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Standard One

*Establish a Well-Crafted, Focused, Valid,
and Clear Curriculum to Direct Teaching*

A standards-based curriculum has become the norm for districts across the United States. The objective of this movement is to see that standards become the target for instructional planning, that schools ensure that all students are working toward the same goals, that teachers understand what they are accountable for, and that students are provided with a learning environment that enables them to achieve the standards (Perna & Davis, 2007). However, in the fervor to develop standards by learned organizations and state departments of education, there has been a proliferation of standards to the point where it would be impossible for teachers to achieve mastery of all the standards identified for the respective content areas. A review by Kendall and Marzano in 1998 revealed that content standard documents available at that time included 200 separate standards and addressed 3,093 topics or benchmarks. They concluded that a student would have to master 1.5 standards per day for 13 years in order to achieve mastery of all of the standards (p. 6).

It is also becoming clear that the quality of standards differs from one state to another (Kowalski, Lasley, & Mahoney, 2008). Comparisons between state standards and standards for the National Assessment of Educational Progress (NAEP)

reveal a wide range of disparities. All of this makes it critical for local school districts to become actively engaged in the development of documents that detail curriculum standards that are appropriate for a specific district. This standard focuses on the development of these documents.

The following are nine highly powerful strategies related to curriculum that can be used to achieve higher student achievement.

- 1. Strategy 1: Embed External Assessment Target Objectives in the Written Content Standards and Link Them to State Standards.** There is a written set of district curriculum content standards that embed all external assessments administered to students and that are linked to state standards/expectations for every grade/instructional level and course offered.
- 2. Strategy 2: Have Clear and Precise District Curriculum Objectives—Content, Context, and Cognitive Type.** The district curriculum objectives, aligned to the external assessment objectives, provide clearly specified content (skills, knowledge, concepts, processes, attitudes, etc.) to be learned; the context in which the learning must be demonstrated, including the test format; the appropriate cognitive type to be mastered; and the standard of performance—that is, the degree of mastery required.
- 3. Strategy 3: Deeply Align Objectives From External Assessments.** Objectives based on external assessments are placed (embedded) in the curriculum in a deeply aligned manner (content, context, and cognitive type).
- 4. Strategy 4: Sequence Objectives for Mastery Well Before They Are Tested.** Objectives are placed in the sequence of learning at least 6 months to 1 year before the student must first demonstrate mastery on the external test.
- 5. Strategy 5: Provide a Feasible Number of Objectives to Be Taught.** There are a feasible number of objectives to be learned so that students can master them. A time range for each is noted. District time allocations for all subject areas/courses are in place from which to compare feasibility.
- 6. Strategy 6: Identify Specific Objectives as Benchmark Standards.** Some of the objectives have been identified as district benchmark standards to be used as feedback for learning progress, program value, curriculum redesign, promotion, and so on.
- 7. Strategy 7: Place Objectives in a Teaching Sequence.** The objectives are developed in a teaching sequence rather than in the order of state standard/framework strands and are presented to teachers in the same manner.
- 8. Strategy 8: Provide Access to Written Curriculum Documents and Direct the Objectives to Be Taught.** The school-based administrators and teachers have in their possession current curriculum and instructional documents (e.g., scope and sequence charts, courses of study, guides) for all curricular areas. Policy directs teachers to teach to the objectives and administrators to monitor their implementation.

9. **Strategy 9: Conduct Staff Development in Curriculum and Its Delivery.** School-based staff members receive quality training in the curriculum scope and sequence and in the use of curriculum documents.

STRATEGY 1

Embed External Assessment Target Objectives in the Written Content Standards and Link Them to State Standards

There is a written set of district curriculum content standards that embed all external assessments administered to students and that are linked to state standards/expectations for every grade/instructional level and course offered.

STRATEGY 1: WHAT

Locally developed written curriculum documents that clearly state the goals and objectives for each grade level and content area provide the basis for instructional planning, materials acquisition, and locally development assessments. Unfortunately, it is common practice today for districts to rely solely on state frameworks as the district curriculum. Depending on the content area, these state frameworks are often vague, repeat the same objectives for several grade levels, may not be available for all content areas, and typically contain more objectives than is possible to master at a grade level.

Today, we live in a world where the knowledge base is rapidly expanding, and access to that knowledge is readily available through technology. There is a need to continually review and revise curriculum documents to ensure that students are being taught that which is most valuable to learn and understand (Armstrong, Henson, & Savage, 2005). It is not unusual for state departments of education to revise content standards every few years to reflect this knowledge explosion. State accountability assessments undergo frequent revisions as well. Other forms of assessment, such as the NAEP, Advanced Placement tests, the SAT, and the International Baccalaureate tests, are also revised over time. This growing knowledge base and refinement of assessments makes it doubly important for districts to maintain control over the district written curriculum. Still, it is difficult to implement change in schools (Armstrong, 2003). The pressure to make curricular changes will only mount in the future. So, where do we begin?

First and foremost, we must teach that which is assessed. We should embed the tested objectives in the written curriculum goals and objectives. Then, when teachers use these objectives to direct their teaching, there is a high probability

students will score as well on external tests as they do on teacher-made and district assessments.

The mission of the district is defined by the curriculum. A written curriculum is essential to meet the aim of the mission. The mission of a school system is to prepare students to function as effective citizens in our country, to live personally satisfying lives, and to contribute to and improve society. The tested curriculum is an important part of the mission and thus must be an essential part of the written curriculum.

A well-written curriculum provides the content standards (goals) and objectives to be taught.

- *District content standards* describe the core knowledge, strategies, and skills for schools to teach and for students to acquire and be able to demonstrate in each subject area. They describe what students should know and be able to do, as well as the attitudes they will hold after completing an entire program of study.
- *District objectives* (at the course or instructional level) describe behaviors in specific terms as to what students will master by the end of a year, semester, or level in a particular area of study.

Content standards need to be linked to state expectations but, most important, objectives derived from all external assessments need to form the initial base of the curriculum.

District content standards and objectives need not be directly aligned with the state or national standards; such standards are often too broad and vague to direct teaching, or there are far too many objectives to realistically teach. It is important to select only the most essential and significant objectives to teach. Begin by selecting the tested objectives, taking into consideration all of the assessments deemed important to the district. Such efforts begin the journey toward a connected and coordinated curriculum delivery.

STRATEGY 1: WHY

If the curriculum fails to include objectives that are ultimately tested, students often will not fare well on the tests. Tests are used to collect data about what students know. They are a subset of assessment (Neukrug & Fawcett, 2006). Research is quite clear that students who are heavily dependent on the schools for their learning, such as those who come from lower socioeconomic milieus, will typically fail to demonstrate success on the tests unless we teach to them. Surprise, surprise! Students from affluent cultures tend to have extracurricular experiences that are reflected in testing. They will often do well on the tests in spite of what is taught in school.

