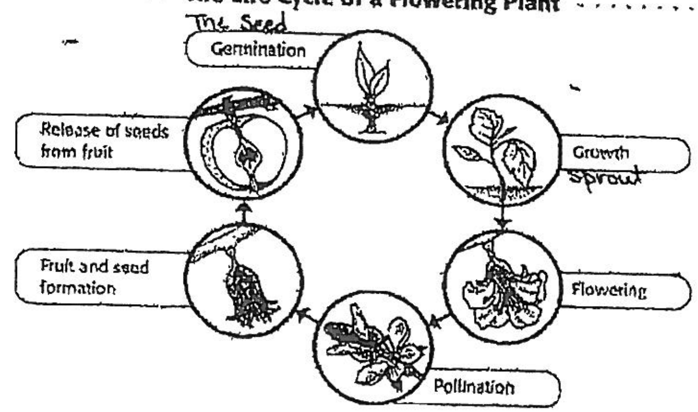
Target 5: I can explain the order of each stage in a flowering plant's life cycle.

The Life Cycle of a Flowering Plant



Germination – when a seed absorbs water, has the right temperature, and has enough space and air to begin sprouting (breaking through the soil's surface)
Growth – when the seedling continues to grow and develop into an adult
Flowering – When a plant develops flowers to attract pollinators (like birds, bees, butterflies, & other insects)
Pollination – Occurs if a pollinator brings pollen from another similar plant
Fruit & Seed formation – If the seed forms after pollination, it will develop inside the plant's fruit
Release of seeds from fruit – As the fruit ripens, the seeds are scattered so the cycle can begin again. Seeds are scattered by wind, water, animals, and people.

Target 6: I can identify many ways that plants reproduce to create new offspring.

Most new flowering plants grow from seeds. Sometimes, however, new plants grow from other parts of parent plants. New plants can grow from the stems – these are called runners. Strawberries and grasses send out runners. Other plants grow from tubers (also called bulbs). Potatoes, daffodils, tulips, and onions are an example of tubers.

Ferns, mosses and other plants without roots reproduce by spores, they don't make seeds. Spores are very tiny dustlike particles that have a hard outer covering that contain a single cell that can grow into a new plant.

Elementary Science Example
Boyle County

Plants reflection Name ____________________

Problem #	Learning Target /topic	DOK	Marked wrong answer on form	Didn't read carefully enough	Understand now why I missed it	I still don't understand this
1	Structure/function	2				
2	Life Cycle	1				
3	Basic needs	1				
4	Structure/function	2				
5	Inherited traits	1				
6	Life Cycle	2				
7	Photosynthesis	1				
8	Photosynthesis	2				
9	Reproduction	1				
10	Structure/function	2				
11	Structure/function	1				
12	Life Cycle	1				
13	Life Cycle	2				
14	Structure/function	2				
15	Reproduction	1				
16	Inherited traits	2				
17	Basic needs	1				
18	Structure/function	2				
19	Structure/function	2				
20	Basic needs	3				

Target 1: I can identify and explain the function of each structure of a plant. This means I can label each part of a plant and tell the job it does. 1 4 10 11 14 18 19

Target 2: I can explain the process of photosynthesis. This means I can tell you how a plant makes its own food - sugar. 7 8

Target 3: I can identify the basic needs of a plant. 3 17 20

Target 4: I can identify characteristics of plants that are inherited (come from their parents). 5 16

Target 5: I can explain the order of each stage in a flowering plant's life cycle.
2 6 12 13

Target 6: I can identify many ways that plants reproduce. 9 15

How many DOK level 1 missed? _____ DOK level 2 missed? _____ DOK level 3 missed? _____

I studied for ____________ minutes for this test. Parent sig. ____________________

Reflections: (look to see if you can find any patterns in the questions you missed)

Chapter 6 Assessment Reflections   Name____________________   Period__________

	Target 1: Determine if an ordered pair is a solution.						Target 2: Solve a system of linear equations by graphing.						Target 3: Solve a system of linear equations by substitution.				
	A1	A2	A3	A4	Test		A1	A2	A3	A4	Test		A1	A2	A3	A4	Test
4																	
3																	
2																	
1																	

A1: (name) Homework 1	Date:	*Fill in names/dates*			
A2: quiz A		*For all assessments*			
A3: Homework 2		*In lines below graphs*			
A4: essay					
A5: items 1 -6 on ch. test					

