Chapter 1

What is Performance-Based Learning and Assessment, and Why is it Important?

In the act of learning, people obtain content knowledge, acquire skills, and develop work habits—and practice the application of all three to "real world" situations. Performance-based learning and assessment represent a set of strategies for the acquisition and application of knowledge, skills, and work habits through the performance of tasks that are meaningful and engaging to students.

Balance in Literacy

Performance-based learning and assessment achieve a balanced approach by extending traditional fact-and-skill instruction (Figure 1). Performance-based learning and assessment are not a curriculum design. Whereas you decide what to teach, performance-based learning and assessment constitute a better way to deliver your curriculum. Teachers do not have to "give up" units of study or favorite activities in a performance-based classroom. Because authentic tasks are rooted in curriculum, teachers can develop tasks based on what already works for them. Through this process, assignments become more authentic and more meaningful to students.

Figure 1. Student's Literacy
Traditional testing helps answer the question, "Do you know it?" and performance assessment helps answer the question, "How well can you use what you know?" These two ways of looking at literacy do not compete; the challenge is to find the right balance between them (Figure 2).

Figure 2. What Is the Balance?

Recall
Identify
List
Match

Classify
Compare
Analyze
Evaluate

Do You Know It?  Can You Use It?

Content Knowledge

The subject area content can come from already defined curriculums or can be enhanced by the adoption of a set of themes or topics by the department, grade-level team, school, or school system.
Process Skills

Higher-order thinking or process skills can come from the various disciplines, such as writing or proofreading from language arts or math computation and problem-solving skills. Other process skills cut across subject area lines or may be identified as areas of need based on standardized testing (e.g., analogies, categorizing information, drawing inferences, etc.).

Work Habits

Time management, individual responsibility, honesty, persistence, and intrapersonal skills, such as appreciation of diversity and working cooperatively with others, are examples of work habits necessary for an individual to be successful in life.

Performance Tasks

Performance tasks build on earlier content knowledge, process skills, and work habits and are strategically placed in the lesson or unit to enhance learning as the student "pulls it all together." Such performance tasks are not "add-ons" at the end of instruction. They are both an integral part of the learning and an opportunity to assess the quality of student performance. When the goal of teaching and learning is knowing and using, the performance-based classroom emerges.

Performance tasks range from short activities taking only a few minutes to projects culminating in polished products for audiences in and outside of the classroom. In the beginning, most performance tasks should fall on the short end of the continuum. Teachers find that many activities they are already doing can be shaped into performance-learning tasks.

Two initial concerns of teachers moving toward performance-based classrooms include the amount of time needed for performance tasks and the subjectivity traditionally associated with teacher assessment and assigning "grades."

Time

The initial move to any new method involves an investment in time. The development of performance-assessment tasks is no exception. With a little practice, however, teachers find that they can easily and quickly develop performance tasks and assessment lists. This process is further simplified as teachers and schools begin to collect and maintain lists of generic tasks and assessments that teachers can adapt for individual lessons. Teachers find assessment lists a more efficient way of providing feedback to students than traditional methods, thus saving time in the long run. Finally, as students work with performance assessment, the quality of their work improves, reducing the time teachers must spend assessing and grading student work.

Examples of Performance Tasks

Performance tasks should be interesting to the student and well connected to the important content, process skills, and work habits of the curriculum. Sometimes students can help in constructing these tasks and assessment lists. The following are three performance tasks that call for graphs:

- **(Upper Level) Middle or High School**

  (Provide the students with a copy of a speeding ticket that shows how the fine is determined.) Say to students: "How is the fine for speeding in our state determined? Make a graph that shows teenagers in our town how much it will cost them if they are caught speeding. Excellent graphs will be displayed in the Driver's Education classroom."

- **Elementary School**

  (At several specified times during the school day, students observe and count, for a set length of time, the number of cars and other vehicles going through an intersection near the school.) Say to students: "The police department is considering a traffic light or a crossing guard at the intersection near your school. Your help is needed to make graphs that show how many vehicles go through that intersection at certain times of the day. Excellent graphs will be sent to the Chief of Police."

- **Primary School**

  (In view of the class, place 10 caterpillars in a box. Place a flashlight at one end, while darkening the other by folding over the box top.) Say to students: "Do caterpillars move more to the light or more to the dark? Make a graph that shows how many caterpillars move to the light and how many move to the dark part of the box. Your graphs will be displayed at Open House."

