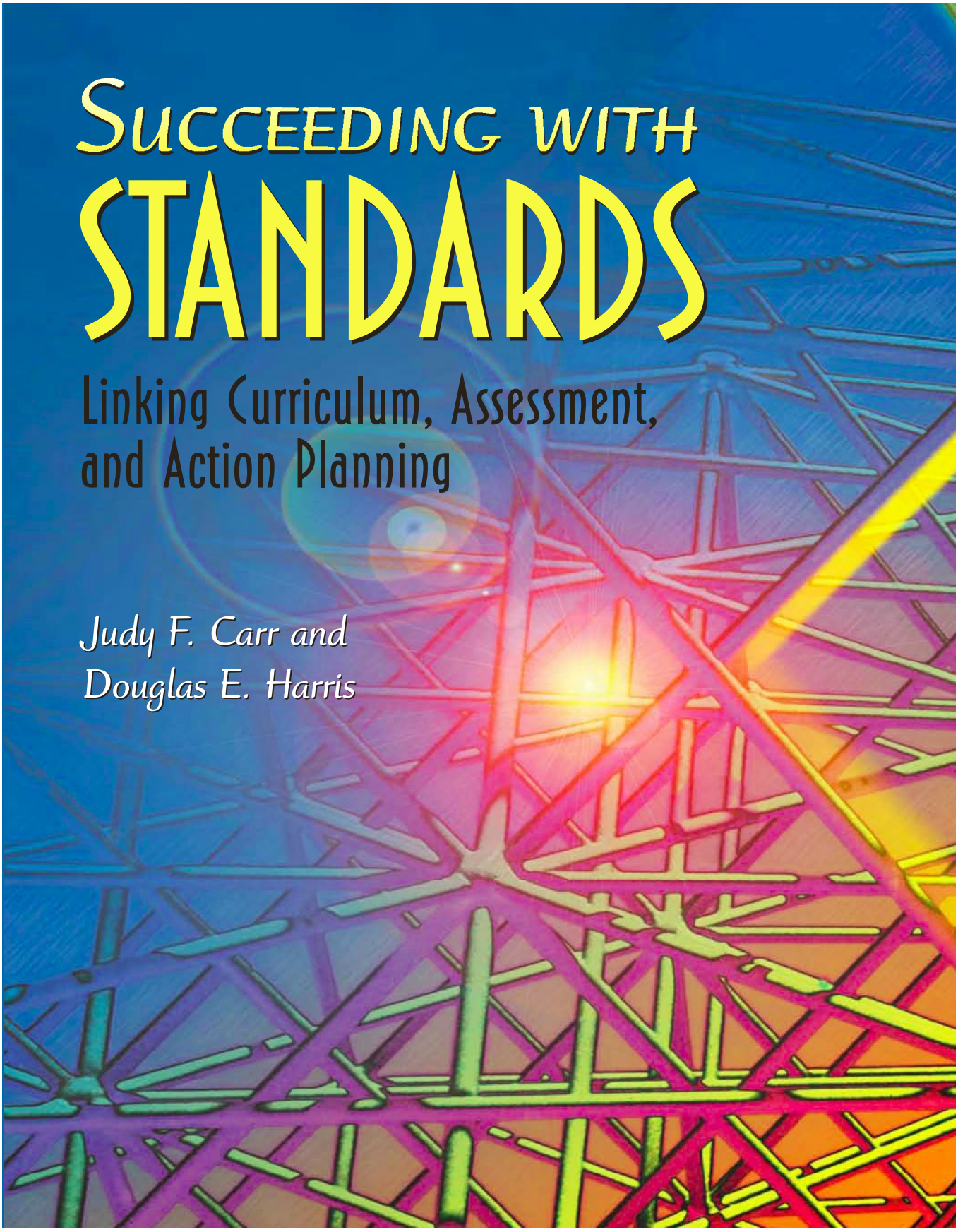
Succeeding with
STANDARDS
Linking Curriculum, Assessment, and Action Planning
Judy F. Carr and
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Succeeding with Standards: Linking Curriculum, Assessment, and Action Planning

1

Overview of Standards Linking

In many schools and districts, the local curriculum is a hodgepodge of individual initiatives knit together by collective good intentions. Administrators and teachers often purchase materials, convene committees, and create curriculum guides with little attention to the relationship of each piece to the whole. Educators act without proper data to guide their decisions, without grounding in research and best practice, and without a plan for turning their vision into reality.

We all know this kind of approach does not work. Overall student performance is inconsistent. Students don't learn as well as they might, and we have little assurance that all children are getting their rightful opportunities to learn. Standards alone cannot change these realities. Instead, successful change occurs when all aspects of the local curriculum are linked to standards through a purposeful, coherent system of processes and products.

The Vision

Standards must be put into practice at all levels of the system before they can make a significant difference for students. Standards are especially important in the classroom, which is where

they ultimately effect the most change. National, state, and local standards are important resources for teachers, but these standards have little meaning until teachers and administrators take true ownership of them. For example, will the local district adopt state standards, adapt standards from national professional organizations (such as the National Council of Teachers of Mathematics), or create new, locally specific standards using other documents as resources? Other important questions include

- Which standards are the focus for student learning?
- Can any one student achieve the complete set of standards?
- Are the standards presented in a form that is useful to and usable by teachers?
- How should the standards to be used in classrooms and schools throughout the school district?

Without decisions on questions like these, the local curriculum vision will be distorted, with teachers referring to different resources. Administrators, teachers, students, parents, and the community need a clear vision of what is expected in terms of student learning. Clarity is achieved when districts and schools formally identify their standards and then use them consistently throughout the curriculum process.

We have created a standards linking system for use with local curriculums. Figure 1.1 shows the components of this system, which encompasses 11 important areas, including a vision and an action plan.

In most states and local districts, standards are written for each subject area by committees of experts who focus on one area of the curriculum. Using committees of experts certainly assures content accuracy and breadth, but it leads to a fragmented curriculum vision if no one evaluates the cumulative effect of the standards.

FIGURE 1.1

The Process of Standards Linking

The 11 components of standards linking are listed below. The process of standards linking is recursive and the list indicates logic, not the order, of the components.

Vision
What are the standards, evidence, and learning opportunities to which the school or district is committed?