	Target 4: Solve a system of linear equations by elimination.						Target 5: Solve real-world problems using a system of linear equations.						Target 6: Graph a linear inequality.				
	A1	A2	A3	A4	Test		A1	A2	A3	A4	Test		A1	A2	A3	A4	Test
4																	
3																	
2																	
1																	

Types of errors:

Problem	Can't graph a line	Comp. error	Concept	Incorrect shading	Couldn't set up equations	Basic Algebra mistake
Fix:						

Note: helpful if you put everything on a similar scale (like a 4 point rubric) so that everything is equal in weight and students can monitor growth more accurately. Also helpful if you leave space for noting errors and identifying strategies to fix those errors.

Unit: Western Europe

Over the next three weeks, we'll be studying the countries of Western Europe--- some of America's strongest allies, including France, the United Kingdom, Germany, Ireland, the Benelux countries and Switzerland.

Learning Target	Task 1	Task 2	Task 3
412: I can evaluate the impact that the migration of people has had on the political, economic and social development of Western Europe. This means that I can create a well-supported opinion in favor of—or opposed to—Switzerland's strong stance against immigrants from other nations. *To learn this, we'll be studying the "Black Sheep" posters used in the 2008 Swiss elections to protest against foreigners moving to Switzerland.*			
Rate your own mastery of this learning target. Remember that your rating can change over time: New To Me ◄——————► I Got This!			
722: I can explain how important historical events have influenced the government, economies and people of Western Europe. This means that I can answer the question, "How would Europe today be different if World War I and World War II had never happened?" *To learn this, we'll be studying the causes and effects of World War I and World War II, as well as the development of the European Union.*			
Rate your own mastery of this learning target. Remember that your rating can change over time: New To Me ◄——————► I Got This!			
1212: I can determine how religions have shaped the lives of people in Western Europe. This means that I can use facts to demonstrate the consequences that the conflict between Protestants and Catholics has had on ordinary people in Northern Ireland. *To learn this, we'll be studying "The Troubles," a 40-year period of religious conflict that has its roots in the Protestant Reformation.*			
Rate your own mastery of this learning target. Remember that your rating can change over time: New To Me ◄——————► I Got This!			
1041: I can use information from maps, charts and graphs to identify patterns between different Western European countries. This means that I can find several different maps showing information about Western Europe and identify things that different nations have in common. *To learn this, consider looking for maps, charts or graphs that show natural resources, use of land, common landforms, age of people, average wealth of nations etc.*			
Rate your own mastery of this learning target. Remember that your rating can change over time: New To Me ◄——————► I Got This!			

Writing Student Friendly Learning Goals November 19, 2008
http://teacherleaders.typepad.com/the_tempered_radical/2008/11/student-friendly-learning-goals-.html

One of my all-time favorite throw-downs here at school happened a few years back when my principal---who I respected and enjoyed---insisted that we post learning goals on our boards for every class period. "Posting goals," he argued, "keeps students informed about exactly what it is that they are supposed to be learning in class each day."

And you know something: He was right. Experts from Rick Stiggins and Larry Ainsworth to Bob Marzano have proven time and again that engaging students in their own learning by posting objectives in class is a practice worth pursuing.

The problem was that our principal had decided on a particular format for posting learning goals that didn't make any sense to me. Known as SWBAT objectives, we were supposed to write statements that described what "***Students would be able to do***" in measurable terms. Now, the math teachers didn't have any troubles at all. They instantly started posting objectives that looked like this: *"The students will be able to divide two decimal numbers with 80% accuracy."*

For us language arts and social studies teachers, though, the process wasn't nearly as clean cut. The first challenge was that our objectives aren't always the kinds of objectives that you can learn in one class period---and more importantly, it's difficult to measure some of the open-ended objectives that comprise our curriculum.

So the members of my learning team ***who chose to play along*** would have confusing objectives like this posted on their boards: *"The students will be able to self-select reading materials with 80% accuracy."* ***OR*** *"The students will be able to make meaningful contributions to classroom conversations with 80% accuracy."*

These kinds of statements didn't make sense to me or to my students, so I didn't play along----and I got in trouble for it! I'll never forget the first time that one of our assistant principals came in, observed one of my best lessons of the year, and left me a note with nothing else written on it than, "You need to start posting your objectives daily." I called it a "Parking Ticket," tore it up and forgot about it.