Performance Task Assessment Lists

http://www.ascd.org/readingroom/books/hibbard96book.html
Performance task assessment lists are assessment tools that provide the structure students need to work more independently and to encourage them to pay attention to the quality of their work. Assessment lists also enable the teacher to efficiently provide students with information on the strengths and weaknesses of their work. In creating performance task assessment lists, teachers focus on what students need to know and be able to do. One result is that teachers can more consistently and fairly evaluate and grade student work. Information from performance task assessment lists also helps students set learning goals and thus helps teachers focus subsequent instruction. Parents can also use assessment lists to monitor their student's work in school and to help their children check their own work at home.

Examples of Performance Task Assessment Lists

This chapter includes several examples of assessment lists; the first three are lists for assessing student-made graphs. (These lists and other illustrative materials are shown as "Exhibits" at the end of the chapters and are numbered consecutively.)

The upper-level format (Exhibit 1) is used in middle and high school. It lists the important elements and provides three columns of lines. On the first column of lines, the teacher indicates the points each element is worth. Some elements receive more points in order to focus students' attention on skills in need of improvement. These point values are based on the objectives of the task or lesson. Some elements receive more points because they are more important. These point values are determined by the teacher or could be decided by the class and the teacher together.

Students get this assessment list, with the points possible for each part of the task listed "up-front," as they begin a performance task—which in this case calls for a graph. At this point, students are also shown several examples of "excellent graphs," either done by previous students or from professional sources such as magazines or texts. These models serve as "benchmarks" (see next section), which the teacher can use to illustrate sections of the assessment list. This "no guess no excuse" approach allows students to see the importance of each element and use the list and benchmarks to guide their own work. The list also aids students in time management because they can see what the most important elements are in constructing graphs.

Before they submit their work, students do a final inspection of their own graphs and complete the self-assessment column. During this self-assessment step, students often find ways to improve their work. Peer assessment can also take place at this time. The assessment list can be customized to add an extra column for this purpose. Experiences with peer assessment often improve students' self-assessing skills.

The final step is for the teacher to assess the work and, at the same time, evaluate the student's self-assessment. When discrepancies are found between the student's self-assessment and the teacher's assessment of the student's work, the teacher may decide to hold conferences with the students who need work on improving the accuracy of their self-assessment.

The teacher can also assign a grade, using the teacher's column on the assessment list. For example, earning 90 percent of the points possible might be an A, 80 percent a B, and so on. The assessment provides detailed information about the quality of each component of the work, while the grade identifies "overall" quality. The teacher determines the relative importance of each activity in determining an overall grade point average, just as teachers do with traditional assessments.

The elementary format (Exhibit 2) is used for children in the upper elementary grades (3rd–5th). It lists several important elements of the graph and describes three levels of quality for each: terrific, OK, and needs work. Just as with the upper-level format, students are provided with the assessment list "up-front" and shown models of excellent graphs appropriate for this age level. This format also asks the students to assess their graphs "over-all" and justify that opinion based on the details discovered through element-by-element self-assessment.

The third format is for children in the primary grades (Exhibit 3). Student self-assessment and teacher assessment are a part of the format of the elementary and primary assessment lists as well. These children color the face and draw hair or a hat on the face that represents the quality of their work—terrific, OK, or needs work. The teacher indicates agreement or disagreement and talks with the child about his work and self-assessment.

Common Framework of Assessment Lists

When teachers at a grade level, school, or school district use and adapt similar assessment lists for student work such as graphs, students encounter a common framework for learning from subject to subject, from grade to grade, and from school to school. Overall, student performance is improved by this common focus and consistency. The details that performance tasks provide and the interaction between the student's self-assessment and the teacher's assessment focus the student's attention on the elements of quality for the various skills and content that they encounter throughout their education.

Models of Excellent Work: Benchmarks

Students need to see examples of excellent work, or "benchmarks" of quality, for their grade and ability level. Besides using an assessment list to learn about the specific elements that will be used to assess the quality of their work, students must see what quality looks (sounds, feels, smells, or tastes) like. Over time, teachers collect sets of excellent work such as graphs, nonfiction...
writing, solutions to open-ended math problems, and designs for science experiments from students. Flawed or not-so-excellent work may also be used in the process of teaching students how to use the assessment lists and benchmarks.

Let's look at three benchmark graphs for the three performance tasks described earlier: Exhibit 4 shows a graph about caterpillars in the dark versus light (graph made by a primary student); Exhibit 5 shows a traffic count in front of school (made by an elementary student in the 3rd–5th grade); and Exhibit 6 shows traffic fines for speeding (made by a middle or high school student).