It has been shown that schools with strong instructional program coherence produce higher student achievement than schools without instructional program coherence (Newmann, Smith, Allensworth, & Bryk, 2001). *Instructional coherence*

has been defined as “a set of interrelated programs for students and staff that are guided by a common framework for curriculum, instruction, assessment, and learning climate that is pursued over a sustained period” (Newmann et al., 2001, p. 297). When it is evident, three major conditions exist:

1. A common instructional framework guides curriculum, teaching, assessment, and learning climate.
2. Staff working conditions support implementation of the framework.
3. The school allocates resources, such as funding, materials, time, and staff assignments, to advance the common instructional framework and to avoid diffuse, scattered improvement efforts. (Newmann et al., 2001, pp. 299–300)

This concept of instructional coherence embraces many of the individual strategies outlined in this book and is grounded on the premise that there is a district curriculum framework that is tightly aligned to both external and internal assessments. To begin the construction of this type of a framework, we recommend that you start by identifying the goals and objectives assessed on external tests.

In the past, teachers have taught what they thought was most important for students to learn, whether it matched the state standards or not. Students learned, but they often did not learn that which was assessed on external accountability tests. If students do not have access to information that is tested, then we cannot expect them to demonstrate knowledge of the learnings. If a teacher is directed by the textbook curriculum or other instructional resource, then it is doubtful that many of the ideas presented in these resources will be tested.

Although textbook publishers typically state that they include in the textbooks all of the state standards and all areas tested, the match is often superficial at best.

STRATEGY 1: HOW

Try the following steps to achieve Strategy 1:

1. Decide which external assessments will be used to begin to identify district goals and objectives, for example, state accountability assessment, Advanced Placement examinations, or NAEP assessments.
2. Review each test item, if available, on the external tests and derive the objectives by deconstructing the test items. *Deconstructing* a test item means identifying what is being taught (the content) and how it is being tested (item format; e.g., multiple choice, bubble in). You may not have access to the actual test items if states are keeping the tests secured, but many states provide sample items for practice tests. If your state does not provide items,

go to Web pages from several states and review the test items they use. Although the format may vary from that used in your state, the content and testing objectives covered will likely be close enough for the requirements of your state framework.

3. Obtain a different form of the test and deconstruct the test items (if the tests are norm-referenced standardized tests).
4. Determine the grade level at which the test item is first tested. Often, on both state criterion-referenced tests and norm-referenced tests, similar test items will be used at different grades. Analyze the items across grade levels.
5. Identify the frequency with which a given objective is tested and note the level of difficulty. Norm-referenced test companies frequently provide such information. Be sure to reflect such frequency and difficulty on your practice tests.
6. Place the objectives in content standards. You might want to use the state content standard/framework areas as a tool.
7. Develop a correlation matrix of the tested objectives in relation to the state and/or national standards/frameworks. Be generous in your correlation. Often, state officials will want evidence that you are teaching the state standards. Be sure the matrix is readily available if requested.
8. Begin the design of the curriculum content standards at each grade level and for each course for the tested subject areas.

STRATEGY 2

Have Clear and Precise District Curriculum Objectives—Content, Context, and Cognitive Type

The district curriculum objectives, aligned to the external assessment objectives, provide clearly specified content (skills, knowledge, attitude, etc.) to be learned; the context in which the learning must be demonstrated, including the test format; the appropriate cognitive type to be mastered; and the standard of performance—that is, the degree of mastery required.

STRATEGY 2: WHAT

Design the curriculum so that you teach what is tested (Strategy 1), and then add to that design the *way* it is tested. From a curriculum point of view, this means that the district curriculum needs to be so clear that any teacher will know what to

teach and how to practice the learning, as well as how to assess it. As stated earlier, state and national content standards/frameworks are often broad in nature and duplicative across grade levels. A district's curriculum needs to be written to the precise objective level so that there is no question about what will be taught and when.

As mentioned in the discussion of Strategy 1, objectives for a course, grade, or instructional level describe in specific behavioral terms what students will be able to do at the end of a year/semester/level in a particular area. Objectives need to be clearly written to minimally include the content to be learned (skill, knowledge, concept, process, attitude, etc.), the type of cognition required, and the context in which the learning is to be demonstrated.

An objective needs four components to precisely guide teaching:

- **Content:** The topic, concept, process, skill, knowledge, or attitude to be learned
- **Context:** The performance conditions under which the student will demonstrate the content
- **Cognitive Type:** The level of thought process required, typically using Bloom's taxonomy (knowledge, comprehension, application, analysis, synthesis, evaluation; Bloom, Englehart, Furst, Hill, & Krathwohl, 1956)
- **Standard of Performance:** The degree to which the students need to show they have mastered the learning

Most objectives are written with just a vague idea of content and a verb that might indicate the cognitive type of the objective, for example: "Classify objects as acid or alkaline." Just how would one teach to this objective, and how would one know when students have mastered this learning? The content of the objective needs to be more precise, for example: "Classify objects as acid or alkaline substances according to their molecular structure."

Furthermore, the missing piece that really affects the teacher's planning is the context in which the student is to show he or she knows the content. *Context* means the conditions or situations in which the student is to demonstrate the learning. There are at least three context dimensions:

- Instructional or environmental conditions (what the teacher says; what the directions state; vocabulary needed to learn; level of reading ability required; use of graphs, visuals, and other materials, etc.). These are often called *givens*.
- The operation performed or the learner's task requirements (classify, supply information, recall, and develop a product).
- Student behavior mode or the physical characteristics of the learner's behavior or product (writing, oral presentation, pointing, circling, filling in an answer, bubbling in a response).

Here is a better example of a written objective: "The student will demonstrate knowledge (cognitive type) of acid and alkali substances as well as their complex

molecular structure (content) by writing (context—student mode of response) in order of molecular structure (context—task specifications) 10 chemical substances (context—environmental conditions) correctly on at least three assessments over a 5-month period (standard of performance).”

Because this is difficult to read, sometimes the objective is written this way:

Content: Acid and alkali substances as well as their complex molecular structure

Cognitive Type: Knowledge

Context: Given 10 chemical substances

Put in order of molecular structure

Student will write down the order

Standard of Performance: Correctly on at least three assessments over a 5-month period

Also presented in the preceding objective is the standard of performance. Standards of performance are used to judge student achievement at a minimum level of performance. They answer the question “How well must a student perform the behavior to demonstrate mastery?” The performance standard can be quantitative or qualitative in nature. The way the preceding objective is written is an example of typical practice items in a textbook.