My frustration level peaked, though, when my principal called me to the office over the whole deal. "Bill, what's the big deal?" he said, "Writing the objective on the board will take you ten minutes. "***Just do it, huh?"***

Never being a Nike-kinda-guy, I decided---*with my principal's permission*---to do as much research as I could about posting objectives in class. "As long as you find some way to post objectives in your room, Bill, I don't care what it looks like. But I am going to expect you to come up with something."

What I quickly found out didn't surprise me at all: Most assessment experts argue that it's not the act of posting objectives that has a positive impact on student learning. Instead, it's the act of ***posting objectives in student friendly language that matters***.

Consider this quote from assessment expert Rick Stiggins: *Explaining the intended learning in student-friendly terms at the outset of a lesson is the critical first step in helping students know where they are going...Students cannot assess their own learning or set goals to work toward without a clear vision of the intended learning. When they do try to assess their own achievement without understanding the learning targets they have been working toward, their conclusions are vague and unhelpful. (Stiggins, Arter, Cahappuis & Chappius, 2004, pp. 58-59)*

So I started working to polish a system for identifying essential outcomes and posting learning targets in student friendly language. For me, that involved a few steps:

Deconstructing my standards: It's amazing how complex state standards really are! Oftentimes, one standard can include several different skills that students are supposed to master. Don't believe me? Then check out this standard from my social studies curriculum:

Objective 4.03: *The learner will examine key ethical ideas and values deriving from religious, artistic, political, economic and educational traditions, as well as their diffusion over time, and assess their influence on the development of selected societies and regions in South America and Europe.* This one standard expects students to do a thousand different things, doesn't it?

They're supposed to examine ethical ideas and values that derive from religious, artistic, political, economic and educational traditions. Then, they're supposed to examine how these traditions have changed over time. Finally, they're supposed to assess how these traditions have influenced the development of Europe and South America.

Each of those skills require different styles of instruction and different methods of assessment---and written as is, ***there ain't a twelve year old in the world*** that is going to be able to figure out exactly what it is that they're supposed to learn!

Creating I Can Statements: Student-friendli-fying deconstructed learning targets for me began by writing I Can Statements. Rick Stiggins, among others, push I Can Statements because they are worded in a way that encourages students to measure their own learning. Consider the following deconstructed learning target from my social studies curriculum: ***202.3***: *The learner will evaluate the impact of changing distribution patterns in population, resources and climate on the environment in South America and Europe.*

Written as an I Can Statement, it would look like this: ***202.3***: *I can judge how changes in population, resources and climate effect the environment of South America and Europe.* Which do you think my twelve year old students will understand better?

Defining a specific task: Once I'd deconstructed my standards and written I Can Statements, I decided to define a specific learning task that parents and students could use to measure their mastery of content. This defined learning task was added to the end of each I Can statement. Here's an example:

202.3: *I can judge how changes in population, resources and climate effect the environment of South America and Europe.* <u>This means that I can make predictions about what might happen to the environment in places where populations rise, resources fall, or the climate changes.</u>

Defining a specific task has even helped ME with my planning and instructional delivery. Now, when working with an objective, I know exactly what kinds of activities to engage my kids in because I've detailed the specific outcome that they are supposed to achieve.

Communicating with parents and students: The final step in the process for me has been to create unit overview sheets detailing the specific learning targets that we're focusing on for each unit. These unit overview sheets go home at the beginning of each new topic of study, allowing parents to keep up with what we're studying in class.

They're also included in student notebooks and are referred to constantly in class. There is a place for students to record the scores of classroom assessments and to rate their own mastery of learning. Here's an example: <u>Download Western Europe I Can Statements V2</u> ***<u>See example pasted at the end of article.</u>***

Now, I won't lie to you: This entire process has completely kicked my behind! In fact, I've been working at this for the better part of two years now. Crazy how long it takes to revise and edit an instructional practice, huh?

I've read constantly about assessment, looking for new ideas about communicating standards to parents and students. I've muddled through two incredible curriculums, deconstructing standards. I've debated with colleagues about the learning targets that are the most appropriate for each unit that we study, revised my tracking sheets and unit overviews a dozen times, and reminded myself every day for the past two months to write objectives on the board.

I've started to revise my warehouse of lesson plans to align with individual learning targets and begun to design assessment questions for each I Can Statement. My next step will be to start recording student learning in my gradebook by I Can Statement so that I can start tracking mastery at the learning target level. More than once, I've wished that all of this work had been done for me at the Central Office level. "Why in the world do they give us objectives written in language that we can't even understand?" I've complained. "Who's got the time to deconstruct and rewrite their curriculum before they even start to teach it?"