**Cycle of Learning**

How would you feel about learning all the rules and skills of a sport, spending months sweating yourself into good physical condition, but never actually playing the game? How much is traditional schooling like this? Schooling frequently centers on individual concepts, facts, discrete skills, and work habits. But how often does a student encounter opportunities to "put it all together," the way work is done in the "real world"? How often does a student actually get to step on the field and play "for real"?

To play basketball, you need to practice dribbling the ball, passing, and shooting; but to really learn the game, you need to actually "play ball!"

Similarly, it is important to learn how to ask questions, to organize data, to compute, and to write; but to make these skills meaningful, students need opportunities to use such skills in meaningful ways.

**Coordination of Tasks and Assessments**

The Cycle of Learning is a model for "playing the whole game." Consider the high school-level performance task, "Freedom and Responsibility" (Exhibit 7). Students are provided with data on the number of eligible voters and the number that actually voted in local, state, and federal elections over the past 10 years. The task is to "write a persuasive letter to the editor of your local newspaper, supported by a graph, that describes your opinion. . . . Your purpose is to persuade your audience, not to antagonize." The assessment list the students use (Exhibit 8) allows the students to check their organization, clarity of writing, use of supporting data, and other elements of effective persuasive writing. The assignment is a real task—the letter will go to a real editor; and the assessment is part of the learning process, or cycle (see Exhibit 9, "The Cycle of Learning").

The Cycle of Learning shows the steps through which the learner will go to complete the "Freedom and Responsibility" task in Exhibit 7. Steps 1–4 of the cycle are structured through performance task assessment lists. For this task, students will use the assessment lists for persuasive writing and for creating a graph.

Both during and at the end of these four steps, the student uses performance task assessment lists provided by the teacher or made by the student, such as that in Exhibit 8. The student is also asked to evaluate her work—to make a judgment about the degree to which the writing and graph represent her best effort to meet the requirements of the assignment. The student's answer leads the student toward setting goals for further improvement of writing and graphing.

Many performance learning tasks will be only parts of the Cycle of Learning, while others will take the student through the entire cycle. As the student completes projects that engage the entire cycle, the student's work improves and she feels more and more capable of being successful with this kind of work. As the valid self-perception of capability grows, the student is more willing to expend the energy to begin and complete a quality product. The Cycle of Learning thus becomes a cycle of improving student performance.

**Meshing with Three Types of Competencies**

Any learner successfully completing the Cycle of Learning has used a combination of competencies:

- Competencies from the "disciplines" include knowledge from such areas as the arts, humanities, language arts, physical health/health, science, math, and technology.
- Interpersonal competencies include communication skills, cooperative learning, and courtesy.
- Intrapersonal competencies include work habits such as organization, time management, and persistence.

All three types of competencies are the "gears" that mesh with the "Cycle of Learning Gear" (Exhibit 10). When all competencies are working together, the Cycle of Learning turns. When one or more competencies do not work, the Cycle of Learning does not turn well. Schooling includes improving student discipline-based competencies, interpersonal competencies, and intrapersonal competencies.

**The Environment for the Cycle of Learning**
The Cycle of Learning engages the student of any age in a process that is strongly influenced by the learning environment of the classroom, school, school district, state/region, and nation. Administrators, teachers, and other adults can provide support and encouragement in the form of time, resources, encouragement, and support of creativity and risk-taking. When the adults in the students' environment are themselves enthusiastic, reflective learners who constructively resolve the inevitable conflicts that occur during the change process, the students are more likely to employ these strategies as they learn how to be capable, self-motivated, independent, lifelong learners. Thus, the policies and practices of all the stakeholders in the performance of our youth create the "frame," which can either support the long-term changes necessary to improve performance or incapacitate these efforts.

Exhibit 1. Performance Task Assessment List for a Graph

<table>
<thead>
<tr>
<th>ASSESSMENT POINTS</th>
<th>Points Possible</th>
<th>Earned Assessment:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Element</td>
<td></td>
<td>Self</td>
</tr>
<tr>
<td>1. An appropriate type of graph (line or bar) is used.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Appropriate starting points and intervals are used for each axis.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. There is a main title for the graph which clearly states the relationship between the axes.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. An appropriate scale is used on each axis depending on the range of data for that axis.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Axes are clearly labeled.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. The independent variable is put on the (X) axis, and the dependent variable is put on the (Y) axis.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. The data are plotted accurately.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. The graph should reflect uncertainty of measurement.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Trends or lack of trends are depicted on the graph.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. An appropriate key or legend is part of the graph.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. The lines or bars use the space of the graph well.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Appropriate techniques such as color, texture, or clarifying labels are used to make the graph easier to understand.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. The whole graph uses the space given it on the paper well.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. The graph is neat and presentable.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. The graph is easy to interpret.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Exhibit 2. Performance Task Assessment List for a Graph Elementary School

1. **Heading**
   - T: I included my name and the date.
   - O: I included my name and the date but they are in the wrong place.
   - W: I did not include my name or the date.