When developing a precise curriculum that ensures sample items from external assessments are backloaded into the curriculum, a “given” of the contexts will have the item format, as exemplified thus:

Context:

- Given four chemical substances in four different sequences placed in an (a), (b), (c), (d) format and (e) as “none of the above”
- Student will identify the correct sequence, if presented
- Student will bubble in response

When a district wishes to write a curriculum that moves beyond the external assessments, then multiple contexts will be written. For example, educators will use the tested context just presented, the textbook context (e.g., write the answer), and, we would hope, a real world context such as the following:

Context:

- Given 20 chemical substances that are household substances
- Place in order of molecular structure
- Write a page for a household guide using secondary writing rubrics

For educators who are not willing to have the external assessments comprise the totality of the curriculum, we can then develop contexts that require higher

level thought processes needed in real world situations. The way we do this is by changing the cognitive type and the context of the objective.

However, start your curriculum development with the external assessments to get what we call *topological alignment*: a one-to-one match of the test item's content, context, and cognitive type requirements (English & Steffy, 2000).

STRATEGY 2: WHY

When the content standards lack precision, teachers often end up teaching the same or similar student learnings across grades and courses. Such duplication takes valuable instructional time away from new, essential learnings.

Providing various contexts in which the teacher has students practice the content of the objective increases the likelihood that the students will be able to transfer their learning to the various contexts. We know from studies on the transfer of learning (Thorndike, 1924) that when the pedagogy of the classroom mirrors the situation in which we want the student to demonstrate the content, the student has higher success. One context to which we want students to transfer their learning is the external assessment situation. We must teach what is tested (Strategy 1) in the way it is tested and in the context in which it is tested (Strategy 2). When this occurs, we achieve higher measured student achievement on the tests. To attain higher student achievement in multiple situations we must provide practice and ongoing assessments in many contexts.

STRATEGY 2: HOW

Try the following steps to achieve Strategy 2:

1. Complete the steps for Strategy 1.
2. Review each test item from the external assessments, if available, and derive the content and context of the tested objective (by deconstructing the test item). Then determine the cognitive type of the test item (topological alignment). If the tests are norm-referenced standardized tests, obtain a different form of the test and deconstruct the test items.
3. Place these objectives under the derived content standards from Strategy 1.
4. Note common patterns in the context of how questions are stated when reviewing a set of questions, such as "What is the *best* response?" or "Which graphic *best* depicts the reported situation?"
5. Note the number of questions in a particular content set; for example, language arts comprehension assessments typically start with a short passage and then ask students to respond to 15 to 18 multiple-choice questions. This information is important to teachers as they plan how to provide students with practice not only with the content of the assessment but also with the context.

6. Note whether the assessments include different types of assessment contexts, such as short response, extended response, and multiple choice.
7. If the assessments include a variety of types of questions, determine the weighting of the types in determining the final scores.
8. Determine the standard of performance for each objective.
9. Add other contexts as desired, for example, a textbook/instructional resource approach, application, or higher cognitive type in a real world context.

STRATEGY 3

Deeply Align Objectives From External Assessments

Objectives based on external assessments are placed (embedded) in the curriculum in a deeply aligned manner (content, context, and cognitive type).

STRATEGY 3: WHAT

The first two strategies are used to design the curriculum so that you teach what is tested (content) and teach it the way it is tested (context). The third strategy is to design the curriculum in a deeply aligned way so that when the objectives are taught students can transfer that learning to a wide variety of situations. Deeply aligned objectives are those that include a broad range of content and contexts. Whether the objective is backloaded from an external assessment or designed in a frontloaded way, it is an essential process to help students score well on a test and use the learning in life.

If your district has schools with low scores on state tests, it is absolutely imperative that you deeply backload from the external test. Developing a curriculum for deeper alignment has two major steps. The initial step is to deconstruct the test item and develop curriculum objectives that mirror directly the content, context, and cognitive type of the test item. This is called a *surface alignment*. A teacher, when reading the objective, will know exactly what the test item will look like.

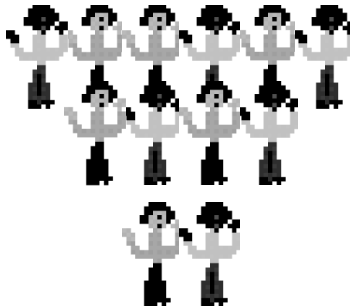
The first type of alignment is called *topological (surface) alignment*—a one-to-one match of the following:

- Content (topic, subject to be learned)
- Context (test situation—conditions under which the students will demonstrate the content)
- Cognitive level required

For example, the following is a fifth-grade mathematics practice test item used by the State of Florida. This test item uses a gridded response question in which students must arrive at a numeric answer independently, then write the answer and bubble in the grid.

Florida Sunshine Example—Gridded Response Question

The gymnastics class stood in rows to have their team picture taken. The photographer told 2 people to stand in the first row, 4 people to stand in the second row, and 6 people to stand in the third row.



The photographer continued the pattern. How many people did he tell to stand in the sixth row?

0	0	0	0
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9

Here is what the objective would look like for topological alignment when you deconstruct the test item:

Objective That Has Been Topologically Aligned to the Fifth-Grade Test Item

Content: Specify the number in a repeated number pattern that requires a skip in the pattern using the simple operations of addition and/or multiplication

Context:

- Given a word problem that is split by a visual depiction of the word problem
- Given a visual depiction that is only part of the problem
- Vocabulary specific to learning that includes ordinal and cardinal numbers, row, continued, pattern
- Student writes answer and then bubbles answer into a number grid

Cognitive Type: Knowledge

Some student gains will be accomplished using topological alignment, but they are minimal, and they do not ensure that the student understands the concept being tested. Furthermore, a classroom situation that focuses only on topological alignment can become boring, almost meaningless, unless a teacher understands that this is only one way the learning should be practiced.

However, if you deeply align the objectives in their design from the test item, you begin to provide a curriculum that not only brings meaning to the learning but also provides for high achievement on state and national tests. The process for deep alignment involves the following:

- Broadens the content to a reasonable range of learning
- Expands alternative ways of assessing the content
- Moves the type of cognition to higher levels

The more you move one or more of these three areas, the deeper the alignment. In this type of curriculum design you identify the situations (including various types of test formats) in which you are preparing students to transfer the content learning. This is done so that when teachers teach the content learning, it will be practiced in various contexts and at several cognitive levels. Such practice increases the probability that students will transfer this learning to multiple situations.

The following is an example of how you would take the topologically aligned objective from the Florida fifth-grade test item shown earlier and write it in a deeply aligned way. Italics indicate the changes that move the objective from topological to deep alignment. Note also the additional contexts.

