Chapter 1 outlined the concept of the assessment map, which serves as the basis for designing the quality lessons described in this chapter. Whether we call these units of study, differentiated units or simply lessons that meet the needs of all learners, the bottom line is that master teachers do quality planning. This chapter will describe how a teacher who would be capable of entering an Olympic-level teaching competition might describe what he or she would have to do to “Go for the Gold!”

Chapter 2 will describe steps to help teachers think through the process of:

A. Designing a learning unit that anticipates and addresses student diversity;

B. Developing powerful individual lessons;

C. Setting up and managing multiple activities in the classroom;

D. Selecting high-impact strategies.

For decades we have played the “flavor of the year” game, working diligently to learn and implement the newest “silver bullet” developed to chase away low achievement skills. Master teachers quietly shake their heads and shoot their eyes heavenward as experts try to convince everyone that “this is the panacea.” Because students are so diverse, we need “diverse” tools and strategies to teach them. The truth is that when the first method of instruction leaves 10 students in the dark, great teachers try a second method. When there are still five students who do not get it, master teachers pull out technique number three... and so on. The more equipped a teacher is to anticipate and accommodate differences among students, the more successful the instruction. These teachers leave no child behind.
Challenge:
You are one of the finalists in the “Olympic Teaching Competition” and you have decided to “go for the gold.” You have been assigned 26 very diverse students and you have one month to show what an Olympic-level teacher can do. Where would you begin?

Olympian: First, I have to know what I am expected to teach. What do the students have to know and be able to do by the end of the month?

Judge: All finalists have the same fifth-grade geometry unit. Grade-level indicators surrounding 2-D and 3-D figures have been selected for you. You have one month to get every one of your very diverse students as close to mastery of the indicators as possible.

Olympian: In the athletic Olympics, the contestants know the exact assessment and the rubric the committee will use to judge performance. I’m hoping this competition is set up the same way. I really need to be able to focus in on the exact skills that count to have any chance of winning. Will I have that?

Judge: Yes, what you have to achieve and how it will be judged has all been spelled out for you, very specifically.

Olympian: Next, I need to know some things about the students personally so I can take every avenue possible to speed up the learning process.

Judge: Just what type of information do you need to find these avenues?

What are the key skills, knowledge and practices most likely to result in an Olympic-level teaching performance in our standards-based world?

Teaching a Standards-based Unit to Diverse Learners

What is it? A standards-based unit for diverse learners is a teaching plan that organizes powerful and focused learning activities and assessments around the grade-level indicators and essential understandings.

What does it look like? Standards-based units include:

1. A clear focus on just a few (one to 10) indicators, even if more are taught;
2. An essential understanding statement to guide the unit (Key B: Essential Understandings, page 17);
3. A range of assessments to gather evidence of student understanding before, during and after the learning process (Key E: Range of Assessments, page 32);
4. A list of key vocabulary to be stressed (page 57);
5. A variety of learning hooks to get and hold student attention and keep motivation high (Key F: Essential Questions and Other Hooks, page 39);

6. Various levels and strategies for teaching the activities:
   a. Ways for students to learn the information and skills;
   b. Ways for students to practice, rethink and refine;
   c. Application activities;
   d. Creative problem-solving activities;
   e. Ways to accommodate and enrich;
   f. Rubrics that can serve as models and be used to provide feedback for improvement (page 44).

Who is involved?
The teacher designs the draft alone or with partners. This draft is then reviewed by colleagues the teacher chooses. The review group helps the teacher to identify strengths and weakness of the plan. The group then recommends resources and activities that might enhance the quality and depth of the draft.

How much time does it take?
Depending on whether the teacher has taught this unit before and how many resource materials he/she has developed, this process could take from four to 10 hours. The review process takes 30 to 45 minutes.

Suggested Resources:


Web sites:
http://www.Ohiorc.org

http://www.ode.state.oh.us/families/academic_standards/
Key D: Connecting Essential Understandings and Authentic Assessments

Problem:

Many students have a hard time in school because teachers try to cover too many concepts at a time. There is often too much breadth and not enough depth.

In his book, How the Brain Learns (1995), Dr. David Sousa states that, “There is a hierarchy of response to sensory input. Any input that is perceived as higher priority diminishes the processing of data of lower priority.” So, if a series of pieces of information are presented during a lesson and they all appear to have equal value in the student's eyes, serious mental interference occurs.

What can we do?

If teachers focus carefully on one major understanding and show how other information is related to it, the likelihood that students will be able to process larger amounts of data is increased. When we do not do a thorough job of teaching the first time, we find ourselves needing to re-teach. Here are some ways of helping students’ brains hold larger amounts of information in shorter amounts of time:

1. Talk about essential understandings instead of assuming connections are automatically seen. Refer to these statements at the beginning and end of each lesson. Struggling learners have difficulty making connections between different ideas, facts or concepts. This makes remembering very difficult.

2. Call attention to understandings by posting them in the room or by using essential questions posted as visual organizers for the ideas discussed.

3. Cluster grade-level indicators together in logical units so students see how they work together when applied to the problem-solving situations in authentic assessments. Post the indicators for the day in student language so students are aware of what skills they must learn during that lesson.

4. Link understandings to prior experiences of the students by using KWL (What I Know, What I Want to know, What I Learned) charts, personal stories, journal prompts (“Have you ever...”). This helps students see connections and enhances memory.

If your team has developed a standards-based assessment map, many hours of planning for your differentiated unit have already been accomplished. Simply organize the information on a planning template of your choice; for example, the Ohio Instructional Management System (IMS) template or the model on the following page.
Unit Topic – Cells

Essential Understanding:
1. All organisms must be able to obtain and use resources, grow, and reproduce.
2. Individual parts make up a system that is so interrelated that a malfunction of any one of the parts could break the whole system down.