2. **Title**
   - T: The title tells exactly what the graph is about. The title includes a short statement of what I changed and what I measured.
   - O: The title tells what the graph is about.
   - W: The title is missing or it tells little.

3. **Labeling the Data**
   - T: Each axis has a name that explains what that axis is and the data has units.
   - O: The axes need names that are more clear and/or the data needs units.
4. **Selecting a Scale for Each Axis**
   - T: Each axis has a scale that fits the data in the data table. The scales help use the whole graph well.
   - O: The scales for one or both axes need to be improved.
   - W: The scales are missing or they are incorrect.

5. **Drawing Lines or Bars on the Graph**
   - T: The lines or bars are drawn accurately and very neatly.
   - O: There are some mistakes or the work is a little messy.
   - W: There are many mistakes and/or the work is very messy.

6. **Use of Space and Color**
   - T: The whole graph uses the space well. Color or some other technique is used so the graph is easy to read.
   - O: The space is not used too well and color or some other technique could be used better so that the graph is easier to read.
   - W: The graph needs a lot of work on the use of space and color.

7. **Key or Legend**
   - T: The key or legend is very clear.
   - O: The key or legend is OK.
   - W: The key or legend needs a lot of work.

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Did I do my best work?

- **Terrific**
- **OK**
- **Needs Work**

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**Exhibit 3. Performance Task Assessment List for a Graph Primary Grades**

1. Did I draw the things in columns?

   - **Terrific**
   - **OK**
   - **Needs Work**

2. Did I make a separate column for each different kind of thing?

   - **Terrific**
   - **OK**
   - **Needs Work**

3. Did I print words to tell what each column is?
4. Did I use color?

5. Is my graph drawn neatly?
Exhibit 5. The Number of Vehicles Going Through the Intersection of Oak and Philmont Near Washington Middlebrook Elementary School
Exhibit 6. Your Fine in Connecticut and Vermont When Speeding

May 24, 1995

Time of Day

Exhibit 7. Performance Task Freedom and Responsibility in America

Background

"Be more responsible!" is a phrase often directed to teenagers by adults. But how well do adults "walk their talk?" We live in America, the most free and democratic country in history. Almost every citizen has the freedom to vote.

- Is it also the responsibility of eligible American citizens to vote?
- To what degree do the adults in your community carry out their freedom and responsibility through voting?

Task and Purpose

Write a persuasive letter to the editor of your local newspaper, supported by a graph, that describes your opinion on these questions.

Your purpose is to persuade your audience, not to antagonize them.

Audience

Your audience is adults who read the local newspaper.

Procedure

1. Organize and analyze the data you were given and brainstorm possible persuasive arguments for your letter.
2. Decide on the most appropriate type of graph to display this information in a way which supports your arguments.
3. Write a first draft of the letter and graph.
4. Complete the necessary steps of the editing process to produce a finished letter and mail it to the editor.
### Exhibit 8. Performance Task Assessment List Persuasive Writing—Freedom and Responsibility in America Grade 9

<table>
<thead>
<tr>
<th>Element</th>
<th>Points Possible</th>
<th>Earned Assessment:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The writer introduces and clearly states a position.</td>
<td>_____</td>
<td>_____</td>
</tr>
<tr>
<td>2. The position is supported by at least four main points.</td>
<td>_____</td>
<td>_____</td>
</tr>
<tr>
<td>3. Each main point is supported by at least three relevant, accurate, and specific pieces of information.</td>
<td>_____</td>
<td>_____</td>
</tr>
<tr>
<td>4. It is clear that most of the main points and supporting details came from the reference materials.</td>
<td>_____</td>
<td>_____</td>
</tr>
<tr>
<td>5. Information from personal experience or data from sources other than the reading materials is provided as additional support to the argument.</td>
<td>_____</td>
<td>_____</td>
</tr>
<tr>
<td>6. The main point(s) of the opposing arguments is/are listed and refuted.</td>
<td>_____</td>
<td>_____</td>
</tr>
<tr>
<td>7. The argument is made to a specific audience. The writing is crafted to appeal to that audience.</td>
<td>_____</td>
<td>_____</td>
</tr>
<tr>
<td>8. The argument is organized and has a flow from beginning to end.</td>
<td>_____</td>
<td>_____</td>
</tr>
<tr>
<td>9. There is a powerful concluding statement of the writer's position.</td>
<td>_____</td>
<td>_____</td>
</tr>
<tr>
<td>10. Mechanics of English are correct and the writing is neat and presentable.</td>
<td>_____</td>
<td>_____</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>_____</td>
<td>_____</td>
</tr>
</tbody>
</table>