Objective That Is Deeply Aligned to the Fifth-Grade Test Item

Content: Specify the number, *letter*, or *visual symbol* in a repeated number, *letter*, or *visual symbol* pattern that requires a *next in line* and a *skip* in the pattern using the simple operations of addition and/or multiplication, *subtraction*, or *division*.

Context 1: (*Gridded response*)

- Given a word problem that is split by a visual depiction of the word problem
- Given a visual depiction that is only part of the problem
- Vocabulary that includes ordinal and cardinal numbers, words such as *gymnastics*, *photographer*, *row*, *continued*, *pattern*
- Student writes answer and then bubbles answer into a number grid

Cognitive Type: Knowledge**Context 2:** *(Multiple-choice test)*

- Given a word problem that is split by a visual depiction of the word problem
- Given a visual depiction that is only part of the problem
- Vocabulary that includes ordinal and cardinal numbers and words such as *gymnastics, photographer, row, continued, pattern*
- Student *selects answer from four possible answers with distracters, most frequent errors, and a “none of the above” answer*
- Student *bubbles correct answer on Scantron-type separate answer sheets*

Cognitive Type: Knowledge**Context 3:** *(Multiple-choice test)*

- *Given symbolic pattern*
- *Student selects answer from four possible answers with distracters, most frequent errors, and a “none of the above” answer*
- *Student bubbles correct answer on Scantron-type separate answer sheet*

Cognitive Type: Knowledge**Context 4:** *(Typical textbook approach)*

- *Given symbolic pattern, student writes in answer and explains the answer*

Cognitive Type: *Comprehension***Context 5:** *(Real world pattern simulation, requiring student to show reasoning, per writing objective)*

- Given a word problem depicting a real world situation
- Given a direction to determine a pattern
- Student writes the pattern and a descriptive paragraph explaining the reasoning behind the correct answer
- Paragraph must meet fifth-grade writing rubric

Cognitive Type: *Application***STRATEGY 3: WHY**

Deep alignment provides for a maximization of design and, subsequently, classroom delivery parallelism and, therefore, learning. Educators should maximize the pedagogical and environmental congruence between teaching and the various testing situations a student might experience as well as provide the real use of the learning.

Deep alignment is based on Thorndike’s (1924) concept of *transfer*. Transfer is enhanced when the situational contexts are similar. Thorndike called his idea “the identical element theory” of the transfer of learning. When students practice and learn a skill, knowledge, concept, or process in a certain way, they should be able to

transfer the learning to a similar situation. Because there are many ways students will be challenged to use the learning in school and out, they should practice it in as many of those contexts as possible.

A deeply aligned curriculum and its delivery provide exceptionally high gains in student achievement. This is simply common sense, when you think about it. If you practice a learning to mastery in many different ways, you increase the probability that you can successfully use the learning in many ways. When a deeply aligned curriculum is delivered, such learnings take on more meaning for students as well. One thing we have often noticed in our classroom observations is that much learning is not being taught in a real world way. We strongly advocate and emphasize that one of the contexts to which you transfer learning be a real world situation.

STRATEGY 3: HOW

After accomplishing the steps in Strategies 1 and 2, try the following steps to achieve Strategy 3:

1. Use a deconstructed objective (content, context, cognitive level) and a test item from Strategy 2 to develop a revised objective by broadening the content, by writing various real world contexts, and by changing the cognitive level as desired.
2. Add more contexts to reflect the way you want the learning tested within the district; include contexts that will allow for higher cognitive levels and more authentic assessments.

We highly recommend that no objective be written without the contexts, or without writing at least one district sample test item for each of the contexts identified (see Strategy 10).

STRATEGY 4

Sequence Objectives for Mastery Well Before They Are Tested

Objectives are placed in the sequence of learning at least 6 months to 1 year before the student must first demonstrate mastery on the external test.

STRATEGY 4: WHAT

It is important that students have the opportunity to learn well that which is tested. To *learn well* means that a student has mastered the learning or can go beyond mere

recall with the learned facts or concepts and apply them in a variety of contexts and at challenging cognitive levels. Many times, student learning does not progress beyond the simple memorization of facts, figures, or concepts, and the application of the same in limited contexts. We want our instructional practice to move past surface learning; students' knowledge is useless if it cannot be quickly and efficiently recalled to be used in classroom and real life situations. This strategy deals with changing instructional practice to better facilitate the learning of skills, facts, and concepts and to then provide students with enough time to apply that learning in new and challenging situations (contexts). The application of the content needs to take place over time—ideally, a full 6 months to 1 year before the content is tested—while the students are given intermittent reinforcement.

Strategy 4 is accomplished in two ways: (1) sequencing the learning objectives so they are mastered well in advance of being tested and (2) including the standard of performance within an objective. One of the reasons for including the standard of performance in an objective is to provide teachers with an idea of what constitutes “mastering the content.” This involves the point at which a student not only has committed the learning to memory but also can recall and use the information in many different situations, including a testing situation. For instance, in the example dealing with acid and alkaline provided earlier, the following was the standard of performance: “[Student performs this task] correctly on at least three assessments over a 7-month period.”

STRATEGY 4: WHY

When a student is held accountable on a test for a particular learning, it is only fair that that student has had the opportunity to master that learning in advance of the testing situation and has had adequate time in which to apply that learning in various contexts (practice). When designing the curriculum, many district staff members place an objective into the curriculum the same year it is tested externally; however, objectives need to be placed in the curriculum earlier, so students have adequate time to demonstrate mastery. The standard of performance is the gauge by which teachers can determine whether mastery has been reached.

Students across the country, good students, “cram” for a test, yet 1 year later they remember little of what they learned, because the practice of that learning occurred during a few long study sessions. This is referred to as *massed practice*. In contrast, when students are given more time to learn material and additional opportunities to practice that material (distributed practice), they are more likely to retain their learning and use it in future situations, including testing situations (Woolfolk, 1987).

Our premise here is that we must decide on the important learnings and provide students with adequate opportunities to acquire the learnings and apply them in multiple situations and problems. Furthermore, if these learnings are tested in advance, teachers and students will have the time and practice necessary to master the test situation and question formats.

One of the nice side effects of placing objectives in a teaching sequence well before the objectives are tested is that the curriculum becomes more challenging.

However, one has to be careful to make sure that the instructional resources and textbooks used are aligned with the curriculum (see Strategy 22).