State Indicators: L1, L3, V4, WP5, WP16, R4 *

Concepts: Key Ideas to Know
1. Structure and functions of cells
2. Basic needs of living things
3. Systems and their relationships

Key Skills: Be able to do – verbs
1. Classify
2. Take notes and summarize
3. Identify and explain
4. Create and label a model

Overall Authentic Assessment (from the map to be given by every teacher teaching this unit)
Write a letter from one of your cells to your brain. Explain your job and how the system you are working in needs assistance because of a problem. Explain what is going on and the exact type of assistance you need. Create a model of both the cell and the system to use in your oral presentation.

Pre-tests, tests, quizzes, journals, portfolios, small projects, self-assessments...
1. Pre-test: Label cell and any system of the body.
2. Quiz on cell structure.
3. Quiz on functions of cells.
4. Label digestive and reproductive systems.
5. Classify parts of cells by function.
6. Keep split page notes on lectures and Chapter 2.
7. Daily journal summaries of lectures and progress on project.

* L1 = Life Science, Indicator 1; V4 = Vocabulary, Indicator 4; WP5 = Writing Process, Indicator 5; R4 – Reading, Indicator 4

Essential Questions:
Are cells alive or not? How can you prove it? How is a cell like a factory? How do cells get energy? Why does trouble in one part of a system cause trouble in other parts?

Vocabulary:
Cell
Cytoplasm
Endoplasm
System
Golgi Bodies
Ribosomes
Nucleus
Vacuole
Membrane
Mitochondria

Learning Activities:
• Take notes;
• Read Chapter 1 and answer questions;
• Watch and summarize the video;
• Listen to the tape and compare it to the text;
• Design flashcards with words, sentences and pictures as clues.

Practice Activities:
• Do Computer Lesson 4;
• Complete Worksheet 7;
• Complete three puzzles in the science center;
• Practice your vocabulary flashcards with a partner.

Rethinking Activities:
• Write a song or rap about the main points of the lesson;
• Design a bulletin board showing how each part affects the other;
• Write a poem or analogy for one of the functions.

Create and Reflect:
• Think of an invention that could solve one of the problems;
• Create a model or diagram showing a cell of a new type of plant you developed. Explain.;
• Plan/present a debate on cloning.
Interviewer: I am interested in knowing just where you start if you want to “win the gold.”

Olympian: I need to know some things about the students personally so I can make learning efficient for all of them. I need to ask myself questions about my students.

Interviewer: What kind of questions would you ask?

Olympian: Who learns more quickly by having it explained and who needs to talk it through to understand? Who needs to see material in print and who learns better with pictures and diagrams? Who needs to work through real-life problems and do it independently and who needs a group to model things and talk it over? Who responds to a more firm approach or a bit of competition and who needs a calm, guiding hand with a firm nudge? When I can answer these questions, I can avoid many “blind-alley” experiences.

Interviewer: Why bother with that? Why not just start teaching?

Olympian: The more motivated the kids are, the more quickly they learn. It would be short-sighted of me to assume that what motivates me would automatically motivate them. I will start with large-group instruction to present the information quickly and I won’t talk more than about seven minutes before I see that they are processing the information in some way.

Interviewer: When you say process information, what do you mean?

Olympian: I could have them restate to a partner what I have said, pause to take written and picture notes in their journals or have a small-group discussion or activity as a follow-up to my presentation.

Interviewer: Okay, but how will you decide exactly what needs to be taught?

Olympian: For this unit, I could use an activity that involves asking them to build a model and do a drawing on graph paper of a block picture that shows up on the overhead. I will know who knows the basics and who needs no practice at all by their responses. I won’t waste time teaching things they already know when time is such a precious commodity.

Interviewer: But you’ve already been told that the group has been selected to have a very wide range of abilities and backgrounds. Aren’t you going to have to start from scratch since some kids won’t have any background knowledge at all?

Olympian: If you signed up for a month-long seminar on interviewing and the range of experience in the seminar was wide, how would you feel if you had to start on page one?
Interviewer: I’d be out of there by day two.

Olympian: Just because kids are captive audiences doesn’t mean they don’t feel the same way. They could be “out of there” mentally by day two. I’m going for the gold here. I can’t afford to have anyone bail on me because they are unduly frustrated or bored.

Interviewer: That sounds like an impossible task.

Olympian: Not really. It is what a great teacher does. It is hard work and requires good planning and management skills, but good teachers all over the world are doing it every day at some level of sophistication. It’s a matter of:

1. Focusing on very specific learning targets (standards and essential understandings);
2. Assessing where the students are in relation to that specific set of learning targets (pre-assessment);
3. Providing the most efficient instruction and practice possible;
4. Measuring as they learn to see how well the plan is working;
5. Figuring out what to do for the students who didn’t learn as a result of the plan.

The biggest problem with novice teachers is they think they can skip steps two and five. The ones who just present, test and grade – No gold for them!
Problem:

Students who do not pay attention or who act bored are a major source of anxiety for teachers. According to Pat Wolfe in her book, *Brain Matters* (2001), this often happens because students are not able to make sense of incoming information. Our brains are pattern seekers, and if we cannot link new stimuli with previously learned information, our brains are programmed to discard the information as meaningless.

What can we do?

Being aware of when this disconnect is happening with students is critical. The use of data from various types of formative (check as we go) assessments can help teachers know when continuing down the same instructional path is going to be fruitless or even counterproductive.


> “Upon pooling the information from 250 studies on the estimated effects of formative assessment on summative scores, they report positive effect sizes of between a half and a full standard deviation. That would lead to percentile gains of between 15 to 30 points or three or more grade equivalents. They also found that these improvements help low achievers more than any other students and so reduces the range of achievement while raising the achievement of all.”

