HANDBOOK 3:
Evaluating the Curriculum

CONTENTS

A Handbook in the Collaboration for Excellence Series
North Dakota Division of Independent Study
Office of Curriculum and Improvement

This handbook is one of a series published for the project Collaboration for Excellence: The North Dakota Curriculum Project.

These handbooks represent a team product. A major contributor was Ann Clapper, who was previously Director of the Office of Curriculum Leadership and Improvement. Numerous educators in North Dakota reviewed all these materials and made valuable suggestions. Especially helpful were the following North Dakota educators: Janet Edlund, Dakota Prairie High School; Cheryl Kuhas, North Dakota Department of Public Instruction; Karen Nelson, Hettinger; Sandra Willprecht, Forman. Allan A. Glatthorn, Distinguished Research Professor at East Carolina University, served as consultant to the project.

It should be emphasized that the processes suggested here should be seen only as recommendations, not mandates. The authors value the ability of North Dakota educators to develop their own processes that reflect the needs and resources of their schools.

1. UNDERSTANDING THE TYPES OF CURRICULA

Curriculum evaluation is a central component of a comprehensive curriculum project. However, it is not a single process; instead, as explained below, the process varies with the type of curriculum.

Reviewing the Types of Curricula

Nine types of curricula can be identified:

- **Hidden**—what students learn from the school's values and policies
- **Excluded**—the curriculum content that has been omitted
- **Recommended**—the content recommended by experts
- **Written**—the curriculum as it appears in state and school system documents
- **Taught**—what teachers actually teach
- **Learned**—what students learn
- **Supported**—the curriculum as it appears in texts and software
- **Tested**—the curriculum as it appears in tests and other performance measures
- **Managed**—the curriculum as it is administered (identified through a district audit)

This handbook focuses on the evaluation of five of these types: the written, taught, supported, tested, and learned. Handbook 4 explains how to evaluate the managed curriculum with a curriculum audit.

Planning for a Comprehensive Evaluation

The Subject Area Committee (SAC) should propose a curriculum evaluation design to the Curriculum Planning Council for their review. A sample of one design is shown in Display 3-1. Part of the design has been completed, as an example of what should be included.

The information in Display 3-1 should not be construed to mean that all five of these curricula types must be completed with every curriculum project. The comprehensiveness of the design will depend on the resources available and the needs of the school system. If it is decided to omit one or more of the evaluations, the task force and the council should determine the district's priority needs. In general, most school systems will find that the top priority should be given to the learned, the taught, and the written.

Display 3-1:
SAMPLE CURRICULUM EVALUATION PROPOSAL

SUBJECT: Mathematics

CURRICULUM TYPE	WHEN?	BY WHOM?	HOW?
Written	3/01--11/01	External consultant Task force Teachers	Document analysis Document analysis Pilot test
Taught			
Supported			
Tested			
Learned			

This form should be completed by the Subject Area Committee and submitted to the Curriculum Planning Council for their review.

2. EVALUATING THE WRITTEN CURRICULUM

The written curriculum includes the documents prepared by the Department of Public Instruction, the school system, the school, and the classroom teacher. For purposes of achieving depth, this chapter recommends a process for evaluating the written curriculum documents produced by the school district.

To evaluate the written curriculum, the task force should evaluate the Scope and Sequence Chart and the Curriculum Guide.

Evaluating the Scope and Sequence Chart

The Scope and Sequence Chart is a planning chart for one subject, grades K-12 (see Display 3-2). As explained more fully in Handbook 8, the Scope and Sequence Chart will be used to develop the more specific Curriculum Guide. To evaluate the Scope and Sequence Chart, the task force should:

(1) Complete the survey form in Display 3-3. When discussing and completing the survey, task force members should bring a critical perspective and take the time to answer all the questions.

(2) Arrange for classroom teachers and an external consultant to complete the same survey. Display 3-4 gives one process that may be followed when having teachers evaluate the chart.

(3) Revise the Scope and Sequence Chart based on the evaluations by the task force, teachers, and external consultants.

Display 3-2:
Sample Scope and Sequence Chart

Down the left side of the chart are the curriculum standards. Across the top are the several grade levels. In each cell, the benchmarks for that standard and that grade are noted.