STRATEGY 4: HOW

Try the following steps to achieve Strategy 4:

1. Review the tested objectives and then locate that objective in the curriculum at least 6 months to 1 year earlier in the scope and sequence of learning.
2. Examine norm-referenced test planning documents to determine where the objective is first tested. Most objectives are tested over more than a 2- to 3-year span.
3. Sequence the objectives in the scope in such a way that teachers have plenty of time to move students to mastery.
4. Create a scope matrix across grades so teachers can see when the student is to learn (master) the objective and when it is tested.
5. Create a matrix showing where in each grade/level/course each objective is to be mastered.
6. Choose not to use a scope matrix with the terms *introduce*, *develop*, and *master*. Such words have little meaning for teachers and provide an avenue for them to not be held accountable for student learning in an area.

STRATEGY 5

Provide a Feasible Number of Objectives to Be Taught

There are a feasible number of objectives to be learned so that students can master them. A time range for each is noted. District time allocations for all subject areas/courses are in place from which to compare feasibility.

STRATEGY 5: WHAT

“Less is more,” as the saying goes. Fewer objectives taught in depth have a higher probability of being remembered. It is important that a district curriculum, in its design, has a feasible number of objectives that can be taught to mastery. A district needs to identify the most essential skills to be taught to students and that students are expected to master. When we estimate the time needed to not only

acquire the learning (short-term memory) but also to master the learning (long-term memory), we must limit the number of objectives taught.

Identifying the most essential skills is easy to mandate but difficult to do. What students should learn is based on opinion. We have the opinions of national experts, state committees, and test makers as to what are the most important things to learn. Certainly you need to include as essential those learnings for which a student will be held accountable through assessments. Also, if we could influence you, we would include real world learnings such as those shown in the 1991 report by the Secretary's Commission on Achieving Necessary Skills.

When teaching to mastery, provide numerous practice opportunities over several months to help students retain the learning. The range of time needed to master an objective varies greatly depending on the complexity and meaning of the learning. For example, learning one's ABCs requires only rote memorization, whereas learning how to write an expository paragraph with certain elements requires a synthesis of ideas, and, therefore, greater time to master.

Curriculum designers need to give objectives a best estimate of time—not only time for a typical student to acquire the learning but also the time needed to retain the learning. For example, if we have a 10- to 15-hour range of time per objective and have 150 hours available in a year for the learning, it is easy to see that we could work with no more than 10 to 15 objectives per year in a given subject area.

Design a curriculum around the typical learner and ensure that there are not too many objectives to be taught. Consider developing the curriculum around instructional levels rather than grade levels. This will allow each student to advance to the next level of objectives when ready and stay with his or her age-mates. This concept is known as *continuous progress*, and it works in conjunction with the differentiation of instruction described in Strategy 30. Each student is moved along the continuum of learning objectives at a challenging and appropriate learning pace.

STRATEGY 5: WHY

It is time to be reasonable. We hand a teacher 100+ objectives to teach in a 150-hour period of time and then wonder why the students have not mastered the objectives. It is no wonder voluminous curriculum guides with hundreds of objectives sit on shelves, and teachers, when receiving the state standards, sigh. It's wrong! It's ridiculous! Why does such nonsense persist? It is very understandable why teachers turn to their textbooks and start with page 1. However, textbooks have far too many objectives as well, and their alignment with the tested objectives is usually very poor (see Strategy 22).

Some people call this "March Madness," but this madness happens any time teachers begin to realize that there is no way that they can cover all the objectives they have been told to teach by the end of the year. Some teachers, under pressure, begin to skim even more quickly over some objectives, with the result that students lose opportunities to remember the learnings of the objectives. The same thing happens if teaching is textbook driven. This is illogical.

Although the number of curriculum objectives in the United States is growing, countries whose students are obtaining the highest scores on international tests are teaching fewer objectives but with greater depth. How could it be that fewer objectives are taught, but students remember more? It comes back to the concept of practice as discussed in Strategy 3, teaching for a deeper understanding of content versus rote memorization.

A feasible number of objectives means we have a higher probability that the students will learn what we want them to learn. This strategy works hand in hand with Strategy 4: Design curriculum so that teachers teach the learning well in advance of it being tested. When you have a doable number of objectives and students are learning the skills to mastery, you have a high probability not only that the students will do well on tests but also that they will also remember the knowledge, skill, concept, or process for use in life.

One of the complaints we often hear from teachers is that their students do not have the prerequisite skills expected. In most cases, this is attributed to the fact that students are not learning to master the knowledge or skills taught in the previous grade. When there are too many objectives to be taught, the teachers just move from one objective to the next without allowing for the practice opportunities needed to obtain retention of the learning.

Because students of low-performing schools are often at a disadvantage with respect to the areas taught, limiting the objectives gives them an equal opportunity to score well on external assessments. Why is it that test scores float on demographics? It is not because students from certain demographics are smarter than other students. One contributing factor is the major difference in experiences students bring to the testing situation, experiences that occur outside of the school setting. Giving students access to the learnings for which they are going to be held accountable on tests means we have to be smart about the number of objectives we are going to place in the curriculum for teachers to teach.

Furthermore, we need to make sure that the learnings for which students will be held accountable are in the curriculum. In no way would this limit the teaching of other objectives once the externally tested objectives are mastered.

STRATEGY 5: HOW

Try the following steps to achieve Strategy 5:

1. Identify the tested objectives and embed them in the curriculum.
2. Specify the content, context, and cognitive level of each objective.
3. Broaden the range of the content, context, and cognitive level of each objective.
4. Place the objectives early in the learning sequence before testing externally.
5. Establish curriculum time allocation guidelines.

The steps in establishing these guidelines are as follows:

- a. Establish *curriculum time allocations*—the amount of instructional time to be devoted to each subject area/course for every grade level. For example:

<i>Grade level</i>	<i>Subject area</i>	<i>Time allocation daily</i>
2	Language arts (including SSR)	150 minutes (15 minutes)
	Mathematics	90 minutes
	Social studies	90 minutes 3 times a week
	Science	90 minutes 2 times a week
	Physical education/health	50 minutes 2 times every 6 days
	Music	50 minutes 2 times every 6 days
	Art	50 minutes 2 times every 6 days

- b. Determine a probable range of time for each objective for a typical student to learn it to mastery; estimate the amount of acquisition time and practice time needed for retention of the learning.
- c. Total up the number of hours for a subject area/course in a given semester or year.
- d. Compare the number of hours to teach the objectives you want to teach with the number of available instructional hours. You have too many, right? Now that you have found that you do not have enough time, eliminate some of the objectives. (This is the hard part.) Eliminate last those areas tested most frequently.
- e. Work across grade levels as this project is accomplished, because more time may be found at other grade levels. Remember to place an objective where it is first tested, not in every grade in which it is tested.
- f. Publish the content standards and objectives for teachers, parents, and students.