Types of assessments you will need:

Pre-assessments

These are quick informal surveys that tell what prior knowledge the students possess, what they are especially interested in, how they best learn and what skills they use well or still need. At times, the assessment is so cleverly folded into the lesson that students are not aware that the teacher is assessing all of these things. At other times, the teacher may ask students to rate themselves or take a short quiz on a set of skills or information needed for the next series of lessons.
Pre-assessments are simple tools used to gather only useful information. Some examples of these pre-assessment tools are:

1. Thumbs up if you feel you know this well, thumbs sideways if you are not sure, thumbs down if you are not familiar with this at all.
2. Write individual responses on slates and hold them up.
3. Give a quick I like/don’t like inventory during which students rate items or mark happy or sad faces if they are too young to read.
4. Ask students to answer one question on the front of an index card and write one question they have about the topic on the back.
5. Give interest or learning preference inventories quickly by having students show if they preferred one, two, three or four on a force-choice question.

Checkpoint Assessments

Checkpoint assessments are samples, tests, quizzes and portfolios that are used to decide if a student needs more or less instruction and practice. Some of these assessments will be graded and others will be sources of feedback.

Authentic Assessment

Students are asked to carry out a process, create a product and explain what they have learned as a result. Many application or creative activities can be turned into authentic assessments by making them working applications of the essential understanding and asking students to reflect on what was learned as a result of the experience. (See Authentic Assessments on pages 23-25)

Journal Assessment

Journals provide quick and insightful ways of checking not only the understanding but also attitudes and interests of students. Unlike diaries, journals allow the students to report on what they have learned, how they feel about the learning and how they see themselves making use of this material in their own lives. Struggling learners benefit from the focusing, reflecting and short writing practices required by this method.

Journals can be used to:

1. Launch the lesson by connecting to prior knowledge;
2. Help students process information during the lesson by writing summaries, descriptions, examples or questions they have;
3. Help students connect ideas to prior learning by responding to questions and tasks such as:
   a. “What does this remind you of?”
   b. “Draw a picture of two examples of what we just talked about.”
   c. “What during last period connects to what we did today?”
   d. “List the steps you used to solve that problem.”

4. Help students reflect on understandings and evaluate processes, ideas or feelings during or at the end of a class;

5. Give students who process information slowly more time and varied opportunities to rethink the information.

Journals can be notebooks for older students. For younger students, use single sheets of paper with the prompts already designed.

<table>
<thead>
<tr>
<th>Student: _______________________________</th>
<th>Date: _________________</th>
</tr>
</thead>
<tbody>
<tr>
<td>The most important thing I learned today in science was</td>
<td>If I put these ideas into a picture it would look like this</td>
</tr>
<tr>
<td>I would rate my group’s work as _______ because</td>
<td>A question I still have is</td>
</tr>
</tbody>
</table>

Observation and discussion are the easiest and most reliable ways to assess student learning, styles, interests and attitudes. By watching the students work and by asking pointed questions, a teacher can make certain that reading and writing difficulties do not make capable students appear as though they do not understand the material. The reverse is also true. Students who are great “test-takers” sometimes appear to know more than they actually do.

**Quick Check Technique**

Once the teacher learns the technique, “Quick Check” is one of the easiest ways to do observation assessments. It simply requires walking around the classroom, and marking skill levels on a scale of one to four on index cards. There is a card for each student with four or five target behaviors listed. As students are working alone or in groups, the teacher rates each student on at least one criterion.

The biggest advantages of using this method are that:

1. Every student knows you are taking a personal interest in what he/she is doing;
2. You send a clear message about individual accountability even though the students may be working in groups to learn from each other. They know their individual Quick Check is going to come up several times a week;
3. Students who are confused are identified quickly while there is still time
to keep them from becoming frustrated;

4. Students who are ready for a challenge can be identified and given more appropriate material in place of the practice work still needed by other students.

<table>
<thead>
<tr>
<th>Management tips</th>
<th>Avoid the temptation to stop and fix problems during “quick check” time.</th>
</tr>
</thead>
<tbody>
<tr>
<td>For quick-check</td>
<td>Tutoring as you go will prevent you from gathering information from all students as frequently as you should.</td>
</tr>
<tr>
<td></td>
<td>At the end of the day, sort the cards based upon one target behavior. Students who score a “one” will need a five-to-seven minute mini-lesson soon. Students who score a “four” may need a mini-lesson to get them started on more challenging material.</td>
</tr>
</tbody>
</table>

Self-assessment can be a step in the right direction and can take many forms:

**Self-Assessments**

1. Students can monitor their own progress and track their own performances for speed and accuracy (i.e., rate of reading, length of sentences written).

2. Students can use rubrics to score their own performance and compare their results with that of the teacher or a peer.

3. Students can reflect on their beliefs, interests and styles of learning (in journals or on surveys).

4. Young children can simply put a frown, straight or happy face in the upper right hand corner of each paper to let the teacher know if they believe they did a good job. Children can be amazingly accurate in their own self-assessments.

5. Students can look through a collection of past assignments to analyze strengths and weaknesses. This can be a real eye-opener for students.

Example:

a. Using the skills and concepts from a given month’s assessment map, ask students to choose their three areas of strength.

b. Ask students to search through a collection of this month’s work to find evidence that their analysis is true. The same process is used for three areas of weakness, then verified with work samples. From this analysis, the students set learning goals for themselves for the next four weeks. This analysis data can be used as a basis for student-led conferences.

6. Ask students to collect their best writing papers over a period of a week or two. At the end of that time, the students select their best work and
tell why they chose it. Students then set a goal for beating their personal best the next week. Bena Kallick (1998) tells this story...

A first-grader started out making marks that looked a little like letters the first week of school. The following week she actually made the letter “B” each day and was asked to pick her best one. She said her goal for the next week was to make two letters, and she did. Each week she decided to add a letter, or sometimes two. One day she decided to stop messing around with letters and make a word. Again, she set small goals of how many words she would write until her goal was finally nine words. The next week she selected a paper with only four words as her best work. When her teacher asked why she chose the four-word paper as her best when her goal had been nine words she replied, “Because now I know how to write those things.” Confused, the teacher asked clarifying questions until she finally understood that ‘those things” were sentences. The wonderful leap of learning that many teachers would have never recognized became clear because the teacher encouraged self-reflection and mini-conferences.

