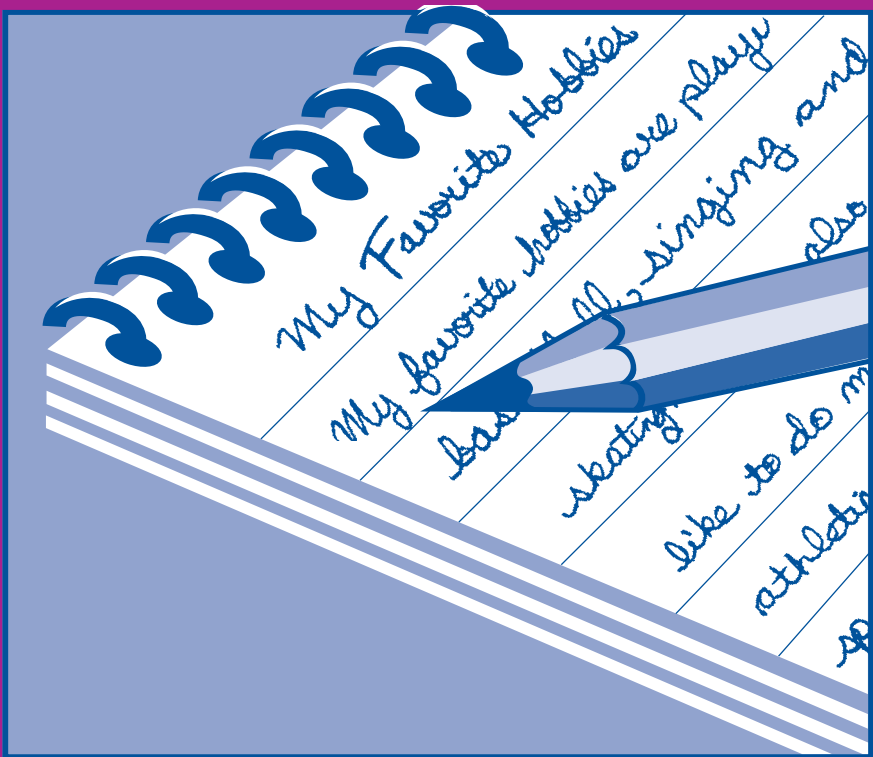


Writing Framework and Specifications for the 2007 National Assessment of Educational Progress



National Assessment Governing Board
U.S. Department of Education

What Is NAEP?

The National Assessment of Educational Progress (NAEP) is a congressionally mandated project of the U.S. Department of Education's National Center for Education Statistics. It assesses what U.S. students should know and be able to do in geography, reading, writing, mathematics, science, U.S. history, the arts, civics, and other academic subjects. Since 1969, NAEP has surveyed the achievement of students at ages 9, 13, and 17 and, since the 1980s, in grades 4, 8, and 12. Measuring educational achievement trends over time is critical to measuring progress.

The 2005–2006 National Assessment Governing Board

The National Assessment Governing Board was created by Congress to formulate policy for NAEP. Among the Governing Board's responsibilities are developing objectives and test specifications and designing the assessment methodology for NAEP.

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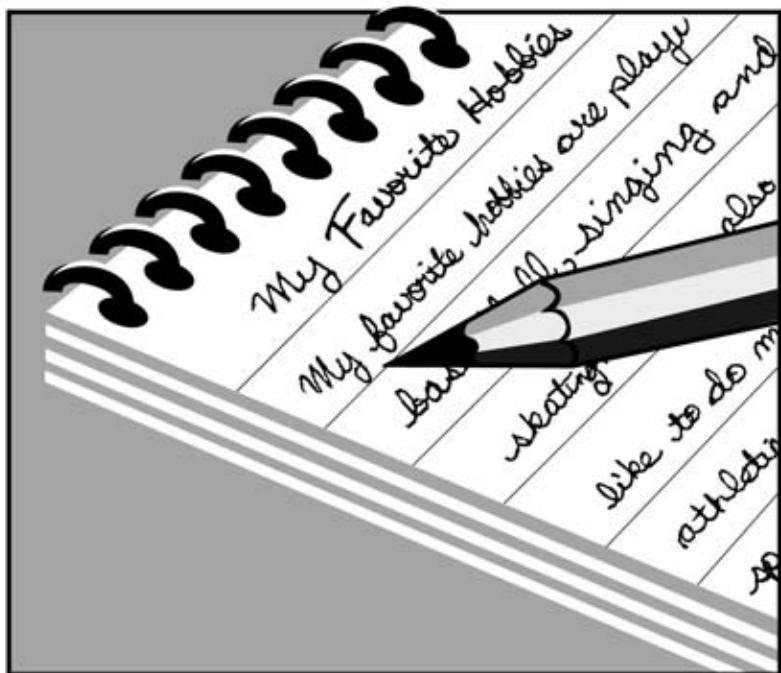
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Writing Framework and Specifications for the 2007 National Assessment of Educational Progress