Subject: Mathematics

Standard	**Grade Level**												
	K	1	2	3	4	5	6	7	8	9	10	11	12
1													
2				*[Benchmarks are noted in the cells]*									
3													

Display 3-3:
Scope and Sequence Chart Evaluation Survey

Please assist us in developing a high quality scope and sequence for mathematics by reviewing the Scope and Sequence Chart and then completing this survey. To answer each question, circle one of the following grades:

A: Fully meets this standard

B: Almost fully meets this standard

C: Partially meets this standard

D. Barely meets this standard

F: Does not at all meet this standard

?: Do not know if it meets this standard

Does the Scope and Sequence Chart for Mathematics . . .	**Rating**					
1. Seem clear, uncluttered, and easy to use?	A	B	C	D	F	?
2. Provide for curriculum depth?	A	B	C	D	F	?
3. Note only the mastery benchmarks, those outcomes that are likely to be tested and require special emphasis at a given grade level?	A	B	C	D	F	?
4. Indicate a balance in content load among the several grades, given the maturity of the students at a particular grade?	A	B	C	D	F	?
5. Indicate an adequate concern for reinforcement of skills and knowledge, without excessive repetition?	A	B	C	D	F	?
6. Indicate effective coordination from grade to grade?	A	B	C	D	F	?
7. Specify benchmarks for a given grade level that are developmentally appropriate?	A	B	C	D	F	?
8. Indicate standards and benchmarks that correspond to those recommended by the Department of Public Instruction?	A	B	C	D	F	?
9. Place benchmarks in a manner congruent with high stakes tests?	A	B	C	D	F	?
10. Sufficiently reflect the recommendations of scholars in the field?	A	B	C	D	F	?

Display 3-4:
Procedure for Teacher Evaluation of Scope and Sequence Chart

1. The task force identifies representative teachers of that subject from all grade levels. A group of 15-25 would be desirable.
2. The chairperson of the task force explains the key elements of the Scope and Sequence Chart, giving copies to all those present. The chair also explains the items in the Evaluation Survey. The participants have an opportunity to ask questions of clarification.
3. After appropriate study, the participants complete the survey.
4. Two members of the task force quickly tally the results. The mean score for each item can be easily determined by assigning the following points to each response: A=5, B= 4, C= 3, D= 2, F=1 and dividing the sum by the number surveyed. Do not count the "?" responses.
5. The chair leads the group in an analysis of the survey results, inviting the participants to explain more fully what seem to be weaknesses of the chart.

Evaluating the Curriculum Guide

In the process recommended here, the Curriculum Guide is based on the Scope and Sequence Chart. For this reason such critical issues as grade placement and grade-to-grade coordination would have been dealt with in the evaluation of the Scope and Sequence Chart. If they have not, then they should be assessed in the review of the guide. The special criteria to be used in assessing the guide are:

- Is the guide easy for teachers to use?
- Is the guide formatted for flexible delivery?
- Does the guide include only those elements that teachers need?
- Is the guide clearly and effectively written?
- Does the guide have a professional appearance?

Two issues relative to the Curriculum guide need special analysis: content and format.

Content

What should the district guide include? This is a matter for local determination. The guide may include several elements:

- A copy of the Scope and Sequence Chart
- The mastery benchmarks and their associated classroom learning outcomes. Remember that the classroom learning outcomes are the more specific delineations of the benchmarks.
- The curriculum philosophy

- The curriculum vision
- The texts and other materials
- Suggestions for student assessment
- Sample units of study
- The district's educational goals
- A synthesis of research and best practice for teaching that subject

Many guides also include for each outcome a recommended teaching strategy. This practice seems unwise. It suggests that there is one best teaching strategy for each outcome. And it implies that teachers' skills can be developed simply by listing them in a guide.

In determining which elements to include, developers should assess teachers' needs and preferences, keeping in mind the importance of a "teacher-friendly" guide.