Current State
Who is currently teaching what standards and evidence?
What is the nature of the instruction?
Who is currently assessing what standards and evidence? By what means?

Curriculum and Assessment Plan
Who is responsible for teaching what standards and evidence?
What should instruction look like?
What is to be assessed? By whom? By what means?

School Decisions
Through what courses, topics, and themes will the standards and evidence plan be taught and assessed?
Do all students have opportunities to be instructed and assessed in relation to the standards?

Resources
What is needed in the way of funding, expertise, and materials?

Professional Development Plan
What do teachers need to know and be able to do in order to teach and assess?
How will opportunities to address these needs be provided over time?

Supervision and Evaluation
What supports and feedback will teachers receive as they work to implement the curriculum?
Who is responsible for providing what?
What documentation is needed?

Student Profile
What assessment information will be kept on each student, K–12?

Comprehensive Assessment System
How will the local curriculum be assessed?
What sources of data will be included?

Reporting
What information is needed by what audiences?
How will it be provided?

Action Plan
What do we need to do to improve student learning?

Source: The Center for Curriculum Renewal, 1999

When all the history a child ought to know is added to all the science that is important—and then both of those subject areas are added to all the English, mathematics, social studies, physical education, and arts he ought to know—the result is an overwhelming mass of knowledge. One student cannot realistically attain all of this knowledge in the course of a K–12 education. Educators don't take these conglomerations of standards seriously. Even worse, individual teachers start to make different decisions about which standards to teach and which to ignore. Such idiosyncratic decisions erode the standards and lead to inconsistent programs with no basis in standards at all.

Even when various sets of standards encompass a realistic scope, having to refer to separate documents can lead to logistical difficulties for teachers who must implement multiple sets of standards. A way to alleviate this problem is to abstract standards and republish them by grade levels or grade-level clusters. For example, South Carolina wanted middle school teachers to use the state's standards to design interdisciplinary units. To achieve this goal, the state created an edited version of several sets of standards. As a result, teachers use only one document in their work, not seven separate documents. Local districts can create similar resources that make the standards clear and accessible for every teacher. (The process of developing the local curriculum is further described in the next chapter.)

Once a school or district commits to a set of standards—and everyone understands what "our" standards are—it must specify how the standards will be used. This step requires intentional planning for teaching, learning, assessment, resources, professional development, supervision and evaluation of the instructional process, and program evaluation in the form of a comprehensive, standards-based assessment system.

The school board should formally adopt a plan that puts this standards-based assessment system into policy. Then this plan should be used as the basis for decisions in the many areas described throughout this book. A critical first step is to evaluate the current status of curriculum, instruction, and assessment in relation to the standards.

Current State

Typically, standards reinforce the best practice of the best teachers. As you begin to look at current work with standards, you will likely find that you can retain much of teachers' current practice along with curriculum documents that have already been revised in response to standards. You will find that some standards are being taught but not assessed, assessed but not taught, or inconsistently taught and assessed within or across grade levels.

Before making specific plans for local curriculum, instruction, and assessment, you must answer these critical questions about your current work with standards:

- Who is currently teaching what standards?
- What is the nature of the instruction?
- Who is currently assessing what standards? By what means?

This process is different from the conventional "curriculum mapping" designed by Fenwick English (English, 1992) because the focus here is on linkage with identified standards. The questions are no longer "Who is teaching what topics?" or "What materials are being used?" Instead, the questions are "Who is teaching to what standards?" "What form does the instruction take?" and "Who is assessing what standards and by what means?" Teachers sometimes must go through a toilsome process to provide this information, but

the power of accessing and revising such a database far outweighs the initial drudgery of putting the information together.

The Essex Town Supervisory Union in Essex, Vermont, was one of the first districts to use technology as a tool in this process. After adapting the state's standards, they published *Essex Town Supervisory Union Standards*. Then the administrative team, teacher leaders, and school board wanted to know where the district stood with regard to implementation of standards. What was happening that could be acknowledged and celebrated? What was not happening that indicated a need for change?

The district was large enough that they could use a sampling system to collect data from teachers. Then all teachers checked a draft report for errors and oversights. For each standard and related evidence (local language for the equivalent of content standards and performance standards), teachers entered what they taught, what they assessed, and how they taught and assessed into a computer database. An analysis of the database showed that some items were taught and assessed by all teachers at a grade level. Some items were taught by some teachers at the grade level but not others. Some items were not taught or assessed by anyone; some standards were taught but not assessed, and, interestingly, some were assessed but not taught. The database enabled teachers and administrators to look from one grade level to another to track continuity of instruction and assessment (or lack thereof) across grade levels.

For each subject area, a committee drafted observations and recommendations related to the findings of this standards-linking study. Then the teachers reviewed the findings, observations, and recommendations before they began making decisions about change. This focus shifted their conversations from "what I do versus what you do" to a shared problem-solving context that considered questions such as, "Does it matter that 'X' is taught in 2nd

grade but not assessed until 4th? Should all teachers teach 'Y'? How do you assess 'Z' in your classroom?" Ultimately, these conversations lead to meaningful and sustained reform in curriculum, instruction, and assessment. A database process of deciding who is responsible for teaching and assessing what standards retains the best of the current system and clarifies what needs to change to improve students' learning in relation to standards.

The Curriculum and Assessment Plan

Unlike separate curriculum guides, a curriculum and assessment plan clearly articulates responsibility for teaching and assessing standards for student learning. Figure 1.2 describes seven characteristics of a curriculum and assessment plan.

Once you have accurate information about what standards are being taught and assessed throughout the district, you can decide what *should* be taught and assessed in which grade levels, through what courses, and by what means. Clearly designate where all standards and evidence of performance will be taught and assessed. Most schools find it is easiest to start with standards that are already consistently taught and assessed at particular grade levels or in particular courses. Then they move to the standards that are taught by the majority of teachers and then work on standards that are not taught or assessed at all. As a final step, review all decisions to determine:

- Is this the best plan?
- Do students have adequate opportunity to learn and perform in relation to the standards?
- Are multiple measures used to assess student learning?
- Are the standards revisited frequently enough to lead to solid learning?

- Is the plan efficient? Is anything ignored or overemphasized?