Writing Assessment Framework developed under contract RS89174011 by the Center for Research on Evaluation, Standards, and Student Testing (CRESST); Writing Specifications developed under contract ZA95002001 by ACT, Inc. for the National Assessment Governing Board.

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Writing Assessment Framework

Overview

This section contains the *Writing Framework for the 2007 National Assessment of Educational Progress* (NAEP) as adopted by the National Assessment Governing Board (Governing Board). The Framework describes the basis for the Writing Assessment, the types of writing assessed, and the methods for scoring student responses. This Framework was developed during 1989–90 in preparation for the 1992 NAEP Writing Assessment. For the 1998–2007 assessment the Framework was augmented by a set of Writing Assessment and Exercise Specifications developed during 1995–96 (see pages 23 to 67).

This document contains the framework and specifications for the NAEP 2007 writing assessment, which will assess student achievement nationally in grades 8 and 12, continuing the trend begun in 1998. Additionally, data for participating states and select urban districts will be gathered for grade 8.

Developed by a committee of writing researchers, teachers, curriculum specialists, and business representatives, the Writing Framework builds on two decades of NAEP experience in large-scale direct writing assessment. In addition, the assessment incorporates important changes that reflect findings and recommendations from recent research on writing instruction and assessment, as well as the experience of many state writing programs. In developing this Framework, input was received from a wide array of writing educators, policy-makers, scholars, and major education organizations. Highlights of the NAEP Writing Assessment include:

- Assessment of narrative, informative, and persuasive writing.
- A set of writing topics that incorporate a variety of stimulus materials, audiences, and forms of writing.
- A special page accompanying each topic for students to plan and organize their writing.
- Enhanced 6-point scoring criteria.

Introduction

The fundamental aim of writing is to communicate. However, its purpose, audience, form, and subject matter vary according to the specific writing situation. Good writers can communicate well in a range of situations. They can perform a variety of writing tasks, ranging from business letters to stories, reports, and essays. To become good writers students need expert instruction, frequent practice, and constructive feedback.

Although some testing programs have used only multiple-choice exercises to assess writing, NAEP has been a pioneer in collecting actual samples of student writing and scoring them in a consistent way. In recent years, use of direct writing tests has increased. Currently, more than 35 states use direct measures of writing in their student assessment programs. Writing samples also are collected as part of the SAT, (ACT), Medical College Admissions Test, and a number of other large-scale assessment programs.

In addition to measuring writing, NAEP continues to provide the only nationally representative data on student achievement in reading, mathematics, science, U.S. history, geography, and other academic subjects. Since its inception in 1969, NAEP has assessed representative samples of students aged 9, 13, and 17. In 1984, it also began sampling students by grade level and currently provides data for grades 4, 8, and 12. NAEP reports achievement results by race/ethnicity, gender, and region, as well as data that chart trends in achievement across time. Relationships are reported between student achievement and relevant background factors such as instructional practices, courses taken, and homework.

As part of the 1988 legislation (which was updated in 1994) Congress created the Governing Board to set policy for NAEP. The 26-member Board is composed of policymakers, school administrators, teachers, curriculum and measurement specialists, business representatives, and members of the general public. Congress charged the Board with specific policymaking duties that include determining

NAEP assessment objectives and test specifications; improving the form and use of NAEP; identifying appropriate achievement goals for each grade and subject tested; ensuring that NAEP items are free from bias; and selecting subjects to be assessed by NAEP.