Each type of assessment must serve the purpose of promoting student learning, as opposed to simply rendering a grade. When teachers think of assessment data as the primary guide to their daily planning, they have taken a major step toward knowing how to meet the needs of the wide range of students in any given class.
Novelty often serves as an “attention getter.” Our brains are programmed to pay attention to the unusual, the intense and the emotionally charged and ignore or monitor steady states (Sylwester, 1995). In our daily lessons, we cannot maintain a steady flow of new and bizarre stimuli and even if we could, once our brains get used to this steady flow, the new and bizarre stimuli eventually would be ignored, too. Effective teachers maintain student attention by beginning with unique and engaging ideas and activities to “startle” the brain into focus.

Essential questions can serve two critical purposes. They clarify and frame the essential learning points and, at the same time, engage a student’s mind by posing a thought-provoking question.

Heidi Hayes Jacobs (1997) suggests that we use essential questions as organizers for a unit. Activities can be grouped using essential questions that are much like chapter headings in a book. In this way, teachers can avoid what Jacobs describes as the common “potpourri” problem (random assortment of well-intended activities with no structure). This also helps students see that various parts of lessons are connected.

Essential questions are used as prompts that lead to the essential understandings of the unit. If a math unit’s essential understanding is “we can describe and measure the same thing in many different ways,” some essential questions that lead to this understanding might be:

1. What is measurement?
2. How many ways are there to measure length and weight?
3. How would life be different if we could not measure things?

Characteristics of good essential questions are:

1. They have no single or simple correct answer and always require an extended response;
2. They invite students to ask other “I wonder” questions;
3. They are stated in inviting “kid language” and never sound like textbook or quiz questions;
4. The answers to these questions spell out the most critical learning concepts of the unit;
5. They are powerful enough to require many activities and experiences to uncover the answer.
Who should be involved?
The designers of the unit create the questions and fellow teachers help refine them. It is a great idea to involve students in developing essential questions. Young children do this naturally when they ask questions such as, “Why do days get shorter? Why are those daisies white and yellow?” As they learn to “play the school game,” they ask fewer and fewer of these “I wonder” questions.

How much time does this take?
Like any other new skill, writing engaging questions may demand more time at first. After a while, the time will be close to that of generating other activities that are meant to hook and hold students.

What resources are needed?
A clear focus for the unit and a creative mind are all you need, but here are some excellent resource materials that also will help:


Other Activities That Hook Student Interests
Capturing student attention is how quality instruction begins. The most perfectly planned unit in the world means nothing if the learners do not connect. To design a great hook, or as Madeline Hunter calls it, “to establish anticipatory set” (1982), here are some guidelines:

1. Tap into students’ prior experience so they can see how the new knowledge fits into their past and future everyday lives. This gives both sense and meaning to the new information.

2. Have students actively involved in the “hook” activity.

3. Make certain the hook has a direct link to what the students are to learn next.

4. Convince the students that this will be an emotionally safe and interesting learning experience. How a person feels about the learning situation determines the amount of attention devoted to it (Goleman, 1995).
Besides great essential questions, other suggestions for hooks are:

1. Read part of a story or show just enough of a clip of a video to pique interest.

2. Start with a KWL chart to generate questions of special interest to the class.

3. Have an opening simulation that ends with an essential question. For example, one teacher might argue the Civil War from a northern point of view and then from a southern viewpoint, ending with the question, “Was the Civil War a just war?”

4. Discuss a project in which the students will be involved later on in the unit. This creates motivation for students to pay attention to learn the skills they will need for the project. A rubric also helps students focus on what they will need later on in the unit.

5. Give students a mystery to solve that will require the use of unit skills and concepts.

The easiest way to generate effective hooks in the least amount of time is to give general or unit-specific interest inventories before you design lessons. This will help you make links to issues and activities you know are “hot buttons” for many students.
Shawnda: I read about how project-based assessments demand more of students and are fairer indicators of high-level learning for kids who have reading and writing problems, but I’m not sure I’m buying that idea. Also, projects are hard to grade and it seems like even though the kids work hard, I’m not sure projects show me what they know as well as paper-pencil tests do.

Olympian: I know exactly what you mean. I had the same opinion at one time. I had creative ideas of interesting things for the kids to do, but the projects didn’t really seem to go anywhere.

Shawnda: That’s exactly what I concluded. Creative busywork. So what changed for you?

Olympian: Now I know that it is critical to have both creativity and quality evidence of learning. First, I keep a focus on just five or six important indicators to assess. Then I get a few teachers to help me brainstorm projects that would show evidence of those exact ideas and skills.

Shawnda: I don’t think I could narrow it down to five or six indicators for a whole project.

Olympian: Actually, that is key to a successful assessment. It has to be focused. If you try to assess too much at once, the kids start getting confused, and their work shows it. Quality on six high-impact skills beats mediocre performance on 12 skills any day.

Shawnda: Are you using all performance assessments now?

Olympian: No, and I never will. Some issues can be assessed with less depth. Also, some ideas lend themselves to a performance assessment better than others. It would be tough to do a paper-pencil assessment on how to dance the Macarena. That needs to be a performance assessment.

Shawnda: Good point. So how do you grade these projects? It seems so subjective.

Olympian: I create a rubric by writing down exactly what a basic but acceptable project would look like. Next, I describe what qualities an ideal project would have. From there I decide what the key differences are and what projects would look like that lie between basic and ideal performances. It’s tougher than you might think to be that clear, but it’s worth the time. Your result is an exact image of what you expect. In fact, I create or find examples to show kids the differences between acceptable and great. Once they can see the models, they generally aim for “great” right from the start.
Shawnda: Seems like the kids would just copy the examples you give them.

Olympian: They probably would if the examples used the same project prompt. I use examples that can be scored with my rubric but are different from the actual project they will do.