### Exhibit 9. The Cycle of Learning—To Improve Performance

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http://www.ascd.org/readingroom/books/hibbard96book.html
Individually Collaboratively

I am capable, needed, and make a positive difference

Exhibit 10. Improving Performance of All Stakeholders
Glossary

Accountability:

Responsibility for general school processes and student achievement, including confirming that resources were effectively used and using assessment results to provide information to the public about what children have learned.

Analytical Assessment Lists:

Lists of specific criteria by which the quality of a product or performance is judged.
An anchor task is a performance task that, because of how successfully it engages students and how well it is connected
to the content, process skills, and work habits of the curriculum, has been designated as a required performance task for
that grade level and subject area. The task and its assessment list will be used in a standardized way by all teachers at that
grade level or in that course.

AP Tests:

Advanced Placement (AP) Tests are nationally standardized, college-level tests (usually including multiple-choice and
essay questions) given to high school students completing college-level courses within the high school program. These
tests are developed and scored by The College Board.

Assessment:

Using various methods to obtain information about student learning that can be used to guide a variety of decisions and
actions. Methods include observations, interviews, videos and audiotapes, projects, experiments, tests, performances, and
portfolios.

Assessment, Authentic:

See Performance Assessment, Authentic

Assessment, Analytical:

Assessment of student work using a set of specific criteria, usually in a list format, and benchmarks of student work to
define the performance standard.

Assessment, "Classroom Flexible":

Assessment strategies (tasks, assessment lists, models of excellence, and the type or amount of support provided by the
teacher and other students) that are adapted to meet the needs of the students and curriculums of individual classrooms.

Assessment, High Stakes:

Assessments that are connected to important consequences such as final grades, promotion or graduation, college
admittance, or employment. High-stakes assessments are summative assessments.

Assessment, Holistic:

Assessment of student work that views the work as a whole and uses a rubric (rather than a detailed list of criteria) and
benchmarks of student work to define the performance standard.

Assessment, Interdisciplinary or Integrated:

Performance tasks that assess students' abilities to apply concepts, principles, and processes from two or more subject
disciplines to a central question, theme, or problem.

Assessment, Low Stakes:

Assessments that are not connected to important consequences. Low-stakes assessments are learning and assessment
activities used in the day-to-day classroom. Low-stakes assessments are formative assessments.

Assessment, Standardized:

An assessment with a set of consistent procedures for administering and scoring. The goal of standardization is to ensure
that all students are assessed under uniform conditions so that interpretation of their performance is comparable and not
influenced by differing conditions.

Benchmarks:

An example of student work at a certain level of quality. For example, a benchmark for excellent persuasive writing at
the 10th grade level is used by students, teachers, parents, and others to identify the goal of excellence for those students.
Bias:

A lack of objectivity, fairness, or impartiality on the part of the assessor or evaluator, the assessment instrument or procedures, or in the interpretation and evaluation process, that leads to misinterpretation of student performance or knowledge.

CAPT:

The Connecticut Academic Performance Test (CAPT) is given statewide in the spring to all 10th graders in the state. The test includes math, science, responding to literature, editing, and an integrated task. Data are provided at the student, class, school, school district, and state levels.

CBAM:

The Concerns-Based Adoption Model is a set of client-centered strategies for change based on the following principles: change is a process, not an event; change is accomplished by individuals; change is a highly personal experience; change involves professional growth; change is best understood in operational terms; and the focus of facilitation should be on individuals, innovations, and the context for the change.

CMT:

The Connecticut Mastery Test (CMT) is given statewide in the fall to all students in grades four, six, and eight. The test includes math, writing, language mechanics, reading comprehension, and listening comprehension. Data are provided at the student, class, school, school district, and state levels.