But now that I've gotten this far, I'm proud of what I've accomplished. I now post objectives every day, knowing that my kids will understand them---and knowing that my assessments and instruction are aligned with required elements of the curriculum. Parents seem to appreciate having something tangible and concrete to hold on to, and students can actually tell ME when THEY'VE mastered their own learning.

So whaddya' think? Does my process make any sense? What should I do differently?

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Work cited: Stiggins, R., Arter, J., Chappuis, J., & Chappuis, S. (2006).

Classroom assessment for student learning: doing it right---using it well. Upper Saddle River, NJ : Pearson Education. (Image credit: Basketball by Snapdragon, licensed Creative Commons: Attribution)

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Classroom Assessment: Minute by Minute, Day by Day

Siobhan Leahy, Christine Lyon, Marnie Thompson and Dylan Wiliam

In classrooms that use assessment to support learning, teachers continually adapt instruction to meet student needs.

There is intuitive appeal in using assessment to support instruction: assessment *for* learning rather than assessment *of* learning. We have to test our students for many reasons. Obviously, such testing should be useful in guiding teaching. Many schools formally test students at the end of a marking period—that is, every 6 to 10 weeks—but the information from such tests is hard to use, for two reasons.

First, only a small amount of testing time can be allotted to each standard or skill covered in the marking period. Consequently, the test is better for monitoring overall levels of achievement than for diagnosing specific weaknesses.

Second, the information arrives too late to be useful. We can use the results to make broad adjustments to curriculum, such as reteaching or spending more time on a unit, or identifying teachers who appear to be especially successful at teaching particular units. But if educators are serious about using assessment to improve instruction, then we need more fine-grained assessments, and we need to use the information they yield to modify instruction as we teach.

Changing Gears

What we need is a shift from *quality control* in learning to *quality assurance*. Traditional approaches to instruction and assessment involve teaching some given material, and then, at the end of teaching, working out who has and hasn't learned it—akin to a quality control approach in manufacturing. In contrast, assessment *for* learning involves adjusting teaching as needed while the learning is still taking place—a quality assurance approach. Quality assurance also involves a shift of attention from teaching to learning. The emphasis is on what the students are getting out of the process rather than on what teachers are putting into it, reminiscent of the old joke that schools are places where children go to watch teachers work.

In a classroom that uses assessment to support learning, the divide between instruction and assessment blurs. Everything students do—such as conversing in groups, completing seatwork, answering and asking questions, working on projects, handing in homework assignments, even sitting silently and looking confused—is a potential source of information about how much they understand. The teacher who consciously uses assessment to support learning takes in this information, analyzes it, and makes instructional decisions that address the understandings and misunderstandings that these assessments reveal. The amount of information can be overwhelming—one teacher likened it to "negotiating a swiftly flowing river"—so a key part of using assessment for learning is figuring out how to hone in on a manageable range of alternatives.

Research indicates that using assessment for learning improves student achievement. About seven years ago, Paul Black and one of us, Dylan Wiliam, found that students taught by teachers who used assessment for learning achieved in six or seven months what would otherwise have taken a year (1998). More important, these improvements appeared to be consistent across countries (including Canada, England, Israel, Portugal, and the United States), as well as across age brackets and content areas. We also found, after working with teachers in England, that these gains in achievement could be sustained over extended periods of time. The gains even held up when we measured student achievement with externally mandated standardized tests (see Wiliam, Lee, Harrison, & Black, 2004).

Using this research and these ideas as a starting point, we and other colleagues at Educational Testing Service (ETS) have been working for the last two years with elementary, middle, and high school teachers in Arizona, Delaware, Maryland, Massachusetts, New Jersey, New Mexico, and Pennsylvania. We have deepened our understanding of how assessment for learning can work in U.S. classrooms, and we have learned from teachers about the challenges of integrating assessment into classroom instruction.

Our Work with Teachers

In 2003 and 2004, we explored a number of ways of introducing teachers to the key ideas of assessment for learning. In one model, we held a three-day workshop during the summer in which we introduced teachers to the main ideas of assessment for learning and the research that shows that it works. We then shared specific techniques that teachers could use in their classrooms to bring assessment to life. During the subsequent school year, we met monthly with these teachers, both to learn from them what really worked in their classrooms and to offer suggestions about ways in which they might develop their practice. We also observed their classroom practices to gauge the extent to which they were implementing assessment-for-learning techniques and to determine the effects that these techniques were having on student learning. In other models, we spaced out the three days of the summer institute over several months (for example, one day in March, one in April, and one in May) so that teachers could try out some of the techniques in their classes between meetings.