Format

The flexible delivery criterion also needs special comment. Instead of packaging the guide in the standard form of a large loose-leaf notebook containing the curricula for all the grades, the council should find out from teachers which format they prefer. Some options:

- Electronic version
- Grade-level version
  - Delivered to elementary teachers as a grade level curriculum; thus, a fifth grade teacher would receive fifth grade language arts, science, mathematics, and social studies.
- Secondary-level version
  - Packaged for secondary teachers so that they receive the curriculum for three grades and one subject; thus, a seventh grade science teacher would receive the science curriculum for Grades 6, 7, and 8.

Review

The evaluation of the newly developed Curriculum Guide should be performed by the task force and then by a representative group of teachers, who would review it before it is published. If funds are available, an external consultant might also be asked to evaluate both the guide and the Scope and Sequence Chart, since they are so closely related. When the new curriculum is being piloted, it should also be assessed by those piloting the program.

3. EVALUATING THE TAUGHT CURRICULUM

As explained previously, the taught curriculum is the one that the teacher actually teaches; some experts call it the **enacted curriculum**. Regardless of the term, it requires a very special kind of evaluation.

Evaluating the Taught Curriculum as Planned

The first step is to assess the taught curriculum in the planning process. As explained in Handbook 9, it is recommended that principals provide time for teachers to work together in making plans for the term or the school year. Once developed, these plans should be reviewed both by team leaders and the principal to be sure that the long-term plans provide for in-depth understanding of the mastery benchmarks for that grade. The criteria for evaluating these plans are in Display 3-5.

Display 3-5:
Criteria for Evaluating the Taught Curriculum as Planned

Does the taught curriculum as planned . . .

1. Reflect and correspond with the school calendar?
2. Note significant events likely to influence teaching and learning?
3. Organize the benchmarks into units, with titles clearly stated?
4. Sequence the units appropriately?
5. Allocate time appropriately?
6. Ensure that all benchmarks are included?
7. Reflect the importance of depth of understanding?

Evaluating the Taught Curriculum in Progress

A two-step process is recommended for evaluating the taught curriculum in progress.

(1) Informal Evaluation

-- In this type of evaluation, the principal makes brief informal drop-in visits, lasting no more than ten minutes. One significant advantage of these informal observations is that they enable the principal to monitor implementation of the curriculum. In such visits the principal should note what is being taught. If the principal then determines that the topic taught was not included in the Curriculum Guide, then the principal should confer briefly with the teacher to understand the reason for the divergence from the approved curriculum. Note that diverging from the approved curriculum to teach enrichment units is recommended.

(2) Formal Evaluation

-- If the principal believes that a teacher is frequently diverging from the planned curriculum due to poor planning, then a team leader or supervisor should be asked to make a more formal observation that focuses on the taught curriculum. A suggested set of criteria is in Display 3-6. The observation should be followed by a conference, in which the observer should help the teacher solve the problem of too much divergence.

Display 3-6:
Criteria for Evaluating the Taught Curriculum in Progress

1. Is the content of the lesson related to the approved curriculum?
2. Does the lesson aim to develop in-depth understanding?
3. Does the teacher demonstrate in-depth knowledge of the content?
4. Does the teacher make the content meaningful to the students?
5. Does the teacher adapt the approved curriculum to the special needs of the students?

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4. EVALUATING THE TESTED CURRICULUM

The tested curriculum usually includes four kinds of tests of student learning:

- standardized, norm-referenced tests,
- state tests,
- district tests, and
- classroom tests.

The focus of this chapter is on classroom tests, since they play such a major role in student achievement and are relatively simple to improve.

Helping Teachers Develop and Evaluate Classroom Tests

Teachers will need the assistance of the principal in developing and evaluating classroom tests. If the principal can help teachers develop more valid classroom tests, then both can rely upon test results with greater confidence. Developing valid and reliable classroom tests is an important and complex skill. To develop better tests, teachers and principals should follow these steps.

(1) **Assess the constraints and resources.**
   -- This first step examines some practical considerations—what constraints will place limits on the nature of the test and what resources are available to help the teacher develop the test?

(2) **Analyze what was taught.**
   -- There are several useful ways of analyzing what was taught. One useful method is illustrated in Display 3-7. This method uses categories of objectives that correspond with the way teachers typically conceptualize units: terms; facts and information; big ideas; skills and processes; critical thinking and problem solving.