Once these decisions are made, you can become more explicit about the types of assessments that will be used. Eventually you can link selection of resources to standards-based learning and assessment. Begin collecting examples of staff and student work for a process of benchmarking that shows everyone in the school community what good teaching and learning truly looks like.

Instructional Guidelines

If all students are to attain the standards identified in the district's vision, then certain practices, procedures, and programs must be in place. Instructional guidelines describe good practice,

FIGURE 1.2

Characteristics of a Curriculum and Assessment Plan

The following seven characteristics of a curriculum and assessment plan were developed using standards linking.

Characteristic	Description
Explicit	Expresses clear targets for learning drawn from the identified standards.
Coherent	Organizes content (concepts, skills, and processes) to show increasingly rigorous expectations as students move to higher grades.
Dynamic	Supports rich interactions among the standards, learner strengths and needs, effective instruction, and multidimensional assessment.
Practical	Provides a clear, well-organized, user-friendly format.
Comprehensive	Incorporates all subject areas that are part of the curriculum.
Coherent	Uses consistent organizational approaches and language across subject areas throughout the document.
Manageable	Represents not only what *all* students can learn but also what any *one* student can be expected to learn.

Source: The Center for Curriculum Renewal, 1998

however, conventional curriculum approaches rarely spell out assumptions about good practice. When good practice is articulated, it describes specific disciplines, not the program as a whole.

Educators now have access to a significant body of research about effective education practice. Even when viewed through different philosophies or perspectives, this research provides sound guidance. Professional development alone will not lead to consistent good practice throughout a school or district. Instead, schools and districts must articulate a set of instructional guidelines to which all teachers can refer as they plan instruction.

A state-level set of instructional guidelines was adopted as part of the *Vermont Framework of Standards and Learning Opportunities*. Figure 1.3 shows the major areas of curriculum, instruction, and assessment addressed by this document.

FIGURE 1.3

Questions Addressed in Instructional Guidelines

These are five key areas in developing instructional guidelines for standards linking; a focusing question for each area is provided.

Area	Questions
Access	To what resources (staff, material, facilities) must students have access if they are to attain the identified standards?
Instruction	What instructional approaches are most effective in supporting student learning in relation to standards?
Assessment	How is standards-based learning best measured and documented?
Connections	What connections within and across classrooms and the community need to be made in order to realize the district's vision for student learning?
Best Practices in the Discipline	Which of the content-specific instructional approaches particular to each of the disciplines are essential to implement?

The Center for Curriculum Renewal, 1998

Clear articulation of districtwide expectations in the area of curriculum, instruction, and assessment leads to much greater consistency across classrooms. Clear articulation provides guidance for teacher decision making and establishes a common language and focus for several important areas: professional and school development, supervision and evaluation, and planning for comprehensive assessment systems and action planning.

Professional and School Development

Several resources do a fine job of defining criteria for high-quality professional development. *Continuing to Learn: A Guidebook for Professional Development* (The Regional Lab of the Northeast and Islands, 1987) broke new ground by bringing to the forefront a variety of delivery models beyond courses and workshops. A more recent publication is *Designing Professional Development for Teachers of Science and Mathematics* (Loucks-Horsley, Hewson, Love, & Styles, 1998). This book expands on those models and provides criteria and examples of programs specific to math and science. The National Staff Development Council also has developed standards for professional development.

Despite an abundance of resources, few districts have adapted the kind of long-term, data-informed systems of school and professional development needed to support all students' attainment of standards. For example, some effective professional development experiences are driven by a well-defined image of effective classroom learning and teaching.

- Provide opportunities for teachers to build their knowledge and skills.
- Use or model with teachers the strategies teachers will use

with their students.

- Build a learning community.
- Support teachers to serve in leadership roles.
- Provide links to other parts of the education system.
- Are continuously being assessed and improved by developers and presenters to ensure positive impact on teacher effectiveness, student learning, leadership, and the school community (Loucks-Horsley et al., 1998, pp. 36–37)

School and professional development within the standards linking system is needs-driven, long-term, and directly linked to the district's vision, curriculum and assessment plan, and instructional guidelines. A two- to four-year plan based on the following questions will lead to coherent school and staff development in support of standards. (Professional development is discussed in detail in Chapter 7.)

Evaluation and Needs Assessment

- What do teachers and administrators need to better teach and assess our identified standards?
- On what strengths can we draw?
- What are our priorities for professional development?
- What activities will meet the greatest needs?
- Who decides what the plan will be?
- What process will be used to develop the plan?
- How can our plan best respond to theories of adult learning?
- How can we incorporate a range of experiences from informal to formal?
- Which activities need to be individual? Small group? Whole school? System wide?

• What time frame does the plan cover? Is that the right duration?

• Where will we get the expertise needed to support the plan? From inside the system? From outside the system? People? Books? Journals? Processes? Other?

• Through what roles will colleagues support one another in the learning process? Participant? Mentor? Peer coach? Team member? Study group member? Advisory council member? Committee member?

• Who is responsible for what?

• What actions steps need to be taken?

• What is the time line for the action steps?

• What modifications are needed?

Supervision and Evaluation

In the standards-linking system, supervision and evaluation have a single focus: improved student performance. The focus is realized through three components: goal setting and formative evaluation, colleague consultation and support, and administrative evaluation and support and summative evaluation.

Goal setting is an evaluation process by which a teacher sets professional goals, alone or in conjunction with a colleague, mentor, or supervisor. The emphasis is on personal responsibility for professional growth. The teacher sets goals and assesses personal progress in relation to those goals. The colleague, mentor, or supervisor provides support, resources, and feedback.

Colleague consultation is a process by which a colleague provides support, direction, and feedback to a peer in a nonevaluative context. Colleague consultation is often used to support teachers new to a school or district or to teaching (mentoring), by veteran

teachers to support one another in exploring new directions (study groups, committees, advisory groups), or by veteran teachers to support one another in pursuing new directions (peer coaching). The colleague consultants are assigned or selected, and agreement is reached on the focus of the consultation. The teacher performs self-assessments and documents progress, and discusses this information with a colleague who provides feedback and direction. The process may involve classroom observation, conferences, review of student work, or development of a professional portfolio (see Chapter 7 for more information on colleague consultants.)