Shawnda: When do you give the rubrics to the kids?

Olympian: As soon as I announce the project. In fact, we score several sample projects as a class so they get used to using the rubric as a guide. First, we score perfect samples and once they know what perfect looks like we start with less than perfect. We also make suggestions about how some of the weaker projects could become expert ones. They don’t mind revising someone else’s work and it helps them internalize the rubric criteria. It’s the only way we have a chance at the gold!

Problem #1:

Struggling learners seldom can respond to the question, “What could you do to improve this work?” They often believe students who get good grades get them because they are just “smarter,” or that the teacher likes them better.

What can we do?

Fortunately, other studies have revealed that students who are taught to see the relationship between effort and success increase their achievement. (Van Overwalle & De Metsenaere, 1990).

Rubrics help students in two ways: they provide a detailed picture of what quality looks like, and provide a clear plan for taking the mystery out of how to succeed. Modeling and practicing with rubrics shows students that knowing what to do and following through with a plan really pays off for them.

Problem #2:

Have you ever experienced this?

You are grading a set of extended-response papers and you finally find one that you think deserves a very high grade. As you continue through the pile of papers, you come to two other papers that make the original high-grade paper seem pale by comparison. Now you are sorry you used a red pen to mark that original high-grade paper, because it is clearly inferior to the other two.

Most of us have had this experience and it is clearly a case of not establishing the criteria for excellence before assigning the task. If we, as teachers, do not always know what constitutes excellence, how are the students to know? This is one of the main reasons for the wide discrepancies in grading from teacher to teacher and for confusion on the part of students.

Many research studies indicate that some students believe they do not possess the ability to succeed at a task and that belief might actually cause them to sabotage their own success. 

Marzano, 2001
What can we do?

Organizing sessions during which teachers at a given grade level use a rubric to score the same sets of student work, discuss their rationales for interpretations and come to consensus on what quality really looks like, is what it takes to reach a consistently fair system that guides students from year to year. This process helps reduce confusion in students often caused by inconsistencies in expectations among teachers.

What is a rubric?

A rubric is a scoring guideline that clearly outlines the criteria for judging the quality of work. Unlike checklists that judge only whether the criteria are present or missing, a rubric provides a descriptive scale for various levels of performance.

Rubrics take the mystery out of grading by establishing consistent criteria for judging work. They also clarify expectations before assigning tasks to students. Just as Olympians are able to match their performances to the expectations of judges, rubrics allow students to assess their own work in a way that matches the teacher’s way of thinking about quality.

What does a rubric look like?

Rubrics come in various formats but the two most common are:

1. A set of pictures, symbols or statements about essential criteria with numerical scales to rate each criterion on a continuum.

   | 0 1 2 3 4 | The first sentence tells what the paragraph is about. |
   | 0 1 2 3 4 | All other sentences tell more about the first sentence. |
   | 0 1 2 3 4 | The sentences are in logical order. |
   | 0 1 2 3 4 | There are many interesting descriptive words. |

   This type of rubric requires modeling and whole-class scoring practice so that students are clear about what the difference between a rating of three and four might be.

2. A set of statements describing the range in the quality of work.

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Beginner</th>
<th>Getting Better</th>
<th>Very Good</th>
<th>Expert</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accuracy</td>
<td>2 Key ideas</td>
<td>3 Key ideas</td>
<td>4 Key ideas</td>
<td>All 5 Key ideas</td>
</tr>
<tr>
<td>Visuals</td>
<td>Has visual but is confusing</td>
<td>Visual matches presentation</td>
<td>Has both diagrams and pictures</td>
<td>Both diagrams and pictures grab attention</td>
</tr>
</tbody>
</table>
Rubrics can be generic or can be designed for a specific task or performance. They can have any number of levels of performance, but are most useful when limited to between three and five. They can be used to rate any number of criteria, but are less confusing to students when they are used to rate five to seven elements.

Who should be involved?

The teacher designing the unit needs to decide what elements are most important to assess. This decision will be guided by the essential understanding and the indicators listed on the assessment map.

Caution: Teachers must make certain the elements describing performance emphasize the most critical elements to be learned.

Giving parents copies of rubrics helps them understand expectations for work at that grade level. Parents then have tools to help explain quality work to their children and can use these tools to reinforce the expectations.

How much time does it take?

Designing rubrics can be time-consuming (a rubric may take one to two hours to construct) but, once designed, can be used for years. The best result of rubric design is the reduction of re-teaching time. Students are more likely to produce a quality product if they have a clear idea of what quality looks like. Giving students anchor papers as models of each level assessed on a rubric helps students understand expectations even more quickly. Saving sample papers from prior years is the best and most efficient way to have a ready supply of anchors.

What resources do you need?

You will need perfect examples of the elements your rubric measures and a series of examples in which only one element is missing or weak. Students are much more willing to revise someone else’s work, so these samples will help to model and involve students in practice-scoring and doing revisions of poor work.

The assessment map is the key to making certain you are designing a tool that assesses the most important standards-based skills and concepts.
Other Visual & Graphic Organizers

Here are other tools that students can use to get a clear mental picture of how things fit together, or that teachers can ask students to create to check for clear mental pictures:

1. Timelines that help students see sequences and relationships;
2. Webs that show relationships among concepts or parts of a story;
3. Visualization exercises that help students create clear mental images;
4. Plays, skits and pantomimes to clarify how pieces fit together;
5. Graphs, maps and charts that display data in a way that shows patterns;
6. Models, diagrams, puzzles, floor plans and flowcharts;
7. Drawings, illustrations, story boards and cartoons;
8. Split-page notes - written notes on one side and sketches or symbols on the other; and
9. Color-coding or highlighting notes, parts of speech, main ideas, etc.

Suggested Resources:

Campbell, Linda and Bruce; and Dee Dickinson. *Teaching & Learning through Multiple Intelligences*. Allyn & Bacon, 1996.