(3) **Determine which objectives will be tested.**
   -- Most teachers do not want to take the classroom time needed to test everything that was taught. The teacher should select from the complete list of taught material those items that they believe should be tested, considering such elements as the importance of that item for future work, the amount of time devoted to teaching it, the resources available, and the time required for testing it.

(4) **Determine relative weights for all objectives to be tested.**
   -- The weights serve three purposes: they help the teacher prepare the test; they help the students allocate time during the test; and they aid the teacher in scoring the test. The easiest way to indicate relative weights is with a percentage figure.

Display 3-7:
Unit Analysis Form Example

1. List the terms taught.
   - natural resource, renewable resource, pollution, environment, conservation, water treatment plant, sewage treatment plant, phosphate, algae, solar energy
2. List the facts and information taught.
   - Environmental Protection Agency is a government agency that monitors compliance with laws
   - Taking a shower uses 95 liters of water; taking a bath uses 133 liters
   - The manufacture of plastics requires the use of strong chemicals and high temperatures
   - Between 1980 and 1985 the world population increased by about 550 million people
3. List the big ideas taught.
   - The water cycle
   - Acid rain
4. List the skills and processes taught.
   - Interpret a table of data
   - Identify common causes of air pollution
5. List the critical thinking and problem-solving skills taught.
   - Analyze the trade-off involved in requiring factories to reduce pollution--cleaner air results in higher prices for the consumer
   - Explain how one person can make a difference in conservation

The unit analysis form can be distributed to students to help them prepare for the test; it can also be used by the teacher as a means of guiding the review work.

(5) **Write the test items.**

-- The information collected thus far is now used to write test items. The teacher first determines the type of questions to be used for each objective, weighing both issues of validity (which type will most validly assess learning?) and utility (which type will be easiest to score?). Display 3-8 lists the advantages and disadvantages of the various item types.

Display 3-8:
Item Types

Item Type	Advantage	Disadvantage
Essay	Measure the ability to reason	Difficult to score
Fill-in-the-blank	Best for sampling knowledge	More time-consuming than other short-answer types (both for student and teacher)
True-false	Easy to score	Permit guessing; do not validly assess objectives that cannot be so dichotomized
Matching	Easy to score	Permit guessing
Multiple choice	Easy to score	Permit guessing
Performance/demonstration	Yield valid information about learning	Difficult to construct and score

(6) **Assemble the test.**

-- In assembling the test, the teacher has several choices about how questions should be ordered and grouped.

* By content; for example, all the questions dealing with the battles of the Civil War could be grouped together.
* By behavior desired, such as grouping all the knowledge-comprehension items together.
* By difficulty, beginning with the easier questions, especially recommended when the items are relatively homogeneous with respect to content and behavior.
* By item type; recommended when different kinds of items are used (such as true-false, multiple choice); this makes it easier for the teacher to give directions and the student to follow them.

(7) **Write clear directions.**

-- The test developer should use simple language that the students can read and understand. The teacher should write full directions; not relying on the explanations given orally when administering the test. He or she should also indicate the point value. Here are examples of unclear and clear directions.

Unclear:

Match the names of the generals with the battles they led.

Clear:

Below are listed five generals. Each has a blank space next to his name. Find in the list below the battle that he led. In the blank space write the letter that is next to the battle

he led.

(8) **Review and revise the test.**

-- The teacher should give the test to a colleague and ask him or her to identify any potential problems. The teacher should also review the test to be sure that the directions are clear. As a final check, the teacher should take the test him or herself to check on the time required and the clarity of directions.

To emphasize the importance of quality classroom tests, the principal should schedule a conference with each teacher and use that conference to examine collaboratively a test that the teacher has given and graded and one that the teacher plans to give. The criteria shown in Table 3-9 can be used by the teacher in developing classroom tests and by the principal in assessing their quality.

Display 3-9: Criteria for Evaluating Classroom Tests

Format, Style, Directions

1. Does the test have a professional appearance and use a clear format?
2. Is the test written clearly and correctly, free of spelling, punctuation, and usage errors?
3. Are the directions clear?
4. Are point values clearly stated?