Content Standards:

Themes, big ideas, essential questions, and content objectives deemed to be important to an area of study.

Critical Friends:

Individuals from outside the working group who give constructive feedback and advice to the working group.

Critical Mass:

The condition when enough educators in an organization are effectively using strategies such as cooperative learning, process writing, interdisciplinary instruction, or performance-based learning and assessment so that these new strategies have a high probability of becoming a permanent part of the culture of that organization (school or school district).

Criterion Referenced:

An approach for describing a student's performance according to established criteria; e.g., she typed 55 words per minute without errors.

Cycle of Learning:

A sequence of events in authentic performance learning that includes making an assessment list to evaluate the quality of the work, and the steps of identifying task, audience, and purpose for the work to be done; assessing and acquiring information; processing information; producing a product; disseminating the product to the intended audience; and assessment, evaluation, and goal setting for the next cycle of learning.

Developmentally Appropriate:

Practices based on what is known about how children and youth develop, learn, and manifest their learning at various age levels.

Dimensions of Learning:

The Dimensions of Learning are descriptions of the five types of thinking that are essential to the learning process: (1)
positive attitudes and perceptions about learning, (2) thinking involved in acquiring and integrating knowledge, (3) thinking involved in extending and refining knowledge, (4) thinking involved in using knowledge meaningfully, and (5) productive habits of mind. The Dimensions of Learning were the basis for the development of assessment standards developed by Marzano, Pickering, and McTighe (1993), linked to the declarative and procedural knowledge of the content areas, such as science, math, and English, and the Lifelong Learning Standards: (1) complex thinking, (2) information processing, (3) communication, (4) collaboration/cooperation, and (5) habits of mind. The Dimensions of Learning, Content Standards, and the Lifelong Learning Standards are similar to the steps in the Cycle of Learning used in the Region 15 Public Schools (see charts comparing these models, at the end of the glossary).

Dimensions of Student Work:

The basic elements that are always part of a specific type of work, such as persuasive writing. These dimensions, to whatever degree of quality they are carried out, can be seen in any occurrence of this type of work. These dimensions are the foundation on which analytical assessment lists are based.

Discipline-Based Competencies:

Competencies are learned proficiencies. Science content and the scientific processes are discipline-based competencies. Reading comprehension, interpreting themes in literature, and essay writing are other examples. Knowledge of algebra and math problem-solving skills are further examples.

Elementary:

The grades between the primary and middle school grades, usually grades three through five.

Essential Question:

A question that is "essential" when it helps to improve the understanding of basic concepts of a discipline. "How have organisms developed structures to accomplish the function of protection within their environment?" is an essential question within the content of biology. This question flows from the science theme of Form Follows Function.

Evaluation:

The process of interpretation and use of information to make decisions; judgment regarding the quality, value, or worth of a response, product, or performance.

Evaluation, Fixed Standards:

Using the same benchmarks of performance for all learners being evaluated (in contrast to Evaluation: Holistic Standards).

Evaluation, Individualized Standards:

Using different standards of performance to evaluate different students. For example, sometimes students are evaluated based on their own past performance rather than against fixed standards. Individualized standards are most often employed with low- or high-performing students.

Exhibition:

An extended, multipart project resulting in tangible products or presentations; often used to describe major performances or activities in a student's school career or a culmination of work in a class.

Exit-Level Performance:

A performance expected of a student at the end of a segment of schooling, such as the end of a course or the end of the last grade level at the school.

FAST Plants:

A type of plant (Brassica rapa) related to wild mustard and broccoli, used as a classroom organism because of how easy it is to grow and because it goes through its life cycle from seed to mature plant with seeds that can be planted in about 40 days. The use of this plant as a classroom organism is promoted by the Plant Pathology Department of the University
Focus Question:

A topic-specific version of the essential question used in the classroom. The focus question, "What structures have spiders developed to protect themselves?" flows from the essential question, "How are the structures of animals related to their function?" which in turn flows from the theme, Form Follows Function.

Formative Assessment:

Assessment occurring during the process of a unit or a course.

Guidelines for Geographic Education:

Curriculum standards for geography developed by the National Council for Geographic Education and the American Geographers.

High Stakes:

Assessment is high-stakes when the performance on it has a strong consequence for the student. High-stakes decisions can impact moving from grade to grade, can influence graduation, or can provide information used by college admission officers and employers.

Important Learning:

Central concepts, essential skills, and critical ways of thinking within or across a subject/discipline.

