

HANDBOOK 10: Developing Standards-Based Units

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

The publication is free to public school educators in North Dakota, who may make copies without permission.

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 NATURE OF STANDARDS-BASED UNITS

There are many ways to plan a unit--and there is no single best process to use. All that matters is the quality of the unit. Teachers should therefore use whatever process seems effective. This handbook explains the nature of standards-based units and suggests a process that many teachers have found to be effective. The process involves using state standards and benchmarks to develop a problem-based unit. (This process has been derived chiefly from Glatthorn, 1999.)

Standards-based units are a special type with their own characteristics:

- ! They are based on North Dakota frameworks.
- ! They are related specifically to the standards and benchmarks identified in the frameworks. The units may focus on a single subject or may integrate the frameworks of two or more subjects.
- ! At the center of the unit are one or more **performance tasks**. A performance task is a complex open-ended problem that requires the student to use knowledge in solving the problem. The next section explains this concept more fully.
- ! Student achievement is assessed by making a **performance assessment**. A performance assessment, as the term suggests, is an evaluation of the student's performance as he or she executes the performance task.

Deciding Whether to Revise or Begin Fresh

At the outset, the instructional team should decide whether to revise or “retrofit” existing units or develop new units. If an existing unit seems to have been effective in fostering student learning, then it may be simpler to revise, rather than starting all over. The rest of this handbook may be helpful in either case.

Organizing for Unit Development

Certain organizational steps should be taken before beginning the process of development.

(1) **Identify the resources needed and develop a proposal to secure them.**

- Long-term unit planning will require resources—time, funds, materials, and expertise. While funds are always limited, teachers should work with the principal to develop a proposal for special funding from a variety of sources: the school board; federal and state programs; foundations; parent organizations.

(2) **Organize unit-planning teams.**

- Initially, all teachers should be involved in a team approach to unit development. Later on, if teachers prefer to work independently, they may do so. In the initial

stage, however, they will profit more from interaction and collaboration with colleagues. In elementary and middle schools the teams will probably be organized by grade level; in high school, by subjects.

(3) Decide how quality time can best be provided.

- Teachers are not likely to produce quality units if they are required to do so after a long day of teaching. Instead they need quality time. How this can be provided without unduly reducing instructional time is a complicated matter for the planners to consider, examining such alternatives as summer workshops, early dismissals, in-service days, and common planning periods.

(4) Provide the initial training needed to help teams get started.

- Staff development to support unit planning should be an on-going process, rather than a "one-shot" intervention. The initial phase should concentrate on the skills teachers will need to begin their work effectively.

Make the Basic Decisions

The planning team should next make the basic decisions needed to get the project off the ground. They should work together in resolving the following issues.

- ! What standard format should we use?
 - " While the specifics of format may vary from school to school, all units should include the following basic information:
 - name and address of school district
 - name and address of school
 - title of unit; names of developers
 - date of publication
 - grade level and subject
- ! What components should each unit include?
 - " Make a list of the components that all units should include.
- ! Shall we begin with subject-focused or integrated units?
 - " The answer will depend, of course, on the school's decision about integration. In general it is better to begin with subject-focused units since they are easier to develop.
- ! What review process shall we employ?
 - " All units should first be reviewed by the team of developers. They should then be submitted to a supervisor and principal for further evaluation.
- ! What storage and retrieval system shall we use?
 - " If the school has the know-how and the software needed, store units in the computer. Otherwise, develop a central library accessible to teachers.
- ! What schedule can be implemented for accomplishing the project?
 - " A realistic schedule showing for each grade or subject the units to be developed and the deadlines for developing them will help keep the project moving. Display 10-1 shows an example of a schedule.

**Display 10-1:
Schedule for Developing One Unit**

Step	Target Date
1. Review standards, benchmarks, unit titles	June 1
2. Develop draft of unit	July 1
3. Do self-evaluation of draft	July 8
4. Secure review by colleagues	July 15
5. Secure external review	July 22
6. Revise draft	July 29
7. Develop criteria and rubrics	August 15
8. Have criteria and rubrics reviewed by colleagues and external reviewers	August 29
9. Field test all materials	October 10
10. Evaluate results of field test	November 1
11. Revise and disseminate to teachers	December 15

2. DEVELOPING THE UNIT

There are many models of unit development that teams can use in their planning. However, teachers are strongly encouraged to use a process that responds to state standards and benchmarks and focuses on a performance task, as explained below.