Content

5. Is the test comprehensive, sampling all areas covered in the unit?
6. Do test items include all levels of complexity, from comprehension to synthesis?
7. Does the weighting of test items reflect the importance of the content?
8. Do the form and wording of items minimize opportunities for guessing?

Helping Teachers Assess Performances

Because of growing dissatisfaction with paper-and-pencil tests, educators are increasingly exploring the use of performance, exhibition, and demonstration assessments in which the student is asked to perform or demonstrate competence. Such performance or demonstration measures are typically recommended for evaluation at the end of some level of schooling, such as middle or high school.

Sizer (1984) believes that a high school diploma should be awarded on the basis of what he terms an "exhibition of mastery," which requires the student to demonstrate real intellectual accomplishments. Such exhibitions, as he describes them, would be public performances at which the student would prove that he or she had mastered certain broad skills and knowledge bases.

A distinction should be made here between two closely related concepts: **performance task** and **performance assessment.**

- A performance task is an **open-ended problem** that students are to solve; the problem is complex and contextualized.
- The performance assessment is the **evaluation of the student's performance** in completing the task or solving the problem.

For example, say students are given a large box of raisins and are asked to estimate the number of raisins in it. To accomplish the task they are provided with a balance, containers of different sizes, and a calculator. They must use a second method to check their first estimate and record the results. (This task was cited by Mitchell, 1992, as based on the standards of the National Council of Teachers of Mathematics.) This is a performance task. The teacher would then make a performance assessment by determining how well the students had solved the problem.

Wiggins (1989) identifies eight intellectual design features of such tasks and their assessment:

- Essential (not just for a grade)
- Enabling (point the learner toward more complex use of skills)
- Contextualized and complex (not discrete skills taken out of context)
- Involving student research
- Assessing habits and repertoires (not recall or "plug-in" skills)
- Representative (emphasizing depth, not breadth)
- Engaging and educational
- Involving ambiguous tasks

5. EVALUATING THE SUPPORTED CURRICULUM

The supported curriculum includes all the learning materials used to support the written curriculum, including texts and software. The assessment of materials is concerned centrally with two major issues--content accuracy and correspondence with the local curriculum. In both selecting materials and using them effectively, teachers and the principal can work together to evaluate the supported curriculum, using the criteria shown in Display 3-10

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Display 3-10: Criteria for Evaluating the Supported Curriculum

Format, Appearance, Durability

1. Are the materials of high quality in their physical make-up: clear in format; attractive to the eye; made of durable materials?

Style

2. Are the materials readable by intended users but not over-simplified?

3. Are the materials free of bias based on gender, ethnicity, or age?

Content

4. Does the content suitably reflect the nation's cultural diversity?

5. Does the copyright date indicate that the content is current?

6. Is the content congruent with the curriculum?

7. Does the content provide sufficient depth for the topics treated?

8. Is the content accurate?

Authorship

9. Does the authorship include both scholars in the field and experienced classroom teachers?

Evaluation

10. Have the materials been rigorously field-tested?

6. EVALUATING THE LEARNED CURRICULUM

The most important evaluation question to ask examines the learned curriculum: Have students achieved the learning goals of the curriculum? Two types of evaluation are useful here.

Evaluating Student Learning During Each Class Period

Principals should help teachers assess student learning as a part of every class session. One of the most important uses of evaluation is to guide the instructional process. In this sense evaluation is not perceived as something separate from instruction; instead it is conceptualized as an integral part of teaching. In almost every lesson, the effective teacher uses an interactive and recursive process:

➜ Assess

➜ Plan

➜ Teach

➜ Assess

➜ Modify plans

➜ Teach

The research on effective monitoring of student learning suggests that the following practices can be used in almost every lesson. (The discussion that follows draws primarily from the following: Good and Brophy, 1997; Guskey, 1985; Lewin & Shoemaker, 1998 and Berliner, 1987)

(1) **Begin with a brief oral or written quiz.**

-- At the beginning of the instructional session, administer a quiz that checks students' acquisition of skills and knowledge taught in prior lessons. If you use a written quiz, have students check their own work or each other's, emphasizing that the quiz has only an instructional purpose for you and them. If you use oral quizzing, keep your questions and responses brief.