Web sites:

www.inspiration.com
Key H: Activity Banks

Jerome: Groups? Are you crazy? I don’t do groups. I would never get through the book if I had to teach everyone in groups. Besides, the discipline goes south pretty fast when I’m paying attention to just a few kids at a time.

Olympian: Jerome, why give a pre-assessment if you plan to ignore the fact that the skills of the kids vary widely? Is there really a reason for the doctor to check to see what’s wrong with you if the only medication he ever prescribed is aspirin?

Jerome: Cute. Are you saying my teaching has been giant doses of “aspirin” all these years?

Olympian: What I’m saying is that your lessons are just what the doctor ordered for most of your students but there are some who have enough science background to teach the lessons, and others who have no background or prior knowledge at all. You have a responsibility to all students. Your doctor has the responsibility to prescribe exactly what you need, and you, as his patient, expect medical knowledge and expertise. You deserve that kind of individual attention from your doctor, and these kids deserve it from you.

Jerome: So I can’t teach the same lesson to the whole class?

Olympian: Sure, you can, but there have to be regular times where you tailor the assignments and/or instruction based on data from the kids. It may be that you take a few minutes at the end of class to re-teach something to a small group of students who need it. If groups scare you at this point, start with other types of accommodations. Perhaps the homework or in-class assignments are different, based on what you find out in the assessment data. Maybe the intervention specialist in the building can help with one or two groups on some days. There are many ways to address the needs. Even students explaining strategies to each other is a powerful way to do it. The point is that you know the differences are there. The question is: How are you going to respond to them?

Problem:

It never comes as a shock that after we deliver our best teaching, there are some students who still do not learn what we want them to learn. This happens for a number of reasons, not the least of which relates to the preferred mode of learning.

Dr. David Sousa (1995) describes the problem this way. Although we use all five senses to collect information, they do not contribute equally to our knowledge base. Students with different sensory preferences will behave differently during learning. Strong auditory learners may feel comfortable with lecture and discussion while those students with a strong visual preference will doodle or look at other materials to satisfy their visual craving. If the teacher is primarily using a visual approach, the auditory learners will want to talk about their learning and the strong kinesthetic learners will become restless or find reasons to move. It would be a misinterpretation to assume any of these responses indicate inattention or are misbehaviors. They generally are natural responses of learners with strong preferences.
Cultural preferences add to the mix. Some students will regard schedules as important and others will not. Some will be very verbal and others reserved. Some are creative and others are analytical or reflective. Varying levels of skills and background add further complexity to the picture.

Silver, Strong and Perini, in their book, *So Each May Learn: Integrating Learning Styles and Multiple Intelligences* (2000), stress that learning styles are often ignored in the classroom. The authors argue that student achievement can improve markedly when learning styles are addressed.

**What can we do?**

As assessment data points out student needs, the unit design should be developed to arm teachers with strategies to address varying needs. Not every style and level can be accommodated in every lesson, but over the course of a week, there needs to be an adequate balance of opportunities to ensure each student a reasonable chance of success.

**What are Activity Banks?**

Activity banks are both input and output activities that work on the same set of specific skills and concepts using a variety of levels of complexity and style. The more a teacher knows about the students, the easier it is to plan and select effective activities for them. Giving interest and style surveys help facilitate this process.

**What do Activity Banks look like?**

Level 1 – First, make a list of skills and concepts to be taught. Then, decide the best ways to deliver this information to the students, keeping in mind that some students struggle with reading and writing and others will learn better with visual or manipulative material. Keep in mind that the more involved a student is in the learning process, the more likely the student is to learn and retain the concepts being taught.

<table>
<thead>
<tr>
<th>Level 1 ideas:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lectures with notes</td>
</tr>
<tr>
<td>Video clips</td>
</tr>
<tr>
<td>Audio tapes</td>
</tr>
<tr>
<td>Demonstrations</td>
</tr>
</tbody>
</table>
Level 2 – After listing all the strategies and resources that could be used for teaching the basic information in Level 1, plan a variety of practice activities that will reinforce and extend the material taught.

<table>
<thead>
<tr>
<th>Level 2 ideas:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Summarize notes</td>
</tr>
<tr>
<td>Practice flashcards</td>
</tr>
<tr>
<td>Worksheets</td>
</tr>
<tr>
<td>Group problem-solving</td>
</tr>
<tr>
<td>Make a booklet</td>
</tr>
<tr>
<td>Lab partner work</td>
</tr>
<tr>
<td>Group discussions</td>
</tr>
<tr>
<td>Computer software</td>
</tr>
<tr>
<td>Work at a board</td>
</tr>
<tr>
<td>Build a model or collage</td>
</tr>
<tr>
<td>Explain to a partner</td>
</tr>
<tr>
<td>Design a display</td>
</tr>
</tbody>
</table>

Level 3 – Develop activities that require students to rethink, refine and reorganize their learning by applying it to outside-of-school problem-solving situations.

<table>
<thead>
<tr>
<th>Level 3 ideas:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lab investigations</td>
</tr>
<tr>
<td>Rewrite an ending to a story</td>
</tr>
<tr>
<td>Debate pros and cons</td>
</tr>
<tr>
<td>Find articles that verify a position</td>
</tr>
<tr>
<td>Draw a cartoon of...</td>
</tr>
<tr>
<td>Give a dramatic presentation</td>
</tr>
<tr>
<td>Evaluate the quality of...</td>
</tr>
<tr>
<td>Propose changes for...</td>
</tr>
</tbody>
</table>

Level 4 – Plan activities that require research, reflection and creation of a unique product to challenge student thinking at the higher levels.