As we expected, different teachers found different techniques useful; what worked for some did not work for others. This confirmed for us that there could be no one-size-fits-all package. However, we did find a set of five broad strategies to be equally powerful for teachers of all content areas and at all grade levels:

- Clarifying and sharing learning intentions and criteria for success.
- Engineering effective classroom discussions, questions, and learning tasks.
- Providing feedback that moves learners forward.
- Activating students as the owners of their own learning.
- Activating students as instructional resources for one another.

We think of these strategies as nonnegotiable in that they define the territory of assessment for learning. More important, we know from the research and from our work with teachers that these strategies are desirable things to do in any classroom.

However, the way in which a teacher might implement one of these strategies with a particular class or at a particular time requires careful thought. A self-assessment technique that works for students learning math in the middle grades may not work in a 2nd grade writing lesson. Moreover, what works for one 7th grade pre-algebra class may not work for the 7th grade pre-algebra class down the hall because of differences in the students or teachers.

Given this variability, it is important to offer teachers a range of techniques for each strategy, making them responsible for deciding which techniques they will use and allowing them time and freedom to customize these techniques to meet the needs of their students.

Teachers have tried out, adapted, and invented dozens of techniques, reporting on the results in meetings and interviews (to date, we have cataloged more than 50 techniques, and we expect the list to expand to more than 100 in the coming year). Many of these techniques require only subtle changes in practice, yet research on the underlying strategies suggests that they have a high "gearing"—meaning that these small changes in practice can leverage large gains in student learning (see Black & Wiliam, 1998; Wiliam, 2005). Further, the teaching practices that support these strategies are low-tech, low-cost, and usually feasible for individual teachers to implement. In this way, they differ dramatically from large-scale interventions, such as class size reduction or curriculum overhauls. We offer here a brief sampling of techniques for implementing each of the five assessment-for-learning strategies.

Clarify and Share Intentions and Criteria

Low achievement is often the result of students failing to understand what teachers require of them (Black & Wiliam, 1998). Many teachers address this issue by posting the state standard or learning objective in a prominent place at the start of the lesson, but such an approach is rarely successful because the standards are not written in student-friendly language.

Teachers in our various projects have explored many ways of making their learning objectives and their criteria for success transparent to students. One common method involves circulating work samples, such as lab reports, that a previous year's class completed, in view of prompting a discussion about quality. Students decide which reports are good and analyze what's good about the good ones and what's lacking in the weaker ones. Teachers have also found that by choosing the samples carefully, they can tune the task to the capabilities of the class. Initially, a teacher might choose four or five samples at very different quality levels to get students to focus on broad criteria for quality. As students grow more skilled, however, teachers can challenge them with a number of samples of similar quality to force the students to become more critical and reflective.

Engineer Effective Classroom Discussion

Many teachers spend a considerable proportion of their instructional time in whole-class discussion or question-and-answer sessions, but these sessions tend to rehearse existing knowledge rather than create new knowledge for students. Moreover, teachers generally listen for the "correct" answer instead of listening for what they can learn about the students' thinking; as Davis (1997) says, they listen *evaluatively* rather than *interpretively*. The teachers with whom we have worked have tried to address this issue by asking students questions that either prompt students to think or provide teachers with information that they can use to adjust instruction to meet learning needs.

As a result of this focus, teachers have become aware of the need to carefully plan the questions that they use in class. Many of our teachers now spend more time planning instruction than grading student work, a practice that emphasizes the shift from quality control to quality assurance. By thinking more carefully about the questions they ask in class, teachers can check on students' understanding while the students are still in the class rather than after they have left, as is the case with grading.

Some questions are designed as "range-finding" questions to reveal what students know at the beginning of an instructional sequence. For example, a high school biology teacher might ask the class how much water taken up by the roots of a corn plant is lost through transpiration. Many students believe that transpiration is "bad" and that plants try to minimize the amount of water lost in this process, whereas, in fact, the "lost" water plays an important role in transporting nutrients around the plant.