(2) **Monitor student attentiveness.**

-- As you explain a concept or skill by observing student behavior, observe students' eye contact, fidgeting, etc. to determine if students are paying attention. However, remember that such monitoring does not always yield reliable results. Do not be misled by students who have mastered the art of concealing inattentiveness by giving signals of being on task.

(3) **Check for students' understanding.**

After you have explained a concept or demonstrated a skill, ask questions. Be sure not to call upon only those who volunteer. You can ask younger students to use certain previously established signals, such as "thumbs up/thumbs down," or " hold up one finger if the first answer is correct, two if the second." Or with reluctant or less

able students, you can ask for a group response.

(4) **Monitor students' seatwork and group work.**
-- Hold students accountable for the productive use of time.

(5) **Ask students to write a brief response to a question.**
-- From time to time, evaluate student learning by having students explain in writing their understanding of a concept. Such written responses help students clarify their own understandings and give you useful feedback.

(6) **Close class with a brief evaluation of what has been learned.**
-- You can use several methods for this end-of-class evaluation– conducting a brief oral quiz, using a written quiz, or requiring all students to write a summary of the lesson's highlights.

In addition to using these guidelines for each class, keep in mind some general practices.

! Remember that the primary purpose of in-class evaluation is to improve learning. Use errors as opportunities for learning.

! Follow up the instructional evaluation with appropriate feedback to the students and additional help when that is indicated.

! Use the evaluation to modify your own instructional approaches. You should remediate if students have not learned. If it is obvious that most of the students have not understood a concept you just explained, you should re-teach, modifying the learning processes.

! Build in as often as you can opportunities for student self-evaluation. You can give self-scoring quizzes. You can use special student response sheets that reveal the correct answer when the appropriate spot is rubbed. And the computer is ideal as an evaluation tool; it provides instant feedback and effective follow-up.

Evaluating End-of-Unit Achievement

The other approach to evaluating the learned curriculum is to analyze the results of end-of-unit tests. If the test has been developed by the procedures explained in previous chapters, it should provide a valid measure of student learning. However, teachers will need help in analyzing and using test results since they typically do not take the time for such an approach. Since the analysis of unit test results can be a time-consuming process, principals may want to provide special staff development time for teachers to learn and practice the skill, using a unit test they have administered. The following process should work for most teachers.

(1) **Prepare a large chart.**
-- Down the left side of the chart list the names of all the students in that class. Across the top list the major areas covered by the test. For example, the coverage of a test on the Civil War might be analyzed as:

**Causes of the war.*
**Alignment of the states.*
**Major battles and their outcomes.*
**People who played Important roles in the war.*

**Results and effects of the war.*

(2) **Record how each student performed** on each section of the chart, using one of these symbols.

M: more than satisfactory performance
S: satisfactory performance
U: unsatisfactory performance

(3) **Analyze the results**, examining both dimensions–which students, which areas.

(4) **Determine which remediation is needed**.

-- Provide for individual remediation if only a few students did not achieve mastery. Proceed with the next unit for the entire class.
-- Provide for group remediation if several students did not achieve mastery. Delay introducing the new unit; let achievers work on enrichment content.
-- Re-teach the whole class as needed if most of the students did not achieve mastery. Let achievers serve as peer tutors.

Evaluating Student Learning on High Stakes Tests

After results on state tests have been reported, the principal should confer with any teacher whose students achieved less than satisfactory performance. Rather than using the occasion as a time for blaming, the principal should help the teacher in a dialogic problem solving process.

Here are some of the questions they might explore.

! Did the taught curriculum correspond sufficiently with the tested curriculum?

! Did the supported curriculum correspond sufficiently with the tested curriculum?

! Were failing students sufficiently motivated to do well on the test?

! Was sufficient class time spent on the content that was tested?

! Was sufficient remediation provided?

! Was sufficient time allocated to test content?

! Did the teacher use effective teaching methods?

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