<table>
<thead>
<tr>
<th>Level 4 ideas:</th>
</tr>
</thead>
<tbody>
<tr>
<td>After doing research on a topic:</td>
</tr>
<tr>
<td>• Write a play or skit that shows...</td>
</tr>
<tr>
<td>• Choose a current event issue and become the classroom expert on it.</td>
</tr>
<tr>
<td>• Design a 3-D version of...</td>
</tr>
<tr>
<td>• Write your own version of...</td>
</tr>
</tbody>
</table>

It is suggested that once students grasp the ideas taught, more instructional time and energy be focused on having students apply what is learned than was spent on the initial understanding of them (Marzano, 2001). Spending more time on Level 3 and 4 activities is a shift in thinking for many educators.

It is often helpful to code each planned activity to make certain that levels of difficulty and preferred styles of learning of students are considered. Teachers might use the chart below to code their activities.

<table>
<thead>
<tr>
<th>W = Write</th>
<th>V = Visual</th>
<th>I = Independent</th>
</tr>
</thead>
<tbody>
<tr>
<td>A = Auditory/listen</td>
<td>R = Read</td>
<td>G = Group</td>
</tr>
<tr>
<td>K = Kinesthetic/move</td>
<td>S = Speak</td>
<td>C = Student choice</td>
</tr>
</tbody>
</table>
Packaging Options:

Once a bank of activities is generated for various levels and styles, there are any number of ways to package and/or deliver them.

1. The teacher simply assigns the appropriate tasks to students each day as either in-class work or homework. The tasks are chosen based on assessment data indicating what would be most appropriate for each student.

2. Stations allow students to work on different tasks without burdening the teacher. Activities may be written on cards and posted in stations around the room with the materials needed to perform the tasks. Students move independently, or as groups, from station to station as the teacher monitors or conducts small group work. Students do not necessarily need to work at every station, nor do they have to do every assignment at every station. Some days the teacher decides who goes to which station, and what work will be done there; at other times, students will make these decisions. Often, color-coding or numbering task cards makes it easier for teachers to prescribe specific work for individuals or groups of students (i.e., Jonel will do all blue tasks in station three and five this week and any green task of her choosing). Students keep a log or journal of what they have accomplished each day.

Kenton's Log  August __________

Today I worked at the __________ station

I finished task: ☺ ☺ ☺

A ☐ ☐ ☐ ☐
B ☐ ☐ ☐ ☐
C ☐ ☐ ☐ ☐
D ☐ ☐ ☐ ☐

Tomorrow I plan to finish __ C and D ______
3. Contracts can be developed for each student using activities and tasks taken from the learning bank. Each student has the option of choosing activities that he or she will accomplish within a given amount of time. Activities are arranged in columns that reflect complexity levels. Below is an example of Morgan’s contract. Morgan must choose activities that she will accomplish in one week. As shown, Morgan is required to accomplish all three starred tasks in Level 1. These three tasks would give Morgan 40 possible points. She then could choose to do other Level 1 activities, but the maximum number of points that she can earn through accomplishing tasks in this level is 60. Morgan must choose at least one activity from Level 2 and one from Level 3 that she will accomplish during the week.

Morgan and her teacher have agreed that Morgan will try to earn a total of 100 points for the week. Morgan has chosen to accomplish the required activities for Level 1, two Level 2 activities and two Level 3 activities. Morgan knows that choosing to accomplish activities that total more than her 100-point goal increases the likelihood that she will hit her target.

All students work at each level but not necessarily in the same way. The teacher and Calvin have agreed that he will try to earn 80 points during the week. Like Morgan, Calvin must complete the starred tasks in Level 1. He has chosen to do two more activities from Level 1, one from Level 2 and one from Level 3. Working to accomplish activities that carry 95 possible points increases the chance that Calvin will earn his 80 points by the end of the week.

<table>
<thead>
<tr>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Take picture notes in class daily (5 pts. daily X 5 days = 25 pts.)</td>
<td>Plan a skit with a partner</td>
<td>Create a video or tape demonstrating how you would solve this problem</td>
</tr>
<tr>
<td>Read pages 4 and 5 and do the worksheet (10 pts.)</td>
<td>Design a bulletin board</td>
<td>Choose a character and tell the story of how you think he or she should have...</td>
</tr>
<tr>
<td>Do the investigation (5 pts.)</td>
<td>Build a model and explain</td>
<td>Propose a new rule to solve one of our class problems</td>
</tr>
<tr>
<td>Summarize the video (5 pts.)</td>
<td>Use a chart to compare...</td>
<td>Design and perform an experiment that shows...</td>
</tr>
<tr>
<td>Complete station activity 4 or 5 (5 pts.)</td>
<td>Write a story about...</td>
<td></td>
</tr>
<tr>
<td>Complete the computer lesson (10 pts.)</td>
<td>Explain to the teacher how you would solve...</td>
<td></td>
</tr>
<tr>
<td>Write a song about the three main ideas (10 pts.)</td>
<td>Create a flowchart...</td>
<td></td>
</tr>
<tr>
<td>Conduct an interview and report on... (10 pts.)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total Possible Pts.: 40
Total Actual Pts.: |
★ = required

Every activity on the contract or station must connect directly to the targeted indicator skills, concepts and understandings for the unit.

<table>
<thead>
<tr>
<th>Information &amp; Practice</th>
<th>Application/Rethink</th>
<th>Exhibit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Checkpoint 1</td>
<td>Checkpoint 2</td>
<td>Exhibit</td>
</tr>
<tr>
<td>November 5</td>
<td>November 8</td>
<td>Understanding</td>
</tr>
</tbody>
</table>

Total Possible Pts.: | Total Actual Pts.: |
Level 2: 30 | Level 3: 40 |
★ = required | Pts. Means possible points |
Choose at least 1 from each level |
Who should be involved?
The designing teacher should do the initial brainstorming and fellow teachers add to the wealth of resources and ideas. This creates a larger bag of strategies that might be options, even if the teacher ends up not using all of them.

All students are expected to be involved with tasks at all levels, regardless of their skill levels.

How much time does it take?
If the basic structure of understandings, essential questions and assessment with rubrics is in place, the target behaviors are so clear that designing the activities flows easily. However, much depends on the teacher’s experience in designing activities that encourage students to use higher-order thinking, while considering learning preferences of all students. Asking a team to help brainstorm the options can add efficiency to this process.