In administrative evaluation and support, an administrator provides judgments and feedback related to teacher performance. These judgments may be tied to decisions of continued employment and other high-stakes decisions, such as promotion or merit pay. The emphasis is on making high-stakes decisions. The process involves a preconference, observation, written summative assessment, and a postconference.

The three processes described here are reminiscent of clinical supervision. They are necessary aspects of supervision and evaluation in the standards-linking system. To be complete, however, the system must incorporate an explicit focus on student learning as defined by the district's standards. Following are some critical questions (which are explored further in Chapter 7):

- How are the identified standards used in determining the focus for supervision and evaluation?
- What does the standards-based classroom look like?
- How are the standards used in self-assessment?
- How are the standards used in goal setting?
- How are the standards used in colleague consultation?
- How are the standards used in summative evaluation?

The Comprehensive Assessment System

Standards bring focus and purpose to the design of comprehensive assessment systems at state, local, and classroom levels. Historically, school districts have focused on input: the money and materials provided to support student learning. In response to standards, the first tendency is to switch to a focus on student results. Instead, schools need a balanced approach, a truly comprehensive system that includes state, local, and classroom components *and* includes data about inputs (resources), processes (programs and practices), and outputs (student results).

A comprehensive assessment plan is a written document that spells out the district's plan to assess progress toward implementing and meeting the standards. The plan should

- Enhance and not unnecessarily distract from student learning.
- Include state, district, and classroom components.
- Clearly identify at which of those three levels each of the standards will be assessed.
- Match the types of assessment used to the demands of the standard assessed.
- Require that assessment results are reported to students, educators, parents, community members, and policymakers.
- Specifically identify how the data will be used.
- Provide information necessary for public accountability and reporting.
- Be balanced in terms of time, resources, and capacity required.

Once the comprehensive assessment plan has been compiled, the comprehensive assessment system really puts the plan into action.

The comprehensive assessment system

- Enables the school or district to implement the local comprehensive assessment plan.
- Provides quality control for technical issues.
- Provides quality control for ethical issues.
- Links to action planning and ensures that data is actually used for student, school, and program improvement.
- Includes policy and leadership support needed to implement the local comprehensive assessment plan.
- Includes professional development and a support system for those implementing the program.
- Includes procedures to evaluate and revise the local comprehensive assessment plan and system.

Chapter 4 provides information and examples of local comprehensive assessment plans and systems.

Action Plans

Ultimately, results from a standards-linking system occur because of the link between the vision, the comprehensive assessment plan, and a concrete, operational action plan for systemwide improvement. An action plan is distinguished from the more common organizational strategic plan by its direct and explicit focus on improvement of student learning. Action planning is the focus of Chapter 5. Briefly, an action plan is

- Based on data from the comprehensive assessment system, including but not limited to data on student results.
- Developed through engagement of teachers, administrators, and community members.

- Reviewed and revised yearly.
- Specific with regard to actions, responsibilities, and resources needed.
- Time limited for maximum effect.

The following chapters provide information, examples, and tools for getting started in the process of bringing standards to life in schools and districts. Remember that this is not a linear process. In fact, you may discover it makes sense to start in several places at once, working on the beginnings of a professional development plan at the same time that the status of standards is being determined or creating instructional guidelines while the comprehensive assessment system is being created. Helping all students attain standards is not a matter of business as usual. It is an ongoing process of questioning our own assumptions, acknowledging the best of past practice, and creating new and better ways to proceed.

2

The Curriculum and Assessment Plan

Adopting standards is a necessary step toward improving student learning. But the work put into creating a standards document will have little long-term effect without definite decisions about who teaches and assesses standards and when. Although the decisions seem simple and straightforward, few schools and districts take their standards and create explicit plans for how to implement those standards in the classroom.

Strengths and Limitations of Scope-and-Sequence Documents

Historically, the design of local curriculum has been synonymous with the publication of scope-and-sequence documents for various subject areas. These documents show a progression of content and skills for grades K–12. Sometimes the content and skills are spelled out in minute detail; at other times they are described in general terms. Sometimes the scope-and-sequence documents reflect materials being used; at other times, curriculum committees develop scope-and-sequence documents based on research and best practice.

The process of developing a scope-and-sequence document engages those involved in important conversations about critical

content and skills. Shared understandings and commitments evolve from these conversations. Other advantages of a scope-and-sequence document are that content and skills are broken down in logical progressions and the documents make public what is to be taught and learned in the school or district.

Unfortunately, we have found several disadvantages to the scope-and-sequence approach, particularly in a standards-based environment:

- Not all schools and districts have the content or curriculum expertise in all subject areas to enable them to develop accurate, high-quality scope-and-sequence documents.
- When the contents of the scope-and-sequence documents are added together, the materials are often more than even the most capable students could possibly learn in grades K–12. Thus, teachers discount the scope-and-sequence documents, and they use materials inconsistently.
- Scope-and-sequence documents are often developed by different committees of teachers, therefore they use different formats and language. Therefore, the documents are difficult to use with one another, which is a key challenge for elementary teachers who are responsible for teaching all subject areas.
- Scope-and-sequence documents typically lack an explicit link to student performance. Therefore, curriculum accountability addresses what is "covered," not what is learned.
- Scope-and-sequence documents usually give little guidance for instruction or assessment.

Once they adopt standards, many schools and districts revise existing scope-and-sequence documents to show which content and skills relate to which standards. This approach makes an explicit commitment to standards, but this work is not enough for

planning standards-based learning. Too often the connections are weak or insufficient, consequently some standards get left out or the overall picture of standards implementation remains unclear. Revising a scope-and-sequence document describes how standards fit into the existing curriculum documents, but does not answer how to best support students as they seek to attain standards.

Standards: A Powerful Alternative

Standards are public and shared across schools and districts. Standards encompass accurate, high-quality content and skills. Standards are a balanced, coherent articulation of expectations for student learning. Standards provide the structure from which a deep and rich local curriculum can be built.

When standards replace scope-and-sequence documents, the local curriculum reflects

- Decisions about the standards, at which grade levels they will be taught and assessed, and how often.
- Student assessment profiles showing which information about student learning will be recorded and kept over time.
- Instructional guidelines articulating the school's or district's commitment to approaches designed to support student learning in relation to the identified standards.
- A resource bank of high-quality standards-based classroom assessments, units of study, and published materials that can be shared and used across classrooms and schools.