As stated earlier, the 1992 Writing Framework was developed through a national consensus process directed by the Center for Research on Evaluation, Standards, and Student Testing. The Framework was adopted by the Governing Board in August 1990 and formed the basis for the 1992 NAEP in writing. For the 1998 Writing Assessment, the Governing Board contracted with ACT, Inc. to augment the Framework with a set of Writing Assessment and Exercise Specifications. The Specifications Development work occurred during 1995–96.

Chapter 1: Developing the Writing Framework

The Nature of Writing and the NAEP Writing Assessment

As the National Council of Teachers of English Commission on Composition has noted:

Writing is a powerful instrument of thought. In the act of composing, writers learn about themselves and their world and communicate their insights to others. Writing confers the power to grow personally and to effect change in the world.

—*Commission on Composition, National Council of Teachers of English, 1979.*

Since 1969, the National Assessment of Education Progress (NAEP) has conducted six assessments to measure the writing achievement of students in our nation's schools. Each time, student writing samples were collected and scored on a national basis. The results of these assessments have contributed significantly to the expanding body of research on written composition and writing assessment. In each assessment and set of writing test objectives, NAEP attempted to reflect advances in writing instruction and measurement. This sixth national assessment of writing draws heavily on NAEP's prior experience while adding refinements based on recent research and best practice.

Three types of writing are assessed—narrative, informative, and persuasive. Persuasive writing focuses on exerting an impact on the reader. Narrative discourse emphasizes the writer's experiences, perceptions, and imagination. Writing for informative purposes stresses the subject matter that is being explained. A fuller description of these types of writing appears in chapter 2.

The Writing Process

Recent research and practice have indicated that focusing on what students do as writers, rather than on theory and grammar, results in more effective written communication. Unfortunately, instruction in the writing process often prescribes a simple linear formula: from prewriting (generating and organizing ideas) to writing to postwriting (revising and editing). In reality, all three stages in the process are interactive and recursive. Composing involves a variety of plans and subprocesses that are brought to bear as needed (Hillocks, 1986). Cooper and Odell (1977) define the writing process as follows:

Composing involves exploring and mulling over a subject; planning the particular piece... getting started; making discoveries about feelings, values, or ideas, even while in the process of writing a draft; making continuous decisions about diction, syntax, and rhetoric in relation to the intended meaning and to the meaning taking shape; reviewing what has accumulated, and anticipating and rehearsing what comes next; tinkering and reformulating; stopping; contemplating the finished piece and perhaps, finally, revising.

Good instruction helps students learn that while one or another phase of the writing process might be emphasized at a given time, other phases may come into play as well. For example, good writers revise at all stages, not just at the completion of their work.

The NAEP Writing Assessment supports the process approach to writing in several ways. It provides substantial time for writing—not just the opportunity to create a rough draft. It offers suggestions for prewriting and revising, and includes a special prewriting page for each topic.

The Development Process for the Writing Framework

The Writing Framework in this booklet was developed through a national consensus process conducted by the Governing Board. The Governing Board convened a 14-member panel composed of writers, writing teachers, other educators, and representatives of business and

professional organizations. The writing framework panel met three times between December 1989 and March 1990.

To gather a wide range of input, the Board also sent letters soliciting recommendations to a broadly representative group of educators, administrators, state and local government representatives, and members of the business community, the press, and the general public. The writing framework panel used information from the nearly 100 responses received to inform its deliberations. Although the final Framework does not reflect the views of everyone who participated, it does represent, as nearly as possible, the consensus of the various groups.

As a result of this process, the writing framework panel developed positions—subsequently endorsed by the Governing Board—that highlight elements of continuity as well as important changes in the 1992 assessment. The main principles are as follows:

All Students Should Write

Learning to write well is important for all American students. Even though students have varied backgrounds and experiences, the expectation for high performance in writing applies to all.

Overarching Objectives

Writers exhibit varying degrees of competency, and the writing framework panel recognized that no single assessment can fully evaluate performance across the entire domain. The overarching objectives presented in chapter 2 define the boundaries or focus of the writing assessment and ensure that it measures a variety of important writing skills.