Interpersonal Competencies:

Competencies "among" people, such as communication, conflict resolution, and courtesy.

Intrapersonal Competencies:

Competencies "internal" to the person, such as health habits, self-control, reaction to diversity, and work habits.

Issue Controversy:

(also called Constructive Controversy) A process of using a critical decision-making process to examine both sides of an issue to reach an informed personal opinion. Group work is often a part of the process, which usually ends in individual persuasive writing.

Knowledge, Declarative:

Otherwise known as content knowledge, including themes, big ideas, essential questions, content standards, and information.

Knowledge, Procedural:

Knowledge of process skills, such as nonfiction writing, computation, oral presentation, critical decision making, group work, self-assessment, or creative problem solving.

Learning Styles:

Characteristic cognitive, affective, and physiological behaviors that serve as relatively stable indicators of how individual learners perceive, interact with, and respond to the learning environment.

Low Stakes:

The consequences for a level of performance that will have a low level of impact on a student. For example, the consequences to the student for his or her performance on a short, embedded performance task on spiders in science class may be no greater than a grade in the grade book. (See Performance Assessment: Embedded)
**Norm Referenced:**

An approach for describing a student's performance by comparison to a normed group; e.g., he typed better than 80 percent of his classmates.

**Opportunity to Learn:**

Giving students the means to acquire a high level of knowledge and skills; providing equitable and adequate learning resources, including capable teachers; rich curriculum; high-quality facilities, equipment, and materials; and essential support services.

**Performance:**

A presentation of one's work before an audience, which may include classmates, parents, or members of the community, in addition to scorers.

**Performance Assessment:**

General term for an assessment activity in which students construct responses, create products, or perform demonstrations to provide evidence of their knowledge and skills.

**Performance Assessment, Authentic:**

The products or performances which are assessed are like products and performances that occur in the "real world."

**Performance Assessment, Embedded:**

A performance task that is placed into the sequence of classroom instruction where it is a powerful opportunity for students to learn by "putting it all together—content, process skills, and work habits."

**Performance Assessment, on Demand:**

A performance task administered on a specific date regardless of whether or not it fits into the curriculum at that time, such as a statewide test or the Advanced Placement tests.

**Performance-Based Learning and Assessment:**

An approach to teaching and learning that embedded performance tasks within day-to-day instruction serves both as opportunities to learn and opportunities to measure the competencies of the learner.

**Performance Maturity:**

The degree to which a learner can use discipline-based competencies, intrapersonal competencies, and interpersonal competencies "independently" to do authentic work.

**Performance Standard:**

An established level of achievement, quality of performance, or degree of proficiency. Performance standards specify what a student is expected to achieve or perform to show that the student has substantially met content standards. A performance standard is sometime called a benchmark.

**Performance Task Assessment List:**

A list of the criteria to be used to judge the quality of a product or performance from a performance assessment task. The items in the list can be highly detailed or more general. This type of assessment tool usually provides a more analytical approach than rubrics provide.

**Performance Task Assessment List, Generic:**

An assessment list composed of criteria related to the dimensions of a specific type of work such as graphing, but not specific to the particular content of a specific graph done as a performance task.
Performance Task Assessment List, Tailored:

An assessment list composed of criteria related to the dimensions of a specific type of work such as graphing and worded to identify the specific content of the graphing assignment.

Pioneers:

The educators who are in the second round (after the scouts) of the innovation. Pioneers help to create the innovation and make it "user-friendly."

Portfolio:

A purposeful or systematic collection of selected student work and student self-assessments developed over time, gathered to demonstrate and evaluate progress and achievement in learning. A portfolio assessment is the process of developing, reviewing, and evaluating student portfolios.

Primary:

Kindergarten through grade two.

Process Creep:

The condition where performance assessment becomes more and more orientated to processes, such as nonfiction writing, oral presentation, drawing, or graphing, and less and less connected to the content of the curriculums. (While processes are essential, content must not be neglected!)

Professional Development:

Continued learning by educators to improve their knowledge and skills.

Project:

An extended work, such as a research report in history or a science investigation.

Reliability:

The degree to which an assessment measures consistently or the degree to which assessment scores are free from errors of measurement.

Rubric:

A series of narrative statements describing the levels of quality of a product or a performance. The rubric can be a list of narrative statements or a matrix of narrative statements. Rubrics can be holistic or analytical. This type of assessment tool usually provides a more holistic approach than that of assessment lists.