Who Is Responsible for What?

Decisions about where the standards will be taught and assessed are at the heart of a curriculum and assessment plan. How often will

the standards be taught? At what grade levels? In what courses? Cross-grade committees, grade-level teams, high school departments, and other groups can make preliminary decisions in these areas using a database of information about who teaches and assesses which standards (see Chapter 1). Groups also can start with recommendations from representative teachers about what *should* be taught and assessed at what points throughout the system. Once a draft is created, the whole faculty needs to review the plan. Are the standards appropriately placed? Are there any undesirable gaps or overlaps? Are there issues that need to be addressed? Figure 2.1 (pp. 21–22) shows a page from the decisions made by one district.

In our experience, individual schools often expand work done at the district level. For example, many high schools soon realize that the standards they are assigned to teach are not taught and assessed for all students in their current delivery system. At one small rural high school, members of the science department discovered that all of the standards assigned to science in the curriculum and assessment plan were, in fact, taught in the existing physics course. The problem was that only eight students took that course each year.

Sometimes it is easier to track an issue by comparing the curriculum and assessment plan with the standards that are already taught and assessed in each course within a department. Figure 2.2 (pp. 23–24) shows the status of standards taught in various science courses in one high school.

Similarly, elementary and middle schools need to take the district curriculum and assessment plan and identify the themes and topics that will be used in the school for teaching and assessing standards. It is important to track these themes and topics directly against the district document, however, or standards easily get lost in the process.

FIGURE 2.1

Curriculum and Assessment Plan Example

This is part of a curriculum and assessment plan developed using standards linking. The plan indicates what standards and evidence will be taught and assessed in each of four academic disciplines.

X = Skills should be taught and assessed
A = Skills should be assessed in this subject area
I = Skills should be instructed in this subject area
STD = Standards

WSWSU Draft Curriculum #2 8/29/99			**Science**		**Math**		**English**		**Social Studies**							
			I	A	I	A	I	A	I	A	I	A	I	A	I	A
COMMUNICATION																
1.1	Std	Reading Strategies Students use a variety of strategies to help them read. This is evident when students use a combination of strategies including:	X	X	X	X	X	X	X	X						
1.1a	K–4	Sounds, syllables, and letter patterns (e.g., phonological, phonic, and graphic knowledge)					X	X								
1.1b	K–4	Syntax					X	X								
1.1c	K–4	Meaning in context					X	X								
1.1d	K–4	A range of cueing systems to discover pronunciation and meaning					X	X								
1.1e	K–4	Self-correcting when subsequent reading indicates an earlier miscue					X	X								

FIGURE 2.1—continued

Curriculum and Assessment Plan Example

WSWSU Draft Curriculum #2 8/29/99			**Science**		**Math**		**English**		**Social Studies**							
			I	A	I	A	I	A	I	A	I	A	I	A	I	A
COMMUNICATION																
1.1f	K–4	Questioning					X	X								
1.1g	K–4	Prior knowledge of the topic and sense of story					X	X								
1.1h	5–8	Predicting					X	X	X	X						
1.1i	5–8	Skimming					X	X								
1.1j	5–8	Following themes					X	X	X	X						
1.1k	5–8	Previewing for book selection (e.g., for content, form, style)	X	X	X	X	X	X	X	X						

Source: Windsor Southwest Supervisory Union (Chester, VT) and the Center for Curriculum Renewal.

FIGURE 2.2

High School Science Example

The table shows the science classes (listed across the top) offered at a high school, as compared with the topics of the standards (listed down the side). A similar process is used in each academic area to determine which standards are covered in each class.

Science Class / Standard	Physical Science	Earth Science	Biology	Chemistry	Science and Technology	AP Biology	Advanced Biology	Physics
7.1	7.1cc	7.1cc	7.1cc	7.1cc 7.1ii	7.1aaa 7.1bbb 7.1ddd 7.1ggg 7.1hh	7.1aaa 7.1bbb 7.1ddd	7.1aaa 7.1bbb 7.1ggg	7.1aaa 7.1bbb 7.1ddd
7.2	7.2aa	7.2aa	7.2aa	7.2aa	7.2aa	7.2aa	7.2aa	7.2aa
7.3			7.3aa	7.3aa	7.3aaa			
7.4	7.4aa	7.4aa	7.4aa	7.4aa		7.4aa	7.4aa	7.4aa
7.5	7.5aa	7.5aa	7.5aa	7.5 aa	7.5aaa	7.5aa	7.5aaa	
7.11				7.11aaa 7.11cc	7.11aaa 7.11bbb			
7.12	7.12ddd 7.12dd 7.12eee			7.12aaa 7.12bbb 7.12ccc 7.12eee	7.12aaa 7.12bbb 7.12ddd 7.12fff			7.12ddd 7.12eee 7.12fff
7.13			7.13aaa 7.13bbb 7.13ccc 7.13ddd 7.15eee		7.13ccc	7.13aaa 7.13bbb 7.13ccc 7.13ddd	7.13aaa 7.13bbb 7.13ccc	

FIGURE 2.2—continued

High School Science Example

Science Class / Standard	Physical Science	Earth Science	Biology	Chemistry	Science and Technology	AP Biology	Advanced Biology	Physics
7.14						7.14aaa 7.14bbb 7.14ddd	7.14aaa 7.14bbb 7.14ccc 7.14ddd	
7.15		7.15aaa 7.15bbb 7.15ccc 7.15dd			7.15eee		7.15eee	7.15ddd
7.16				7.16bbb 7.16ccc 7.16dd	7.16aaa 7.16bbb			
7.17					7.17aaa 7.17ddd			
7.18				7.18aaa	7.18aaa 7.18bbb 7.18ddd			
7.19					7.19aaa 7.19bbb			7.19aaa 7.19bbb

Courtesy of Brian O'Regan, Superintendent, Chittenden South Supervisory Union

Standards and Spiraling

The fundamental decision in developing standards-based curriculum is assigning standards to specific grade levels, courses, or classroom settings. However, repeating standards also involves careful decision-making. Two common complaints about curriculum in the United States relate to repetition. In some subject areas, such as science and social studies, the curriculum is described as "a mile wide and an inch deep." And the fact that U.S. 4th graders perform well in international comparisons, while 8th and 10th graders do less well, is partially attributed to repetition at the same level of complexity, rather than moving to complex content and concepts (Third International Mathematics and Science Study, 1998).