Instructional Practices

For many years, NAEP writing assessments have interpreted achievement data in the context of instructional practices to which students have been exposed. Such information will be gathered from both students and their teachers on methods, materials, and opportunities for writing instruction. Clearly, not all students receive the same

instruction in writing or have equal opportunities to practice or to receive feedback on the quality of their efforts. By relating writing instructional practices to student achievement, NAEP can provide a richer information base by which to interpret results.

Instructional Relevance and Validity

NAEP has long struggled with the difficulties of writing assessment. Many educators feel that the constraints of the testing situation seriously limit the usefulness of the test results. Recent NAEP writing assessments have tried to deal with these issues in two important ways. First, the amount of time for writing tasks has been extended. Second, portfolio assessment has been introduced on a trial basis to collect samples of students' writing in response to regular classroom assignments of varied complexity and duration.

Chapter 2: Designing the NAEP Writing Assessment

Rationale and Objectives for the Assessment

The Writing Assessment Framework is organized according to three primary purposes for writing—narrative, informative, and persuasive. The Framework incorporates the findings of past NAEP writing assessments, as well as ideas from exemplary state frameworks and recent research on composition.

The assessment is designed around the following six overarching objectives:

- Students should write for a variety of purposes (narrative, informative, and persuasive).
- Students should write on a variety of tasks and for many different audiences.
- Students should write from a variety of stimulus materials and within various time constraints.
- Students should generate, draft, revise, and edit ideas and forms of expression in their writing.
- Students should display effective choices in the organization of their writing. They should include detail to illustrate and elaborate their ideas and use appropriate conventions of written English.
- Students should value writing as a communicative activity.

The following section contains specific information on each objective, including definitions, rationales, and methods of assessment.

Objective 1: Students should write for a variety of purposes: narrative, informative, and persuasive.

The NAEP Writing Assessment examines student responses to these three major types of writing. The purposes for writing are de-

rived from the interaction among the reader, the writer, and the subject. Although other types of writing also might be defined, the writing panel and responses from the canvassing letter concurred with these three broad writing types. Because NAEP serves as a national monitor of student achievement—not as an individual diagnostic test—assessment of these broad writing types is appropriate and consistent with NAEP’s role.

Each type of writing is characterized by distinguishing features and requires different strategies on the part of the writer. For example, a personal narrative requires decisions about the chronology of events and what details to include; a persuasive letter requires that the student focus on an issue and choose what type of appeals (e.g., emotional or logical) to direct at the reader. Although a particular piece of writing may have one major purpose, there may be secondary purposes as well. Purposes may blend in various ways depending on the specific context for writing.

As Cooper and Odell (1977) note, “The effectiveness of a particular sample of writing require[s] the blending of the pure colors of the theoretical system into the earthier shades of actual performances.”

Narrative Writing

Narrative writing involves the production of stories or personal essays. Practice with these forms helps writers to develop an ear for language. Also, informative and persuasive writing can benefit from many of the strategies used in narrative writing. For example, there must be an effective ordering of events when relating an incident as part of a report.

Sometimes narrative writing contributes to an awareness of the world as the writer creates, manipulates, and interprets reality. Such writing—whether fact or fiction, poem, play, or personal essay—requires close observation of people, objects, and places. Further, this type of writing fosters creativity, imagination, and speculation by allowing the writer to express thoughts and then stand back, as a more detached observer might, and grasp more fully what is being felt and

why. Thus, narrative writing offers a special opportunity to analyze and understand emotions and actions.

Informative Writing

Informative writing focuses primarily on the subject-matter element in communication. This type of writing is used to share knowledge and to convey messages, instructions, and ideas. Like all writing, informative writing may be filtered through the writer's impressions, understanding, and feelings. Used as a means of exploration, informative writing helps both the writer and the reader to learn new ideas and to reexamine old conclusions. Informative writing may also involve reporting on events or experiences, or analyzing concepts and relationships, including developing hypotheses and generalizations. Any of these types of informative writing can be based on the writer's personal knowledge and experience or on information newly presented to the writer that must be understood in order to complete a task. Usually, informative writing involves a mix of the familiar and the new, and both are clarified in the process of writing. Depending on the task, writing based on either personal experience or secondary information may span the range of thinking skills from recall to analysis to evaluation.