Learning can and does take place in an integrated way in school. A student learns more about reading in social studies and uses more math skills in science. Our approach to determining the number of objectives is linear, yet we expect integrated teaching. However, we have found that when you complete Strategy 5 in a subject-specific way, you get closer to a feasible number of objectives. If teachers find they have more time to teach more objectives than required, they should move along the continuum of objectives.

STRATEGY 6

Identify Specific Objectives as Benchmark Standards

Some of the objectives have been identified as district benchmark standards to be used as feedback for learning progress, program value, curriculum redesign, promotion, and so on.

STRATEGY 6: WHAT

A *benchmark* is a milestone you are trying to reach. Benchmark standards serve as milestones for a particular level of learning—a goal to be attained. Benchmarks should be a sampling of the curriculum objectives that could be used to ascertain accomplishment of learnings in a group of grades, a program, or a curriculum.

These district benchmarks typically are for grade spans, such as at the end of Grades 3, 6, 9, and 11. They often are set a year in advance of any state benchmark testing. Because we suggest that any objective tested be placed early in the sequence of learning (see Strategy 4), it makes sense that the district benchmarks would be a year earlier than the state benchmark assessments.

Some districts are beginning to develop benchmark standards for every year because of annual high-stakes testing. Whatever you do must in part be determined by the consequences of students not performing well on state and national assessments. Recently, benchmark standards have been required by states as a means to determine retention of students in a grade. This makes placement of learnings early in the curriculum even more critical to ensure that no student is retained.

The frequency with which benchmarks are assessed will depend on how you plan to use the information. We hope that it will not be for retention of students in grades but rather to ensure promotion to the next grade of all students and for program and curriculum decision making. In the latter situation, only a random sampling of students need be assessed.

There are two types of benchmark standards: (1) benchmark content/objective standards and (2) benchmark performance standards. They go hand in hand. The first is what we want students to learn; the second is how that learning is measured. The following definitions explain them better:

Benchmark content standards and objectives are selected student objectives that will serve as a summative point at certain times in the schooling of a student. They describe what students will know or be able to do, or attitudes they will hold after completing an entire program of study or groups of years/courses.

Benchmark performance standards state the evidence required to document attainment of the benchmark content standard and/or objective and the quality of

student performance deemed acceptable (e.g., mastered, or a rubric of advanced, proficient, basic, and fail levels).

For more information on performance benchmark standards, see Strategy 11.

STRATEGY 6: WHY

This strategy is difficult to discuss, because much of the public debate surrounding benchmarks centers on the belief that students should be retained in a grade if they have not mastered a certain set of learnings. Research is quite clear about the negative impact of retaining students: Retention damages self-concept, retention creates a negative attitude toward school, retained students are more likely to drop out of school, and the learning problems that lead to retention are rarely addressed (Owings & Magliaro, 1998).

Students should not be penalized because they have not been taught successfully. Benchmarks need to be used to assist us in helping students, not punishing them. The century's worth of research in this area is irrefutable. You will need to be principled about your beliefs in this arena. Furthermore, you will need to set up both a design and delivery of curriculum that will increase the likelihood that students who might not reach the benchmarks are identified early, so that an intensive approach to student promotion is in place. In some ways, the focus on retention in so many states moves us to do the work we should have been doing anyway—providing high success for all students in their achievement.

Our approach to benchmarks in this strategy is not for the purpose of retaining students in school; instead, it is to underscore that educators should have expectations of learning, goals to be accomplished. These benchmarks may be used to determine the effectiveness of our programs, our curriculum, and our educators.

If we use benchmarks in a data-gathering approach to help us improve, they will help us determine when we need to revise the curriculum or make it more challenging. Benchmarks can be used to set school improvement goals, faculty goals, and personal student achievement goals.

STRATEGY 6: HOW

Try the following steps to implement this strategy after accomplishing the steps for Strategies 1 through 5:

1. Peruse the objectives to determine which of all of the objectives you will use as benchmark standards.
2. Use the state and national high-stakes assessed objectives that are most frequently tested and that typically should have been mastered prior to a specific grade level.

3. Establish retention benchmark standards that are mainly from the previous grade. This prevents one from unfairly penalizing a student. However, expect the grade-level benchmarks for assessing educator success.
4. Revise the benchmarks as students learn.
5. Publish the benchmark objectives for teachers, parents, and students.

STRATEGY 7

Place Objectives in a Teaching Sequence

The objectives are developed in a teaching sequence rather than in the order of state standard/framework strands and are presented to teachers in the same manner.

STRATEGY 7: WHAT

Once the objectives have been identified, it is important to put them in some logical sequence: the order in which the objectives are to be taught. For years, curriculum designers thought there were a tremendous number of dependencies from one learning to another. Through testing this belief it has been established that most learnings have few *dependencies*, that is, one learning required before another. For example, for many years it was thought that addition and subtraction needed to be taught before multiplication and division. We have now found that this is not the case; these basic mathematical operations can be taught in a variety of sequences.

However, it is still important to put the objectives in some sort of acquisition and maintenance sequence for teachers. The first sequencing of objectives needs to be tied to state and national tests and when curriculum designers want mastery to be achieved (see Strategy 4). After that, a logical approach can be used.

We suggest educators follow the typical sequence in a textbook; however, do not suggest the teacher tackle all the objectives in a textbook or other instructional resource; this would far exceed what is feasible (see Strategy 5). If, however, it is feasible, then there is less skipping around.

In addition to sequencing the learning early, it is important to sequence the objectives across grade or instructional levels. Such sequencing provides not only for connectivity from one type of objective to another but also for the increasing complexity of a concept through a spiraling type of approach.

STRATEGY 7: WHY

Most state standards or frameworks are built around strands, for example, number sense. One should not teach an entire strand of a subject area and then

move on to another strand. Instead, teach multiple strands at the same time. If curriculum documents do not provide the sequence of objectives, then this decision is left to teachers. Such a decision can increase the probability of a disjointed and fragmented delivery of the objectives. Furthermore, it would not provide for the integration of objectives across disciplines when students have multiple teachers.

Sequencing the objectives in the order in which they tend to show up in a textbook helps teachers become aware that they are not to teach everything in the textbook. We could gradually move teachers away from being textbook driven by such an approach. We could also increase the possibility of connectivity from one teacher to another in the same grade and the consistency in teaching the same course throughout a district.

Coordination means that the student has access to the same curriculum when in the same course or grade/instructional level, regardless of the school or teacher. For instance, in one school district there were 11 teachers of U.S. history. The course catalog across the high schools had the same course title and course description. However, when the objectives were examined, 11 electives were found. The objectives were not the same; there was minimal coordination in place.