A middle school mathematics teacher might ask students to indicate how many fractions they can find between 1/6 and 1/7. Some students will think there aren't any; others may suggest an answer that, although in some way understandable, is an incorrect use of mathematical notation, such as 1 over 6½. The important feature of such range-finding items is that they can help a teacher judge where to begin instruction.

Of course, teachers can use the same item in a number of ways, depending on the context. They could use the question about fractions at the end of a sequence of instruction on equivalent fractions to see whether students have grasped the main idea. A middle school science teacher might ask students at the end of a laboratory experiment, "What was the dependent variable in today's lab?" A social studies teacher, at the end of a project on World War II, might ask students to state their views about which year the war began and give reasons supporting their choice.

Teachers can also use questions to check on student understanding before continuing the lesson. We call this a "hinge point" in the lesson because the lesson can go in different directions, depending on student responses. By explicitly integrating these hinge points into instruction, teachers can make their teaching more responsive to their students' needs in real time.

However, no matter how good the hinge-point question, the traditional model of classroom questioning presents two additional problems. The first is lack of engagement. If the classroom rule dictates that students raise their hands to answer questions, then students can disengage from the classroom by keeping their hands down. For this reason, many of our teachers have instituted the idea of "no hands up, except to ask a question." The teacher can either decide whom to call on to answer a question or use some randomizing device, such as a beaker of Popsicle sticks with the students' names written on them. This way, all students know that they need to stay engaged because the teacher could call on any one of them. One teacher we worked with reported that her students love the fairness of this approach and that her shyer students are showing greater confidence as a result of being invited to participate in this way. Other teachers have said that some students think it's unfair that they don't get a chance to show off when they know the answer.

The second problem with traditional questioning is that the teacher gets to hear only one student's thinking. To gauge the understanding of the whole class, the teacher needs to get responses from all the students in real time. One way to do this is to have all students write their answers on individual dry-erase boards, which they hold up at the teacher's request. The teacher can then scan responses for novel solutions as well as misconceptions. This technique would be particularly helpful with the fraction question we cited.

Another approach is to give each student a set of four cards labeled *A, B, C,* and *D,* and ask the question in multiple-choice format. If the question is well designed, the teacher can quickly judge the different levels of understanding in the class. If all students answer correctly, the teacher can move on. If no one answers correctly, the teacher might choose to reteach the concept. If some students answer correctly and some answer incorrectly, the teacher can use that knowledge to engineer a whole-class discussion on the concept or match up the students for peer teaching. Hinge-point questions provide a window into students' thinking and, at the same time, give the teacher some ideas about how to take the students' learning forward.

Provide Feedback That Moves Learners Forward

After the lesson, of course, comes grading. The problem with giving a student a grade and a supportive comment is that these practices don't cause further learning. Before they began thinking about assessment for learning, none of the teachers with whom we worked believed that their students spent as long considering teacher feedback as it had taken the teachers to provide that feedback. Indeed, the research shows that when students receive a grade and a comment, they ignore the comment (see Butler, 1988). The first thing they look at is the grade, and the second thing they look at is their neighbor's grade.

To be effective, feedback needs to cause thinking. Grades don't do that. Scores don't do that. And comments like "Good job" don't do that either. What *does* cause thinking is a comment that addresses what the student needs to do to improve, linked to rubrics where appropriate. Of course, it's difficult to give insightful comments when the assignment asked for 20 calculations or 20 historical dates, but even in these cases, feedback can cause thinking. For example, one approach that many of our teachers have found productive is to say to a student, "Five of these 20 answers are incorrect. Find them and fix them!"

Some of our teachers worried about the extra time needed to provide useful feedback. But once students engaged in self-assessment and peer assessment, the teachers were able to be more selective about which elements of student work they looked at, and they could focus on giving feedback that peers were unable to provide.

Teachers also worried about the reactions of administrators and parents. Some teachers needed waivers from principals to vary school policy (for example, to give comments rather than grades on interim assessments). Most principals were happy to permit these changes once teachers explained their reasons. Parents were also supportive. Some even said they found comments more useful than grades because the comments provided them with guidance on how to help their children.

Activate Students as Owners of Their Learning

Developing assessment for learning in one's classroom involves altering the implicit contract between teacher and students by creating shared responsibility for learning. One simple technique is to distribute green and red "traffic light" cards, which students "flash" to indicate their level of understanding (green = understand, red = don't understand). A teacher who uses this technique with her 9th grade algebra classes told us that one day she moved on too quickly, without scanning the students' cards. A student picked up her own card as well as her neighbors' cards, waved them in the air, and pointed at them wildly, with the red side facing the teacher. The teacher considered this ample proof that this student was taking ownership of her learning.