Standards are frequently written in grade-level clusters (such as K–4, 5–8, and 9–12), therefore educators must decide which standards should be repeated at specific grade levels and in certain courses. One of the most effective ways to repeat standards is through a spiral curriculum. In a standards-based spiral curriculum, students return to certain standards and evidence at prescribed intervals. However, the standards are taught and learned at a higher level of complexity with each repetition. There are three ways to increase the complexity of standards and evidence:

- Increase the complexity of the content.
- Increase the complexity of how students interact with the content.
- Increase both the complexity of student interaction with the content and the complexity of the content itself.

Here is a standard and one example of accompanying evidence from *Vermont's Framework of Standards and Learning Opportunities*.

> Standard 1.13: Students respond to literary texts and public documents using interpretive, critical, and evaluation processes. This is evident when students:
>
> a. Make inferences about content, events, story, characters, and setting, and about the relationship(s) among them.
>
> This standard and evidence applies to all grades, K–12.

The complexity of the content evolves as the student matures. With the standard cited above, the student may begin with picture books, move to chapter books, biography, and textbooks, and continue with primary sources and complex scientific treatises.

The curriculum can also increase the complexity of how the student interacts with the content. A young student might begin at enumeration, listing events, character, and setting. As she matures, she might identify relationships among the elements listed in the evidence. Later, she might make inferences based on these relationships, develop hypotheses, and verify predictions through extended research.

Unlike the previous example, all standards and evidence do not remain constant over the K–12 spectrum. Figure 2.3 shows an example of how the *Georgia Framework for Learning Mathematics and Science* spirals the concept of number systems.

Everyday Mathematics, developed by the University of Chicago School Mathematics Project, introduces negative numbers, fractions, decimals, and percents at the primary level. However, "prior to fourth grade, negative numbers, fractions, decimals, and percents were used mainly to convey information, without becoming involved in operations such as addition, subtraction, and division" (University of Chicago School Mathematics Project, 1995). This is an example of spiraling complexity of application of content; in Georgia schools implementing *Everyday Math*, the content is

introduced prior to students' responsibility to perform in relation to the standard. Figure 2.4 contains questions that may be used in making decisions related to spiraling.

FIGURE 2.3

Spiraling Concept Sample

A concept may spiral through the curriculum, increasing in depth and complexity, as students mature and gain experience and expertise in the content. The following example of a spiraling concept is for mathematics and shows how students learn about the number system.

Primary: Understand the numeration system by relating counting, grouping, and place value.
Elementary: Extend the number system to include fractions, decimals, and integers.
Middle Grades: Extend the development of the number system through the use of integers.
High School: Compare and contrast the real number systems and its various subsystems with regard to their structural characteristics.

Adapted from Georgia Initiative on Math and Science, 1997

The answers to the questions in Figure 2.4 should guide you in determining what standards and evidence to spiral. They should also help to address the two criticisms discussed at the beginning of this section: By returning to fundamental standards it is possible to limit the scope of the curriculum and to increase its depth, thus building a richer, focused curriculum.

The Student Assessment Profile

The K–12 Student Assessment Profile is a compilation of assessment information for each student. The profile contains a selection of assessments that highlight and track student performance and progress over time toward meeting standards. The profile

FIGURE 2.4

Sample Spiraling Questions

The following questions may help curriculum developers to build spiraling into standards linking.

Which standards and evidence will be spiraled in the standards-based curriculum?

The general rule of thumb is that each standard and evidence will be experienced at least once per grade level cluster. Typically, this commitment will consume the most teaching and learning time. Selection of standards for spiraling should be confined to those that are at the foundation of the disciplines, such as inquiry for science or map skills for social studies, and to those cutting across disciplines, such as communication, problem solving, and personal development. Rarely is there time or justification for spiraling specific content areas, such as dinosaurs or the Civil War within a grade level cluster; however, these may well be revisited across clusters.

How will students experience the standards and evidence at each level?

The purpose of spiraling is to increase the complexity of content and of the application of that content over time. Make sure that the repetition of the standard and evidence isn't more of the same, at the same level of complexity. Pay attention to developmental progression. For example, how might a 5th grader and an 8th grader differ in their approach to civic and social responsibility? Given this developmental progression, what experiences might be provided at each grade level?

What ways will students apply the standard at each level?

As each of the examples above illustrated, returning to a standard generally implies a different level of application of principles. How will students use what they have learned? Is this substantively different from the first experience?

What ways will the student critically examine the standard at each level?

Finally, are there fundamental differences in how the student can examine the standards and evidence upon returning to them? Can they make finer distinctions between similarities and differences? Can they predict consequences or explain phenomena at a different level?

Center for Curriculum Renewal

paints a picture of student performance, and it complements the decisions made about classroom assessments that are shown in the curriculum and assessment plan. The Student Assessment Profile is NOT the results of all, or even of most, assessments in which a student takes part in the classroom. Instead, the profile is a manageable, efficient, small sampling of assessment information about each student, captured over time. The Student Assessment Profile

- Informs parents, teachers and students of student progress toward meeting selected standards.
- Includes selected assessments that measure chosen standards across the grades from K–12 in a balanced distribution by grade and content.
- Can be used to look at the effectiveness of programs over time, as well as to look at student progress toward meeting standards.
- Assesses standards that are representative of the whole set of standards, and of all grade levels.

We worked with one district that engaged a cross-grade-level committee of teachers and administrators in five day-long meetings to create their student assessment profile. The following information describes what the committee accomplished in each session. You may be able to adapt this to the work in your school.

Session 1

- Developed a common understanding of a student assessment profile.
- Shared existing assessments currently used in the district.
- Identified standards to include in the profile.

Session 2

- Completed initial identification of standards for the student assessment profile.

• Reviewed potential assessments, which assess standards we identified.

Session 3

• Prioritized which standards will be assessed and when and where they will be assessed for grades K–12.

• Completed a first draft of the Student Assessment Profile.

• Determined a process for gathering feedback from colleagues.