Sampling:

A way to collect information about a group by examining only a part of the group (the sample), or by dividing a test into sections and giving each member of the group or the sample only one part of the test (matrix sampling).

SAT:

Scholastic Achievement Test (SAT—formerly the Scholastic Aptitude Test) consisting of verbal and math sections created and scored by The College Board.

Scouts:

The educators who get in on the first stages of inventing a strategy to improve student performance. Scouts have a high tolerance for uncertainty, are risk-takers, and can withstand mistakes and setbacks.

Self-Assessment:
The learner uses an assessment list or rubric and benchmarks to assess his or her own work.

Self-Evaluation:

The learner interprets information from the assessment of his or her own work.

Self-Regulation:

The learner makes plans for improvement based on the assessment and evaluation of his or her own work.

Senior Exhibit:

An exit-level performance for seniors.

Settlers:

Settlers are the educators who make the innovation "work" in the entire school or school district. The efforts of settlers ensure that the innovation will become a part of the culture of the organization.

Stakeholder(s):

Those individuals who have a substantial interest in schools and student learning. Stakeholders may include students, teachers, administrators, other school staff, parents, advocacy organizations, community members, higher education institutions, and employers.

Summative Assessment:

The assessment done at the end of a unit, course, or sequence of courses or grade levels. Summative assessments are usually formative assessments within the "bigger picture." The test and performance assessment at the end of the chapter, a final exam, the final draft of the 8th grade writing portfolio, a senior exhibition—all are examples of summative assessments.

Task Planning, Cycle of Learning:

Developing a task that requires a student to go through all the steps of the Cycle of Learning. The intermediate products, such as the information organized through the step of "accessing and acquiring information," and the final product, which is disseminated to an audience, can be assessed.

Task Planning, Inside-Out:

Developing a performance task by starting with a task that has proven to be engaging to students and then improving the connections between the task and the assessment tool and the content, process skills, and work habits of the curriculum.

Task Planning, Outside-In:

Developing a task by starting with specific content, process skills, and work habits and then finding a task that is engaging to students.

Task Planning, Partnership with High-Stakes Assessment:

Developing a classroom performance task that is similar in content and format to a performance task that is part of a standardized, state-level or district-wide high stakes assessment. The high-stakes performance task most likely is scored with a holistic rubric. The classroom version is administered as a "classroom flexible" learning and assessment activity and is scored using an analytical assessment list in the Region 15 Public Schools.

Task Planning, Planning Backwards:

The process educators use to envision the type of performance task students should be able to do (but presently cannot) and then plan backwards in time to provide content, process skills, and work habits that will build the "performance maturity" necessary for those students to be successful in reaching this level of performance.
Test:

A set of questions or situations designed to permit an inference about what an examinee knows or can do in an area of interest.

Theme:

A big idea or a higher-order conceptual category that can subsume vast quantities of specific information. An important science theme is the Form Follows Function in living and engineered systems. (See Essential Question and Focus question to see the relationship among themes, essential questions, and focus questions.)

Topic:

A particular item to be studied. "Spiders" is a topic within a science course. (See theme, essential question, and focus question.)

T-O-W:

Terrific-OK-Needs Work, the levels of quality used in some elementary assessment tools.

Upper Grades:

Middle and high school grades, usually grades 6 through 12.

Validity:

The extent to which an assessment measures what it is supposed to measure. More precisely, the degree to which evidence and judgment support or disprove the adequacy and appropriateness of inferences and actions based on specific assessment information. Validity indicates the degree of accuracy of predictions or inferences based on an assessment score.

Work Habits:

A Coalition of Essential Schools summary term for various dispositions important for effective thinking and learning, including reading with curiosity; reflecting critically on one's own work; developing independence, clarity, and incisiveness of thought; willingness to work hard; an ability to manage time effectively; persistence; accuracy and precision; and working collaboratively.

Note: See the next two pages for comparisons of the Cycle of Learning with the Dimensions of Learning and the Lifelong Learning Standards.

### A Comparison of the Cycle of Learning and the Dimensions of Learning

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<tr>
<td>Through collaboration with others</td>
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**Developing the perceptions** of:

- I am capable of this work: Related to category 5
- I am needed: Related to category 5
- The work I do is important: Related to category 5

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**A Comparison of the Cycle of Learning and the Lifelong Learning Standards**


**Perceptions used in the Cycle of Learning are from Developing Capable Young People, H. Stephen Glenn and Jane Nelson, 1991, Empowering People Books, Tapes, and Videos Inc.

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