Students also take ownership of their learning when they assess their own work, using agreed-on criteria for success. Teachers can provide students with a rubric written in student-friendly language, or the class can develop the rubric with the teacher's guidance (for examples, see Black, Harrison, Lee, Marshall, & Wiliam, 2003). The teachers we have worked with report that students' self-assessments are generally accurate, and students say that assessing their own work helped them understand the material in a new way.

Activate Students as Instructional Resources for One Another

Getting students started with self-assessment can be challenging. Many teachers provide students with rubrics but find that the students seem unable to use the rubrics to focus and improve their work. For many students, using a rubric to assess their own work is just too difficult. But as most teachers know, students from kindergarten to 12th grade are much better at spotting errors in other students' work than in their own work. For that reason, peer assessment and feedback can be an important part of effective instruction. Students who get feedback are not the only beneficiaries. Students who give feedback also benefit, sometimes more than the recipients. As they assess the work of a peer, they are forced to engage in understanding the rubric, but in the context of someone else's work, which is less emotionally charged. Also, students often communicate more effectively with one another than the teacher does, and the recipients of the feedback tend to be more engaged when the feedback comes from a peer. When the teacher gives feedback, students often just "sit there and take it" until the ordeal is over.

Using peer and self-assessment techniques frees up teacher time to plan better instruction or work more intensively with small groups of students. It's also a highly effective teaching strategy. One cautionary note is in order, however. In our view, students should not be giving another student a grade that will be reported to parents or administrators. Peer assessment should be focused on improvement, not on grading.

Using Evidence of Learning to Adapt Instruction

One final strategy binds the others together: Assessment information should be used to adapt instruction to meet student needs.

As teachers listen to student responses to a hinge-point question or note the prevalence of red or green cards, they can make on-the-fly decisions to review material or to pair up those who understand the concept with those who don't for some peer tutoring. Using the evidence they have elicited, teachers can make instructional decisions that they otherwise could not have made.

At the end of the lesson, many of the teachers with whom we work use "exit passes." Students are given index cards and must turn in their responses to a question posed by the teacher before they can leave the classroom. Sometimes this will be a "big idea" question, to check on the students' grasp of the content of the lesson. At other times, it will be a range-finding question, to help the teacher judge where to begin the next day's instruction.

Teachers using assessment for learning continually look for ways in which they can generate evidence of student learning, and they use this evidence to adapt their instruction to better meet their students' learning needs. They share the responsibility for learning with the learners; students know that they are responsible for alerting the teacher when they do not understand. Teachers design their instruction to yield evidence about student achievement; for example, they carefully craft hinge-point questions to create "moments of contingency," in which the direction of the instruction will depend on student responses. Teachers provide feedback that engages students, make time in class for students to work on improvement, and activate students as instructional resources for one another.

All this sounds like a lot of work, but according to our teachers, it doesn't take any more time than the practices they used to engage in. And these techniques are far more effective. Teachers tell us that they are enjoying their teaching more.

Supporting Teacher Change

None of these ideas is new, and a large and growing research base shows that implementing them yields substantial improvement in student learning. So why are these strategies and techniques not practiced more widely? The answer is that knowing about these techniques and strategies is one thing; figuring out how to make them work in your own classroom is something else.

That's why we're currently developing a set of tools and workshops to support teachers in developing a deep and practical understanding of assessment for learning, primarily through the vehicle of school-based teacher learning communities. After we introduce teachers to the basic principles of assessment for learning, we encourage them to try out two or three techniques in their own classrooms and to meet with other colleagues regularly—ideally every month—to discuss their experiences and see what the other teachers are doing (see Black, Harrison, Lee, Marshall, & Wiliam, 2003, 2004). Teachers are accountable because they know they will have to share their experiences with their colleagues. However, each teacher is also in control of what he or she tries out. Over time, the teacher learning community develops a shared language that enables teachers to talk to one another about what they are doing. Teachers build individual and collective skill and confidence in assessment for learning. Colleagues help them decide when it is time to move on to the next challenge as well as point out potential pitfalls.

In many ways, the teacher learning community approach is similar to the larger assessment-for-learning approach. Both focus on where learners are now, where they want to go, and how we can help them get there.

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