Developing Units from Standards and Performance Tasks

This issue of unit development is so critical that it requires closer examination. As noted above, there are many models of unit development. This chapter presents one model that embodies standards and performance tasks. The steps listed are ones that the unit planning team should take in developing a unit. While the steps below are listed in linear fashion, they should be seen as flexible and recursive. Developers can start at any point in the process and move back and forth recursively.

Display 10-2 is a form that can be used to record the decisions; it also will serve as an organizer for the rest of this handbook. One advantage of this form is that it shows two perspectives about the unit: read from left to right, it shows how each component is developed throughout the duration of the unit; read from top to bottom, it shows in graphic form a lesson plan for each day.

To guide the process of unit development, you should keep in mind the criteria shown in Display 10-3 and use them to guide your work and evaluate the products. The criteria have been derived from the literature on unit development. (The following sources provide useful guidance for the unit development process: Bethke, 1985; Ellis, Mackey, and Glenn, 1988; Glatthorn, 1999; Perkins and Blythe, 1994.)

Display 10-2: Unit Planning Form

Developers: John Schlegel, Susan Allen

Grade level: 8

Subject(s): Language arts

Unit Overview

Unit Title: Loaded Words

Standard(s): Understand, use principles of language

Unit goal(s): Understand how language reflects perspective and use that knowledge to read critically by identifying loaded language.

Time required: 3 weeks

Unit Components

Component	Lesson 1	Lesson 2	Lesson 3
Benchmark	Language, point of view	Language, point of view	Language, point of view
Classroom Learning Objective	See overview of unit. Explain why unit is important	Define point of view — literal and figurative meanings	
Group Structure	Whole class	Whole class	Small group
Performance Task			Begin task: organize booklet
Knowledge Needed; Means of Access	Assess prior knowledge	Use point of view handout	
Learning Strategy			Adapting to audience
Performance Assessment	Explain assessment, review rubrics	Formative assessment, oral quiz	Formative, observe groups
Resources Needed	Rubrics	Handout	Sample booklets

Display 10-3: Criteria for Evaluating Units

Does the unit . . .

1. Correspond closely and comprehensively with the standard and benchmarks it is designed to emphasize?
 2. Require the students to access prior knowledge, acquire new knowledge, and use that knowledge in accomplishing the performance task?
 3. Require the use of learning strategies and higher thought processes, including creative thinking?
 4. Seem real and purposeful, embedded in a meaningful context that seems authentic?
 5. Engage the students' interest?
 6. Require the students to communicate to classmates and others the processes they used and the results they obtained, using multiple response modes?
 7. Require sustained effort over a significant period of time--challenging enough to facilitate growth without overwhelming them?
 8. Seem feasible in the context of schools and classrooms, not requiring inordinate resources or creating undue controversy?
 9. Include criteria and rubrics for evaluating student performance?
 10. Provide for both group and individual work, with appropriate accountability?
-
-

Block in the Unit

The blocking process establishes the general parameters within which the unit will be developed. You make several decisions--or confirm some decisions previously made. You have probably made these decisions previously in making the long-term schedule.

! Title of the unit

- " The title should make clear the general emphasis of the unit. Keep in mind as well that the title should reflect the standards from which the unit has been derived.

"Language and Perspective" Example

Standard 7 Students understand and use principles of language.

Benchmark 8 Students understand how language, both written and spoken, reflects a point of view.

Unit Title Language and Perspective

! Length of the unit

- " If you have not previously decided about the length of the unit, you should do so at this stage, keeping in mind the importance of curriculum depth and students' development stage and attention span. A general rule of thumb is that the older the student, the longer the unit.

In the example chosen, you might tentatively allocate two weeks to this language unit.

! **Unit Goal**

- " Each unit should have one or two clearly stated major goals. A shorter unit will probably have one goal; longer units may have two. The unit goal is a general statement of what you want the students to learn. Unlike the more specific lesson objectives, the unit goal will often be stated somewhat generally. To ensure a problem-solving orientation, you might consider using language that clearly implies a critical thinking or problem-solving orientation.

General Examples: think critically about television; solve a problem relating to language change; use concepts of semiotics to interpret the culture critically; understand the ecology of the tundra; understand climate change and predict changes; understand how families are changing and predict further changes.