What resources are needed?
The most important resources for teachers are the assessments, questions and understandings. These must guide the planning of the activities. If you know the target is clear, students are likely to hit the bulls-eye. McTighe and Wiggins refer to this process as “backwards design” (1998-99).

Other resources for activity ideas are textbooks and supplemental materials that have been selected to go with the course of study. The object of this type of planning is to eventually lighten the teacher’s workload – not make it more burdensome. Teachers should use as many activities from past years and from texts as possible, while making certain they all match the target indicators.

Suggested Resources:
Campbell, Linda and Bruce; Linda and Dee Dickinson. *Teaching & Learning through Multiple Intelligences*. Allyn & Bacon, 1996.

Olympian: Jerome, let’s go back to the statement you made about you not “doing groups.” What keeps you from it when the research overwhelmingly shows how effective it is?

Jerome: Let me count the ways. First, it just takes too much class time.

Olympian: I have to admit that at first it is slow going, because you have to teach kids the routines and procedures, but once they learn them, it actually saves you time. Kids are more engaged in active learning. You can cover just as much content and it gives you a chance to assess more efficiently than calling on one student at a time.

Jerome: My observations are that one student ends up doing the lion’s share of the work while the others happily ride along.

Olympian: That is more likely to happen if every student is not assigned a specific task and if the teacher doesn’t hold each individual accountable for the learning.

Jerome: What kind of specific tasks are you talking about?

Olympian: I generally have one student leader, one scribe, one checker/material manager and one encourager. I like three and four-person groups for older kids. If there are too many students in a group, you are likely to get those passive members you mentioned.

Jerome: What do the checkers and encouragers do?

Olympian: The checker is in charge of seeing that everything on the rubric or checklist is accomplished. He/she also is the person in charge of getting and returning materials in perfect condition. If just one person is in charge, I find kids are much more careful with things. The encourager sees that everyone participates and contributes to the group. He/she is the one in charge of keeping the working relationships positive, giving feedback at the end of the meeting about what went well, and what the team needs to do to work more effectively.

Jerome: I’m not sure my kids would take their jobs seriously. They are a rowdy bunch this year.

Olympian: That’s not an uncommon concern, Jerome. Start your groups by doing short activities in pairs until they get used to the procedures. That’s how they start in primary school, and it works well with inexperienced older kids, too. Another thing you must do is model and practice the routines, roles and procedures. Use short group activities at first. Don’t ever sit down during group time. Your job is to keep moving through the groups and ask questions, clarify tasks and give feedback.

Jerome: Sounds like a lot of work to me.
Olympian: Every activity that pays big dividends requires work, but your work is up front to get things structured. Then, during class, the kids have to work harder than you do to solve problems, practice skills and work on projects while you move about, assessing their learning.

Jerome: That's another problem. I always hated the idea of getting a grade that was a result of somebody else's work or lack of it.

Olympian: We certainly agree on that one. Group grades are not fair unless the grade is for just using the group processes. I believe students can work in groups to practice skills and problem-solve, but I hold each of them accountable for academic learning. The kids never know who will be asked to report for the group. They all need to be ready to explain what their group has accomplished.

Problem 1:

Novice teachers sometimes fall into the hole of assuming that just because the teacher knows the answers, the teacher should tell all the answers.

The "sage on the stage" syndrome leads to the undoing of many learners. Students with learning problems have a difficult time sitting and listening for long periods of time. They often process information more slowly and cannot make sense of it because too much is coming too fast.

Long periods of whole group instruction often result in a lack of understanding about what is being presented.

In his book How the Brain Learns (1995), Dr. Sousa explains that, “if the learner cannot attach sense or meaning and there is not sufficient time for processing, the new information will be lost. The more connections that are made, the more likely the material will be stored in different networks, thus increasing the likelihood of retrieval.”

What helps?

Two interactive 20-minute lessons with group processing time built in are far more likely to result in improved retention than is one 40-minute lecture lesson. Listening, writing, talking and doing create multiple network connections for learners and increases retention of concepts.

To quote Mark Twain, “If teaching were the same as telling, we would all be geniuses.”

Teachers who present information in short sound bites using a variety of approaches, followed by various chances for elaboration and rehearsal allow more processing time for students.
Problem 2:

Long periods of working independently tend to create problems for many high-risk learners. These students often need verbal interaction, cues to get them over tough spots, supervision to keep them focused and frequent feedback to keep them motivated.

What helps? When given a difficult task, it is beneficial to hear the input and viewpoints of others. Hearing how other people think through problems, being able to verbalize your own views and getting frequent feedback are just three of the benefits of having students with academic problems work in heterogeneous groups regularly. We have to be careful, however, not to overdo this strategy or students will not get enough time to practice and reflect on their own.

A second caution is to avoid creating a caste-system within the room. Low-achieving students perform worse when they are assigned to homogeneous groups, (Lou, 1996). All students, regardless of ability, tend to benefit from heterogeneous grouping that is well-structured and activities and/or tasks that require higher-level thinking.

Here are some tips on managing groups:

1. Jobs should rotate and every student needs to be assigned a specific job.

2. The teacher needs to be circulating to monitor the work of each group, ask questions, clarify and give feedback. Students never know who will be asked to report for the group, so all must be ready to do so.

3. Have all the materials groups will need ready before class. One student is in charge of getting and returning all materials for the group.

4. Model and practice quality group routines and procedures on short activities before assigning complex tasks. Make the expectations clear as a bell.
5. Reflect on the group work at predetermined times during the session and reflect at the end of each work session on the quality of work and behavior. Set goals for improvement each time.

6. Students who disrupt the group become loners for the day. They must accomplish the work, but alone.

7. Grading is not based upon group products, but the ability of each student to show what he/she learned from the group work.

8. Change groups every four or five weeks.