Session 4

• Reviewed feedback from colleagues.

• Revised the student assessment profile to be more realistic.

• Refined the comprehensive assessment plan (See Chapter 4) by incorporating decisions made about the student assessment profile, considering whether other information is needed about student results, and making decisions about what data to collect about available resources and the actual implementation of programs and practices.

Session 5

• Finalized the student assessment profile.

• Generated recommendations for phasing in the student assessment profile and identifying professional development needs.

• Identified implementation needs specific to each school.

The committee's first draft of standards and possible assessments was lengthy, but the list gave them a place to start considering what would work best. Possible assessments were drawn from a Web site developed using Goals 2000 Funds by the Vermont Standards and Assessment Consortium (http://www.dbweb.ed.state.vt.us/arb). Other suggestions came from committee members. Existing state assessments were included as well (see Figure 2.5).

FIGURE 2.5

Student Assessment Profile

The following table shows the decisions made by a school district in developing a student assessment profile through standards linking. These decisions were related to one standard (reading accuracy) across all grade levels, K–12. Similar decisions are made for other standards and evidence.

Potential Standards to Include in Profile	Possible Assessments	Other Assessments/Comments
Communication 1.2 (Reading Accuracy) Students read grade-appropriate material, with 90%+ accuracy, in a way that makes meaning clear.	**Language Arts** • Oral Reading Fluency Scoring Guide—3rd Grade • Grade 2 Vermont Developmental Reading Assessment • Primary and 2–4 Literacy/Communication Profiles by Biggam, Herman, and Trubisz • K–4 Texas Primary Reading Inventory • K–12 Information Literacy Rubrics **Multiple Subjects** • K–12 The Litter Challenge • 5–8 Williston Student Engagement Rubrics • K–12 Communication of Data **Science** • 9–12 Golden State Exam Science Portfolio **Social Studies** • 5–8; 9–12 Vermont History Projects • K–12 Riverside Performance Assessment Series	

Source: Windsor Southwest Supervisory Union and the Center for Curriculum Renewal

The committee then used an assessment checklist adopted by the Vermont Standards and Assessment Consortium to select only the highest quality assessments to include in the student assessment profile (see Figure 2.6, pp. 34–35). This checklist was adapted from Joan Herman's "Technical Quality Matters" (1996). The checklist is intended to provide a profile of an assessment tool in relation to identified standards. A single "No Response" would not, in most cases, remove a tool from consideration.

In the end, the committee divided the profile into grade-level blocks: K–2, 3–4, 5–6, and 7–12. They created forms for each grade-level block for tracking assessment information for each student. At the time of this writing, the district is in the process of converting these forms to online templates to simplify record keeping, to save time, and to provide easier access for appropriate educational personnel. Figure 2.7 (pp. 36–37) shows an excerpt from the Grades 3–4 profile focused on literacy standards.

In creating your own student assessment profile, consider the following questions:

- Are the assessed standards representative of the whole set of standards?
- Is the number of standards included a reasonable number?
- Are the assessments of high quality?
- What will be the impact of these assessments on the students who participate in them?
- Will the information provided be useful feedback to students and parents?
- Will the information provided be useful in instructional planning and program improvement?
- Does the profile, as a whole, accurately reflect student performance over time?

FIGURE 2.6

Assessment Checklist

This checklist can be used to develop a profile of an assessment considered for use in the student assessment profile. The checklist may also be used in developing a comprehensive assessment plan.

Consequences

❑ Is the assessment worth the instructional time?
❑ Does the assessment encourage good instruction as defined by the district's instructional guidelines?
❑ Does the assessment support a curricular focus related to the standards and instructional guidelines?

Fairness

❑ Does the assessment provide exemplars appropriate to the level for which it is designed?
❑ Does the assessment provide ample time for students to finish so that results reflect capability rather than test-taking skill?
❑ Does the assessment tap the knowledge and skills students have had an adequate opportunity to acquire during classroom instruction?
❑ Is the assessment free of cultural, ethnic, and gender stereotype?
❑ Is the assessment free of tasks or situations more familiar to students of one background or gender than another?
❑ Does the assessment use a scoring process applied without bias?
❑ Does the assessment avoid unnecessarily difficult language when assessing content from the standards?
❑ Does the assessment enable all students to demonstrate what they know and can do in the areas being assessed?
❑ Can necessary accommodations be used?

Reliability and Validity

❑ Does the assessment describe the standards it intends to assess?
❑ Does the assessment represent the intended standards?
❑ Does the assessment provide evidence that the results are generalizable—are indicative of student performance in a broader domain of knowledge?
❑ Does the assessment design include consideration of the number of tasks a student must complete in order to yield generalizable results?
❑ Does the assessment include explicit criteria for scoring and preferably a guide describing the application of these criteria?
❑ Does the assessment provide evidence that results are consistent across raters and across scoring occasions?

FIGURE 2.6—continued

Assessment Checklist

Cognitive Complexity

❑ Does the assessment use tasks for which students can be expected to have adequate background knowledge?
❑ Does the assessment use tasks whose solutions cannot be memorized in advance?
❑ Does the assessment assess key concepts and principles from the standards?
❑ Does the assessment provide evidence that tasks elicit complex understanding or problem-solving skills?

Content Quality and Coverage

❑ Does the assessment use tasks consistent with the instructional guidelines?
❑ Has the assessment been reviewed by content experts to ensure quality, accuracy, and disciplinary and interdisciplinary appropriateness of tasks?
❑ Does the assessment format reflect classroom practice?

Meaningfulness

❑ Does the assessment provide useful information for students, parents, and teachers?
❑ Is the assessment credible to teachers, students, parents, and the public as a valid indicator of student competence in the particular assessment area?
❑ Does the assessment engage and motivate students to do their best?

Cost and Efficiency

❑ Is the assessment administratively feasible?
❑ Is the assessment cost-efficient?

Adapted from the work of Joan Herman; permission from The Vermont Standards and Assessment Consortium and the Center for Curriculum Renewal

Implications for the Classroom

In the process of developing the curriculum and assessment plan and the student assessment profile, questions frequently arise about classroom assessment. What does it mean to say we will assess this standard at this grade level? Are we using the right sort of assessments? How do we create assessments to align with standards?