Goals for the Language and Perspective Example:

- * *Understands how a person's perspective will be reflected in the spoken and written language used.*
- * *Identifies "loaded" language in newspaper editorials and persuasive speeches and respond accordingly.*

! **Develop the Unit Scenario**

- " A scenario is a mental picture of how the classroom events unroll—how the class is organized, how the unit starts, how it progresses, and how it ends. The scenario need not be committed to paper; it is simply a planning tool that gives you a clearer picture of how the task and the teaching work together.

Unit Scenario for the Language and Perspective Example:

The main thing to keep in mind is the practical aspect—help these students know how to identify and guard against loaded language. Probably begin the unit by activating prior knowledge to give us an idea of what they already know. Then have them read two accounts of the same incident that show a different perspective. They will need some kind of handout explaining what a point of view is and how language reflects that. Then get them working on the performance task—maybe we will need two related tasks—develop a booklet for seventh graders on language and point of view, and then write a letter to a local television newscast on loaded language.

Record all these decisions, except the unit scenario, on the planning form. Although the unit scenario does not appear on the form, it guides all the other elements on the form.

Review the Decision about the Benchmarks

Be sure you have identified the appropriate benchmark. Enter the benchmark on the form, keeping in mind that one benchmark may carry over for several days.

Identify the Classroom Learning Objectives

The classroom learning objectives are the more specific outcomes of the benchmark.

Learning Objectives for the Language and Perspective Example:

Benchmark: *Understand how language reflects point of view.*

Classroom Learning Objectives:

1. Define point of view.
2. Identify three ways by which point of view is reflected in language.
3. Understand the concept of loaded language.
4. Explain how loaded language reflects point of view.
5. Explain how to identify loaded language.
6. Understand how to use illustrations to enhance verbal text.

You identify the objectives by analyzing the benchmark and reflecting about the scenario. Keep in mind that you may identify the objectives later in the process as you make other decisions. This information is also noted on the form.

Determine the Group Structure to be Used

You have three choices of group structure: whole class, small group, and individual. Use whole class when you wish to provide a uniform knowledge base and assess class learning. Use a small group when you want to use cooperative learning or group discussion. Use the individual structure when you want students thinking and working on their own. Note on the form the group structure for each day.

Identify the Performance Task to be Accomplished

A performance task is a complex open-ended problem posed for the student to solve as a means of demonstrating mastery; the performance task constitutes the basis for the performance assessment. Marzano and Kendall (1996) identify these defining characteristics of a performance task:

- ! Requires knowledge to be applied to a specific situation
- ! Provides necessary guidance and information to complete the task
- ! Specifies learning context (independent, pairs, small groups)
- ! Specifies how students will demonstrate their findings or solution

Typically you would first develop the performance task and then use the performance task to design the rest of the unit, teach the unit, and then conduct a performance assessment to determine if the students could perform the task. Note, however, that some teachers prefer to design the unit and then develop the task to fit the unit.

In reflecting about the performance task, keep in mind four key elements: the nature of your

students; the standard and the benchmark; the time allocated; and the level of difficulty of the performance task (the task should challenge the students but not overwhelm them). Appendix A lists the steps to take in designing a valid performance task.

Identify the Knowledge Needed and Means of Access

By analyzing the performance task, you next should identify the knowledge that students will need to accomplish the task and the means by which they will gain access to that knowledge.

Research on how experts solve problems indicates that they operate from a deep knowledge base. For example, students cannot develop a sound solution to the problem of water pollution unless they have knowledge of basic chemistry.

Knowledge needed for Language and Perspective Example:

- 1. Strategies for adapting to audience*
- 2. Concept of point of view*
- 3. How written language reflects point of view*
- 4. How spoken language reflect point of view*
- 5. How to use illustrations to enhance verbal text*

You also should note the means by which students will gain access to knowledge: discussing or learning from informed peers; listening to a teacher presentation; using the Internet; viewing a video; reading a text or other print source; observing; interviewing an expert.

Identify the Learning Strategy

A learning strategy is a mental process that is useful in completing the performance task or solving problems. They are also called **thinking skills**. Some learning skills are general, used in many subjects; others are subject specific (see Display 10-4).

The research suggests strongly that these strategies are best learned in context, as part of a unit, rather than as isolated skills. A general guideline is to include one learning strategy in each unit.

In the Language and Perspective Example, the team decides to teach students specific techniques for adapting to an audience.