Persuasive Writing

Persuasive writing emphasizes the reader. Its primary aim is to influence others to take some action or bring about change. Persuasive writing may contain great amounts of information—facts, details, examples, comparisons, statistics, or anecdotes—but its main purpose is not simply to inform but to persuade. This type of writing involves a clear awareness of what arguments might most affect the audience being addressed. Writing persuasively also requires use of critical thinking skills such as analysis, inference, synthesis, and evaluation.

Persuasive writing is called for in a variety of situations. It may involve responding to a request for advice by giving an opinion and providing sound reasons to support it. It may also involve presenting an argument in such a way that a particular audience will find con-

vincing. When there is opposition, persuasive writing may entail refuting arguments that are contrary to the writer's point of view.

In all persuasive writing, authors must choose the approach they will use. They may, for instance, use emotional or logical appeals or an accommodating or demanding tone. Regardless of the situation or approach, persuasive writers must be concerned with having a particular desired effect upon their readers, beyond merely adding to knowledge of the topic presented.

Objective 2: Students should write on a variety of tasks and for many different audiences.

Students gain power and flexibility as writers when they are given frequent opportunities to write for varied purposes, topics, and audiences. Awareness of the intended audience and purpose of a specific writing task affects the ideas that are included, the way in which they are organized, and the manner in which they are expressed.

Writing tasks may ask students to draw exclusively on their own experience or may require use of subject matter presented in school. In NAEP, some writing prompts require students to base their responses on their own ideas, knowledge, or experience; others require use of information provided in the prompt itself. The entire pool of writing topics represents a wide array of forms of writing, including essays, letters, stories, and reports.

Writing to different audiences requires attention to appropriate content and tone, depending on whether the audience is adult or the students' peer, known or unknown, knowledgeable or uninformed about the topic, or known to be friendly or hostile. Although any formal writing assessment has the teacher or grader as the implied major audience, students may be asked to write for a variety of audiences including friends, local government officials, relatives, or business representatives. In NAEP, some topics ask students to write for a particular audience (e.g., a peer, school principal, or committee). For other topics the audience is not specified.

Objective 3: Students should write from a variety of stimulus materials, and within different time constraints.

In actual writing situations, the writer may be responding to a written stimulus, illustration, or other material. In the assessment, students are asked to respond to a variety of stimulus materials, in addition to brief written directions. For example, stimulus materials in the assessment include letters, poems, brief reports or descriptions, and other extended texts. The NAEP assessment also includes illustrations such as pictures and graphics as stimulus material for writing.

The assessment provides students at all three grade levels with 25 minutes to write on each of two specific tasks. Although real-world writing constraints may range from several minutes to many months, the assessment conditions are designed to allow students a reasonable time to respond in a thoughtful, organized manner. Enough time is given to develop, evaluate, and revise the written responses. The time limit of 15 minutes per task used in previous NAEP assessments was deemed insufficient to produce valid responses to the extended writing prompts that are included.

The NAEP writing special study allows students to submit samples of writing produced in the regular classroom setting. A special study of classroom-based writing was conducted in grades 4 and 8 in 1990 and repeated at these grades in 1992 and 1998.

Objective 4: Students should generate, draft, evaluate, revise, and edit ideas and forms of expression in their writing.

Good writers develop their own writing processes based on personal experience. The process varies among individual writers. Even the same writer does not always approach a writing task the same way. When students start to understand and control a writing task, they are beginning to manage their writing. The typical steps in the writing processes are planning, drafting, evaluating, and revising, but a neat linear progression is not implied. To meet high standards students may engage in various steps in the writing process again and again until they are satisfied with their work.

With NAEP's increased response time, students have more opportunity to engage in writing processes. Within the limits of a 25-minute time period, they should be able to generate ideas and provide information to support them. Students may express their ideas and organize their response in an outline, list, word web, or other means. With the time constraints in mind, students should then move to the stage of composition during which they draft the material in sentence and paragraph form. Then changes are developed through revisions, in which students demonstrate their ability to evaluate, revise, or edit as the final form evolves. The revision stage shows students' understanding of the technical aspects needed to shape their work toward a particular form. Finally, as time becomes an increasingly important factor, students should reach a decision regarding the combination of content and form and move toward a more finished product. At this stage, the writers should once again evaluate their work, as they put the finishing touches on what comprises the most effective response to the writing task.