Moreover, the sequence of objectives needs to be designed in an articulated way from one grade to another. This vertical alignment is known as *articulation*, and it provides a flow or sequence from one objective to the next. Providing this articulation increases the likelihood of coordination or horizontal alignment as the curriculum is delivered. You need to decide how much vertical articulation and horizontal coordination you are going to have.

STRATEGY 7: HOW

Try the following steps to achieve Strategy 7:

1. Place the objectives in a logical teaching sequence once they have been decided on.
2. Build into the sequence both acquisition and mastery practice expectations. Some educators describe this as a type of curriculum mapping, although the formal term *curriculum mapping* has a much greater meaning in educational literature, as a type of gap analysis between what is being taught and what is supposed to be taught.
3. Sequence all objectives across grade or instructional levels and across courses.
4. Place the results in a matrix and indicate a probable timetable based on the estimated time needed to master the objective based on the typical student (see Strategy 5).

STRATEGY 8

Provide Access to Written Curriculum Documents and Direct the Objectives to Be Taught

The school-based administrators and teachers have in their possession current curriculum and instructional documents (e.g., scope and sequence charts, courses of studies, guides) for all curricular areas. Policy directs teachers to teach to the objectives and administrators to monitor their implementation.

STRATEGY 8: WHAT

A simple step not often taken in school districts is ensuring that all the users of the curriculum have access to it. This means not only that teachers and other educators should have access to the curriculum but also that the principals and other site-based administrators should have access. All teachers must have the scope and sequences of objectives for every subject and every grade; these need to be located in each written curriculum document.

However, staff members also need copies of matrixes of aligned resources and assessments for areas they do not teach. Each school and district office should have a professional library so teachers have access to the curriculum taught by other staff members. As curriculum is placed online, access becomes even easier.

Documents need to be available for students and parents as well. The scope and sequence of learning objectives needs to be on the district Web page and on the school Web page.

A second point in Strategy 8 is to determine and direct curriculum, assessment, and instructional expectations. It is essential that staff understand that the curriculum is the mission of the school. The curriculum is the very work plan of the organization. Assessments must be aligned with the curriculum, and teachers are to teach the curriculum.

To ensure the alignment of the curriculum, teaching, and assessment, the following directive statements should appear in either district board policy or administrative regulations:

- An aligned written, tested, and taught curriculum
- Board adoption of the curriculum
- Accountability through roles and responsibilities
- Written curriculum for all subject/learning areas
- Periodic review of the curriculum
- Textbook/resource alignment to curriculum and assessment
- Program integration and alignment with curriculum
- Vertical articulation and horizontal coordination
- Training for staff in the delivery of the curriculum

- Delivery of the curriculum by teachers
- Monitoring of the delivery of the curriculum by principals
- Equitable student access to the curriculum
- A student and program assessment plan
- Use of data from assessment to determine program and curriculum effectiveness
- Resource allocation tied to curriculum priorities
- Data-driven decisions for the purpose of increasing student learning

Moreover, it needs to be clear which curriculum design decisions should be system based at the district level and which should be school based. District-level curriculum design decisions are ones that are considered *tightly held*, meaning that everyone in the district is required to abide by them. These are usually board approved and deal with the mission of the district, standards, goals and priorities, student objectives, and districtwide student assessment. Curricular delivery decisions are often made at the classroom level, and these are considered *loosely held*. These include decisions about the means teachers will use to enable students to reach mastery. They include instructional strategies, groupings, staffing, resources, and textbooks.

The curriculum—what we want students to learn—and its assessment are district responsibilities. These can be decided collaboratively, but they are non-negotiable once determined. How the curriculum is delivered could be the decision of a school, grade, department, or even teacher. Before a district moves to this division of responsibility, however, a focused, precise set of learning objectives must be in place along with locally aligned assessments (see Strategies 10, 11, and 12).

In addition, the roles and responsibilities of staff regarding the design and delivery of the curriculum need to be in place. These directives should be obvious through job descriptions, appraisal processes, and student progress reports.

A third critical point in this strategy is to develop a format of the curriculum that is easy for users to understand. Provide a menu of ways users could access the information based on their preferences. Some teachers, for instance, will want only the scope and sequence of objectives. Other staff members will want example assessment items and time frames. Some staff members may want all of these plus information regarding aligned resources (see Strategy 22).

STRATEGY 8: WHY

Staff members typically will have access to the curriculum when it is initially rolled out. As the curriculum evolves, however, the revisions are not provided in a systematic way to staff. Furthermore, new staff coming on board in later years are sometimes not given the documents. It is amazing how many school districts have not provided teachers with copies of the district's curriculum documents. Teachers often report that they requested these documents several times and then gave up.

Our own observations are that principals and other school-based administrators rarely have complete copies of the curriculum in their offices. Furthermore, most school-based administrators have little or no knowledge of the curriculum. It is essential that the individuals who are supervising the work *know* the work. Most senior officers do not expect this requirement of their administrative core.

In examining board policy and administrative regulations, we came across volumes of directives, but few focused on the mission of the organization. Seldom do we come across directives requiring a written curriculum. Furthermore, policies are weak on aligned assessment expectations. Most policies do not require teachers to teach the curriculum. Policies or administrative regulations need to clearly spell out the responsibilities of curriculum, assessment, and instruction.

Job descriptions are often weak in setting up job functions regarding curriculum and its implementation. Teacher appraisal systems often fail to include the expectation that teachers are to teach the curriculum. Principal evaluation systems infrequently include the responsibility of monitoring the curriculum. (For more ideas, see Strategy 39.)

Student progress reports and grade reports rarely include the student objectives to be learned; instead, they call for a vague report on a few areas and for a grade.

Last, it is important to provide the curriculum and supporting information to teachers in a form that they will use. "One size fits all" is not a rational approach. Discussions with the users of the curriculum will tell you what they want.

STRATEGY 8: HOW

Try the following steps to achieve Strategy 8:

1. Write and adopt policies and/or approve administrative regulations that direct the design of the written curriculum, philosophical design parameters, assessment expectations, and the expectation that teachers teach the curriculum and principals monitor its use.
2. Review job descriptions of all educators to ascertain whether critical competencies regarding the curriculum and its implementation are included. Revise the job descriptions as needed.
3. Examine the teacher and principal appraisal systems to ensure that there are expectations regarding the teaching and monitoring of the curriculum.
4. Design student progress reports around the curriculum objectives as well as a specified grade.
5. Set up a process to ensure that every instructional staff member has access to a complete and current set of curriculum documents.
6. Develop a menu of ways the curriculum can be packaged to assist users in its implementation.