Classroom assessment is much more than tests, rubrics, and giving grades. Assessment is an integral part of instruction. Assessment is the process of quantifying, describing, gathering data about, or giving feedback about performance. The primary purpose of standards-based classroom assessment is to inform teaching and improve learning. In addition, assessment

- Guides the process of changing and improving education.
- Determines the success of individual students, specific curricula, and institutional practice.
- Determines if students have integrated knowledge and skills across the curricula.
- Provides methods and data to effectively communicate results.

Effective classroom assessments are ongoing and relevant to immediate learning, as well as

- Comprehensive
  - –Each component is part of a whole system.
  - –Addresses needs of a variety of audiences.
  - –Addresses student strengths as well as problems.
  - –Examines results within and across curricula.
- Inclusive
  - –Multifaceted and flexible.
  - –Developmentally and culturally appropriate.
  - –Addresses learning styles and multiple intelligences.
  - –Involves the student in self-assessment.
- Technically Sound
  - –Continuous and ongoing.
  - –Valid and reliable.
  - –Reported accurately.

FIGURE 2.7

Grades 3–4 Profile Example

This is an example of page from a student assessment profile. The word "score" is a placeholder for actual student scores. In some instances, student performance sheets are attached to the profile. A gray block indicates that the assessment is not used at the time and grade level indicated.

Third and Fourth Grade Language Arts Student Assessment Profile							
Assessment	**Vermont Standard**	**Grade 3 Fall**	**Grade 3 Winter**	**Grade 3 Spring**	**Grade 4 Fall**	**Grade 4 Winter**	**Grade 4 Spring**
Informal Reading Inventory Word recognition Using Burns and Roe	1.1 1.2 1.3	score	score		score	score	
Informal Reading Inventory Comprehension Using Burns and Roe	1.1 1.2 1.3	score	score	score	score	score	
Achievement Test	Cross-check when new test is selected			score			
New Standard Exam English and Language Arts	1.3 1.7						Attach student sheet

FIGURE 2.7—continued

Grades 3-4 Profile Example

Third and Fourth Grade Language Arts Student Assessment Profile							
Assessment	**Vermont Standard**	**Grade 3 Fall**	**Grade 3 Winter**	**Grade 3 Spring**	**Grade 4 Fall**	**Grade 4 Winter**	**Grade 4 Spring**
Genre Tracking Sheet (Database is on computer—print and attach completed form)	5.8 5.9 1.4			Attach sheet			Attach sheet
Spelling Assessment	1.6	score		score	score		score
Writing Prompt (Score using rubrics for narratives and conventions)	1.5 1.6						
Writing Portfolio	1.8 1.9 1.10 1.11		Narrative Score:	Responses to Literature Score:		Procedures Score:	Reports Score:

Source: Windsor Southwest Supervisory Union and the Center for Curriculum Renewal

When planning for assessment, consider the bigger picture. This means developing an assessment plan. An assessment plan is a design tool, a set of choices regarding how student learning will be assessed in relation to standards, and its use ensures that

- The feedback from implementation of an assessment plan guides the process of changing and improving instruction.
- There will be multiple opportunities for a student to demonstrate attainment of an identified standard.
- Students will produce a variety of constructed responses, such as products (written reports, diorama, map) and performances (orienteering course, interview, play). Variety of responses recognizes multiple intelligences and individual student strengths. Selected responses and short answer assessments are often also part of the plan.
- A variety of scoring guides will be used to provide feedback on student learning.

Some teachers develop assessment plans unit-by-unit and for the published materials they use. Others develop more holistic plans tied to the standards for which they are responsible. The assessment plan includes information about the products and performances to be assessed, the scoring guides that will be used for feedback, the reporting and feedback methods, and who the assessors will be. Figure 2.8 shows definitions of the assessment planning guide developed by the Vermont Department of Education. Figure 2.9 shows an example of part of an assessment plan from a science unit created by Nicole Pfister, a 6th grade teacher at the Flood Brook School in Londonderry, Vermont.

How to Use Standards in the Classroom (Harris & Carr, 1996) provides additional useful information about design of scoring guides and units of study. Planning for instruction in and assessment of standards in the classroom is an important step in the

process of implementing standards in a school or district. In the next chapter, we turn our attention to the question, "What opportunities to learn do students need if *all* students are to attain the standards?"

Figure 2.8

Assessment Planning Guide

This assessment planning guide can be used in action planning. The columns represent four types of assessments (selected response and three types of constructed responses). For each type of assessment, three types of information are provided: a definition, a description of the type of scoring guide used to collect student data, and the form in which results are reported to students, parents, and others.

What the Student Produces	**Selected Response**	**Constructed Response: Short Answers**	**Constructed Response: Products**	**Constructed Response: Performances**
Definition	Student selects from among responses that are presented	The student must create a response or answer	Documents or artifacts created by students	Demonstrations and interactions carried out by students
Scoring Guides	Answer key machine scoring template	Generalized or task-specific rubric checklist	Generalized or task-specific rubric checklist	Generalized or task-specific rubric checklist
Reporting or Feedback	Numerical score: percentages, total points letter grades narrative report (written) checklist comments verbal	Numerical score: percentages, total points letter grades narrative report (written) checklist comments verbal	Numerical score: percentages, total points letter grades narrative report (written) checklist comments verbal	Numerical score: percentages, total points letter grades narrative report (written) checklist comments verbal

Source: Vermont Department of Education, 1999

FIGURE 2.9

Example of an Assessment Plan

This assessment plan was developed by a 6th grade teacher for a science unit. In this example, the teacher did not use selected response assessments. Although exams and quizzes may include selected responses, in this case the items on the exams and quizzes were all constructed response items. The plan indicates the types of scoring guides used for each assessment.

What the Student Produces	Selected Response	Constructed Response: Short Answers	Constructed Response: Products	Constructed Response: Performances
Standard 7.1		• Exam • Quiz		• Cooperative lab activities • Rubric
Standard 7.12 Matter, Motion, Forces, and Energy		• Exam	• Research project • Essay	• Cooperative lab activities
Scoring Guides		• Answer key for exam and quiz	• Rubric for research project • Rubric for essay	• Rubric for cooperative lab activities

Nicole Pfister, Flood Brook School