Display 10-4: Examples of Learning Skills

General

- ! Use web diagrams to show relationships
- ! Use a matrix to organize information
- ! Write summaries to facilitate remembering
- ! Use mnemonics as a memory aid

Subject Specific

- ! Writing: Revise as you write
 - ! Mathematics: Identify the knowns in a problem
 - ! Science: Classify according to scientific principles
 - ! Social Studies: Look for patterns in historical events
 - ! The Arts: Use contrast in visual elements
-
-

Decide about the Performance Assessment

A performance assessment is an evaluation of how successful the student has been in performing and completing the performance task. McTighe and Ferrara (1997) present a very useful typology of performance assessments (paraphrased as follows).

- ! **Constructed Responses:** Short answer; diagrams; visuals (such as a concept map).
- ! **Products:** Essay; research paper and laboratory report; log or journal; story, play, or poem; portfolio; art or science exhibit; model; video or audiotape; spreadsheet.
- ! **Performances:** Oral report; dance; science demonstration; athletic competition; dramatic reading; enactment; debate; recital.
- ! **Processes:** Oral questioning; observation; interview; conference; process description; learning log; record of thinking processes.

Performance assessment can be formative or summative. A formative assessment is one you make during and at the end of the lesson. Here are some ways you can make formative assessments: observe students in action; give a quiz; ask oral questions; and examine work products (such as laboratory reports or journal entries) as they are in process.

Next, reflect about the ways that students might demonstrate their learning in the summative assessment. Stiggins (1997) stresses that well-designed performance assessments are a highly effective teaching tool, significantly fostering student learning. The way you assess performance

will obviously depend on the nature of the performance task. For example, if the task is to present a speech, you would listen and observe. If the task were to produce a booklet, you would read the booklet. Your assessment will be significantly improved if you then take the time to develop criteria and rubrics for the task; these are explained in the next section.

Determine resources

Lastly, you should determine what resources you will need for each lesson and note these on the form.

3. DEVELOPING THE CRITERIA AND RUBRICS

Once you have the rest of the unit in good shape, you next should develop criteria and rubrics to assist in the assessment process. To accomplish this goal you need to understand how some key terms are being used. (The discussion that follows draws from the following sources: Goodrich, 1996; Herman, Aschbacher, & Winters, 1992; Glatthorn, 1999; and Marzano, Pickering, & McTighe, 1993.)

- ! **Criteria** are the components of quality that are used as the bases of evaluations. They are an essential component of the rubrics. If you were evaluating a football quarterback, you might use these criteria: passing completion; play-calling ability; avoidance of interceptions; running ability.
- ! A **performance standard** is a statement of expected quality of the performance. Thus, a football coach might set this standard for passing accuracy in choosing quarterbacks: "We expect at least a 50% completion rate before we consider any other factors."
- ! A **rubric** is a scoring or evaluation tool that lists each criterion and indicates the performance standard and its several levels of achievement. Display 10-5 shows part of the rubric that would be used in assessing the students' performance on the booklet being developed. These rubrics would be used to evaluate each group's booklet.

**Display 10-5:
Rubric for Scoring Text Booklets**

Criteria	Unsatisfactory	Minimally Satisfactory	More than Satisfactory	Very Good	Superior
Adaptation to Audience	Shows no adaptation	Occasionally adapts language	Consistently adapts language	Adapts language consistently and illustrations occasionally	Consistently adapts language and illustrations
Quality of Content					
Quality of Writing					
Quality of Illustrations					

There are several reasons why you should develop and use criteria and rubrics:

- ! They facilitate quality student performance by making clear to the student what is expected.
 - " In too many classrooms students are "flying blind," with no clear knowledge of what constitutes satisfactory performance. In such classrooms teacher feedback is minimal and unclear, using such value language as "try harder," "not your best effort," "not up to my standards." One teacher reports that she staples a copy of the rubrics to the student's paper, grading the student specifically on rubrics.
- ! They provide helpful guidance in preparing and instructing the students.
 - " If you have a clear idea of the criteria, you can give the students the specific help they need in embodying those elements in their performance.
- ! They help the teacher by facilitating the evaluation process, making it fairer, more consistent, and more valid.
 - " You can do a better job of grading students if you know the rubrics.
- ! They help parents understand more clearly what students are being evaluated for and how grades are assigned.

Appendix A details the steps in creating rubrics.

4. EVALUATING THE UNIT

After you've created the entire unit, you should evaluate it. First, the team should evaluate its own work. Then they should ask colleagues to evaluate it. Also, they should assess the unit as it is actually used. Finally they should survey students or discuss with them the unit's strengths and weaknesses.