STRATEGY 9

Conduct Staff Development in Curriculum and Its Delivery

School-based staff members receive quality training in the curriculum scope and sequence and in the use of curriculum documents.

STRATEGY 9: WHAT

This is a commonsense strategy. Unfortunately, most districts do not even come close to providing the training necessary to prepare teachers and other staff to understand the need for a curriculum, its design, and the expectations and strategies for its implementation.

Here are some initial ideas for minimal training you need to consider:

- If you embark on a curriculum development effort, the individuals selected for this design task must have the skills needed to perform this function.
- Designers need to understand the various audiences that will use the curriculum and the various ways of packaging the curriculum, including an online curriculum for parent, student, teacher, and community member use.
- Attitudinal training is needed to ensure that teachers have a commitment to teaching the curriculum.
- Training in how the curriculum was designed and the philosophical underpinnings of its design, including alignment, is essential.
- Once the curriculum is designed, teachers, administrators, instructional aides, and other educators need to know how to enter the curriculum and how to review and use the various curriculum documents available.
- Decision-making strategies for how to implement the curriculum are absolutely imperative for teachers in ensuring the curriculum is taught.

It is critical that the curriculum design trainers recognize approaches to adult learning and establish a learning community environment. The Curriculum Management Improvement Model Criteria are as follows:

- Provides for organizational, unit, and individual development in a systemic manner
- Is based on a careful analysis of data and is data driven
- Focuses on proven research-based approaches that increase productivity
- Provides for three phases of the change process: (1) initiation, (2) implementation, and (3) institutionalization
- Is based on human learning and development as well as adult learning
- Uses a variety of staff development approaches

- Provides the follow-up and on-the-job application necessary to ensure improvement
- Requires an evaluation process that is ongoing, includes multiple sources of information, focuses on all levels of the organization, and is based on actual cases of changed behavior

STRATEGY 9: WHY

Most curriculum is designed in a hurried way over the summer, by well-meaning people who, with little or no training, attempt to design a complex curriculum in a short period of time. The result is, in almost all cases, a curriculum that is typically

- Misaligned to state and national testing scenarios
- Poorly written (goals and objectives have little precision)
- Fragmented and often duplicative
- Haphazardly articulated across grades and courses
- Overstuffed with too many objectives to be addressed within the time frame available

To write a clear, valid, and aligned curriculum requires technical curriculum-writing skills. It is imperative that the curriculum designers either have the skills or are trained in the skills to carry out the task. At a minimum, the individuals need to be analytical people with a broad understanding of the learnings across grades and disciplines. The ability to write objectives, spiral these objectives across the grades, and write aligned assessments are basic skill requirements.

Curriculum designers need to consider the various audiences who will be using the curriculum and design user-friendly documents for them. What will parents want to know? How will students use the knowledge of what they are to learn? How will teachers understand the relationship between what they are accountable to teach in relation to what other teachers are teaching? Establishing these essential questions is a first step in this process.

We have found that in most of the schools we have visited across the country, staff members are seldom committed to teaching the district curriculum; instead, staff members are textbook committed. This is in part because educators have not focused on the need for a curriculum and required that it be followed. Training in the “why” of the curriculum, its philosophical framework, and the need to follow it must take place before it is ever put into the hands of staff members.

We do not want doorstep curriculum; instead, we want a living and dynamic curriculum. There are so many reasons for teachers to use the curriculum that it would take several pages to present them, but three of the most pressing reasons are the need to

- Focus teaching on the most essential learnings, including those tested by the state or other external agencies, so that students have the opportunity to thoroughly learn ideas that will be tested.

- Connect learnings to provide a smooth flow for students across multiple teachers and to ensure students have the prerequisite learnings needed from grade to grade.
- Provide equal access to the same continuum of learning objectives even though these may be delivered in different ways. It is the right of the student to have equal access to as well as equal success with individualized strategies.

Unfortunately, and for a variety of reasons, many staff members do not have this commitment. Teaching staff are for the most part good people who work hard every day. We need to provide them with the training opportunities to achieve the expectation that faculty are not individual entrepreneurs but rather employees of the system expected to deliver the planned curriculum. K–12 public schools should not be a place where academic freedom prevails.

After the curriculum is designed and staff members have a commitment to teach it, provide training in its use. Training staff members in how to house and manage the curriculum documents—whether online, on a computer disk, or via hard copy—is critical; after this, train teachers in the various ways they can use the documents to direct their teaching.

STRATEGY 9: HOW

Try the following steps to achieve Strategy 9:

1. List all the various audiences who will need training in the curriculum and the purposes of the training.
2. Specify the competencies needed for the various audiences and purposes.
3. Establish ways to diagnose the various competencies to differentiate the staff members' development opportunities.
4. Design evaluation processes to provide feedback on the improvements of the training design as well as to assess individual proficiencies after training.
5. Develop the training opportunities around the National Staff Development Council (2001) standards.
6. Set up the timing of the training to provide staff members a minimum of six months to prepare before they are to use the curriculum.
7. Implement the training and evaluate it.

ANALYSIS OF STANDARD ONE

Now it is time for you to evaluate the status of your school or school district on *Standard One: Establish a Well-Crafted, Focused, Valid, and Clear Curriculum to Direct*

Teaching. For each strategy, think about the current status of your situation with regard to these strategies and whether the status is adequate. Then determine what changes are needed to meet the criteria of Standard One. Use the spaces below to record your observations.

<i>Strategy</i>	<i>Current status</i>	<i>Changes needed</i>
1. Embed external assessment target objectives in the written content standards and link them to state standards.	<input type="checkbox"/> Adequate <input type="checkbox"/> Not adequate	
2. Have clear and precise district curriculum objectives—content, context, and cognitive type.	<input type="checkbox"/> Adequate <input type="checkbox"/> Not adequate	
3. Deeply align objectives from external assessments.	<input type="checkbox"/> Adequate <input type="checkbox"/> Not adequate	
4. Sequence objectives for mastery well before they are tested.	<input type="checkbox"/> Adequate <input type="checkbox"/> Not adequate	
5. Provide a feasible number of objectives to be taught.	<input type="checkbox"/> Adequate <input type="checkbox"/> Not adequate	
6. Identify specific objectives as benchmark standards.	<input type="checkbox"/> Adequate <input type="checkbox"/> Not adequate	
7. Place objectives in a teaching sequence.	<input type="checkbox"/> Adequate <input type="checkbox"/> Not adequate	
8. Provide access to written curriculum documents and direct the objectives to be taught.	<input type="checkbox"/> Adequate <input type="checkbox"/> Not adequate	
9. Conduct staff development in curriculum and its delivery.	<input type="checkbox"/> Adequate <input type="checkbox"/> Not adequate	