NAEP provides several opportunities for students to demonstrate their writing and report on the writing processes they use. Background questions ask how frequently they engage in steps such as planning and editing when they write in school. Other questions ask about the use of computers and word processors. In the assessment itself, students are encouraged to use a special page for planning, or prewriting. The directions accompanying the prompts give suggestions on how to approach the writing task and improve responses (e.g., by planning and revising).

Of course, a formal assessment can only go so far in mirroring classroom or real-life writing situations. The writing samples produced by students in 25 minutes cannot be viewed as final or polished drafts. Also, it is not possible to incorporate into a timed, secure assessment such as NAEP certain writing process strategies, such as using outside resources and peer or teacher conferences. Changes in the administration should make the NAEP writing assessment more closely resemble process approaches to writing.

As noted earlier, NAEP also is experimenting with collecting classroom-based writing samples. These samples will enable students to demonstrate writing processes in which they engage over extended periods of time, their choice of writing topics, and their use of additional resources.

Objective 5: Students should display effective choices in the organization of their writing. They should include detail to illustrate and elaborate their ideas, and should use appropriate conventions of written English.

To write effectively, students must organize ideas coherently, elaborate their points with appropriate detail, and employ the conventions of English grammar and usage. Organization often depends on the task. A shopping list organized in order of importance or location involves specific organizational skills, but these skills are different from those required to develop a research paper. Regardless of the writing task, however, a student who writes effectively will select a suitable organizational form and adapt it to the task. Having a repertoire of organizational strategies helps students better manage the various stages of writing.

Elaboration involves the ability to select specific points or details and effectively incorporate them into written work. By using appropriate details, a piece of writing conveys concretely the writer's intentions. Understanding the need for elaboration and the extent to which it must be carried out indicates a writer's ability to recognize the writing content and to work within constraints—either those prescribed by the task or the intended audience, or those imposed by the writer.

One important aspect of the writing process is the student's ability to incorporate effective supportive material into a given piece of writing. The selection of quotations, examples, anecdotes, and other forms of detail show the writer's expertise in choosing material that enriches a given writing task. The choices a writer makes and the explanations attached to those choices, provide insight into the writer's ability to synthesize ideas. Such decisions are, in part, determined by considerations of audience and purpose. For example, illustrative ma-

terial used in a timed, analytical essay exam will differ from that in a reflective piece of personal writing. The choices made show the writer's ability to integrate content-based decisions within a technical framework that is appropriate for the task at hand.

Objective 5 is assessed in the evaluation of student responses. All student papers are scored using the NAEP enhanced primary trait method, which focuses on how well students accomplish the writing task. Scoring guides provide raters with specific criteria for each score point in terms of the appropriate content, organization, and elaboration for each particular writing task. The scale also incorporates features related to use of the conventions of standard written English.

Objective 6: Students value writing as a communicative activity.

Both common sense and empirical data support the belief that people who value particular endeavors tend to invest more time and energy in them. Writing should be a valued activity. Students should be engaged in their writing tasks, understand the importance of writing, write often, value their own efforts, and recognize good writing by others. Past assessments have included objectives emphasizing the value that students place on writing. Yet, values are always difficult to measure. In NAEP, students are asked directly about their opinions of various writing tasks and to describe their own, nonassigned writing outside of school. Because the writing framework panel believed in the importance of student perceptions about writing, it encouraged NAEP to continue to refine its approaches to assessing such constructs.

Chapter 3: Constructing and Scoring the Assessment

Designing Topics

The design of NAEP writing tasks or prompts considers the factors that affect student writing performance. The chart in figure 1 illustrates how the pool of prompts should represent important, appropriate, and feasible characteristics. Given financial constraints, the assessment cannot include all prompts, nor are all equally desirable or feasible. The features in figure 1 should be used as a guide for item writers in the development of prompts that contain a reasonable distribution of the above characteristics. A brief description of each feature follows.