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APPENDIX A: STEPS IN DEVELOPING PERFORMANCE TASKS

1. Brainstorm.

- Suspending critical judgment, team members should do some free-wheeling creative thinking, simply listing all the possibilities of performance tasks. Here are some of the ideas that an 8th grade team put on the table.

Brainstorming from the Language and Perspective Example:

- * *Have students use loaded words to give a sales speech.*
- * *Listen to a speech and identify loaded words.*
- * *Publish a booklet explaining how to identify loaded words.*
- * *Do a role play and have students take different perspectives.*
- * *Analyze point of view in a short story.*

2. Evaluate the brainstorming results.

- At this stage the team should assess the results of the brainstorming with two components: a validity check and a reality check.

Answer the validity check question:

- * "Will this performance task enable students to acquire and use the skills and knowledge embodied in the standards and benchmarks?"
- * If a performance task seems stimulating and motivating but does not relate directly to the standards and benchmarks, then it is seriously flawed.

Answer the reality check question:

- * "Will it work in the classroom?"
- * In making the reality check, you should examine such issues as student interest in the task, the knowledge resources required, the time the task will take, and the teachability of the task.

3. Identify and develop a performance task.

- Based on the results of the validity and reality checks, the team should determine which performance task(s) to use and which to discard.

Language and Perspective Example:

The team decides that it would be unethical to have students use loaded language in a speech to persuade others. The team decides instead to have students write a textbook on loaded language and how it indicates point of view. The team develops the following task:

“Our 7th grade language arts teachers would like to teach a unit on loaded language and how it reflects point of view. However, their textbooks do not cover that subject. You can help the teachers and the students by publishing your own textbook on that topic. Your goal is to produce a booklet, with illustrations, explaining to 7th grade

students how to understand how language reflects point of view and how to identify loaded language. Your booklet should include the following: title page; table of contents; and the content itself. The teachers of 7th grade will judge the four booklets produced by our class and have agreed to use the booklets with their classes.”

4. **Develop rubrics for the performance task.**

Several steps are involved in the development of rubrics. (See Goodrich, 1996, for another perspective on writing rubrics.)

(1) **Identify the criteria**

- Practice has shown that 4-7 criteria seem to work best. If there are too few, the feedback is not specific enough. If there are too many, the evaluation process becomes too complicated. You derive the criteria by answering these related questions: "What factors contribute to the overall performance? What do I look for when I evaluate this performance? What elements will make a difference in the quality?"

Example:

A 5th grade teacher living in a coastal community has taught a unit on ocean pollution. She has designed a performance task that requires the students to develop for their community a practical plan for reducing ocean pollution; they also must sell their plan to their community leaders. She thinks about the plan she might develop and the means by which she would convince community leaders. She identifies the following criteria:

- *Scientific soundness*
- *Political astuteness*
- *Quality of the writing*

She then reflects about how she might modify those criteria for her students, so that they are developmentally appropriate. She decides to change “political astuteness” to “knowledge of elected officials.”

(2) **Determine how many levels of performance for each criterion.**

- A review of the examples provided in the literature indicates that a range of 3-6 levels is common. Some teachers recommend that you identify the number of levels that corresponds with the number of report card grades. Thus, if your school uses the standard A/B/C/D/F system, it will be easier for you and the students if you use five levels. Several experts recommend that you use an even number of levels, thus curbing the tendency of teachers to assign a middle score.
- One concern about having several levels is that the more levels of performance that you specify, the more difficult is the task of writing rubrics. For that reason, you may wish to begin with three levels of performance and then move to five when you and your students become more accustomed to using rubrics.

(3) **Specify the two extremes--best and worst performance.**

- Ask yourself, “What would the best (or “A” performance) look like—what distinguishing characteristics would it have” and “What would the worst (or “F” performance) look like—what distinguishing characteristics would it have?”

Example of Writing Effectiveness for a persuasive letter:

“A” Letter: Uses correct business letter form, uses language appropriate to audience, is clearly organized, free of mechanical errors.

“F” Letter: Has several errors in form, makes inappropriate word choice, confusing in organization, makes several mechanical errors.

(4) Specify the characteristics of the middle values of the scale.

- Ask yourself, “Given the characteristics of the best and worst performances, what falls in between — what are the distinguishing characteristics of the “average” performances.

Example:

“C” Letter: Makes 3-4 errors in form, makes 2-3 errors in word choice, uses clear organization without signaling, makes 2-3 mechanical errors.