Discourse Aim

As mentioned in chapter 2, in NAEP writing assessments three general types of writing are assessed: narrative, informative, and persuasive. To accomplish writing to these different purposes, writers must use different strategies and content; however, each general category of purpose permits a variety of types of writing within it. For example, narrative writing may include story writing or narrating a personal experience. Informative writing may require students to explain the meaning of an important quotation or excerpt from a speech. Persuasive writing may involve defending an argument or position, or exploring a problem and its solution. A major characteristic of any writing prompt is the purpose for writing and its accompanying dominant structure and content.

Topic

The subject of any writing is also one of its major features. Writing prompts may ask students to rely exclusively on their own background and experiences or may ask them to use subject-matter knowledge learned in school or presented in the prompt itself. Many

writing tasks ask students to draw on school-related experiences. All topics are carefully screened for gender, racial, cultural, and regional biases. Finally, writing topics must be within the realm of experience for students at each particular grade level assessed by NAEP.

Cognitive Complexity

Each writing assignment may also be categorized according to the major form of reasoning required. Summaries require students to distill important information about a subject. Analyses require sorting information into categories and explaining each one. Interpretations require drawing inferences or conclusions from evidence. Evaluations require applying criteria of significance or worth to support a judgment or argument. Describing the major type of reasoning required by a writing prompt allows educators to judge whether it covers important types of higher order thinking.

Figure 1—Features To Consider in the Design of Writing Tasks

Discourse Aim	Audience
Major aim—narrative, informative, persuasive	Known/unknown
Subgenre—for example, position paper, story, letter	Adult/child
	Novice/expert
	Friendly/unfriendly
Topic	Presentation Format
Information source—personal experience, school, new information	Written
Familiarity	Pictorial
Interest	Evaluation Criteria
	Administration Conditions
Cognitive Complexity	Writing Procedures Measured
Recall/summarize	Prewriting/planning
Analyze	Drafting
Infer/interpret	Revising
Evaluate	Editing

Audience

Any formal writing assessment has the teacher or scorer as the implied major audience. However, through the design of the writing tasks, an assessment can vary the intended audience to have the student address others such as peers, relatives, newspaper editors, or politicians. Writing to different audiences requires attention to appropriate content and tone, depending on whether the audience is an adult or peer, known or unknown, knowledgeable or uninformed about the topic, and friendly or unfriendly.

Presentation Format

The prompt may be presented in written form only or it may be accompanied by an illustration, such as a picture or graphic. NAEP includes more prompts that ask students to write from relatively long passages about school subjects. Certain prompts also use illustrations and charts as stimulus material.

Evaluation Criteria

The prompt may contain directions to the students that indicate how their writing will be evaluated. It may present features or standards by which the composition will be judged. Although some topics provide only a brief description of the writing task, more prompts were developed in which evaluation criteria are included.

Administration Conditions

The NAEP assessment includes prompts at all grade levels that allow 25 minutes to respond to a particular writing task. During the assessment, students are not permitted to use books or other resources or to obtain advice from teachers or peers.

Writing Procedures Measured

The extent to which students engage in prewriting, organizing, and drafting will be analyzed and reported as part of the writing results.

Scoring the Assessment

NAEP uses scoring criteria that include primary trait, holistic, and mechanics elements, and incorporate features related to task accomplishment, overall fluency, and the conventions of standard written English. The separate NAEP trend reports will continue to provide results using separate holistic and mechanics scoring criteria as well.

References

- Applebee, A.N., J.A. Langer, I.V.S. Mullis, and L.B. Jenkins. *Learning to Write in Our Nation's Schools*. Washington, DC: U.S. Department of Education, 1990.
- Applebee, A.N., J.A. Langer, I.V.S. Mullis, and L.B. Jenkins. *The Writing Report Card, 1984–88*. Washington, DC: U.S. Department of Education, 1990.
- Calkins, L.M. *Lessons From a Child*. Portsmouth, NH: Heineman Educational Books, 1983.
- Commission on Composition. *Teaching Composition: A Position Statement*. Urbana, IL: National Council of Teachers of English, 1979.
- Cooper, C.R. and B. Brennenman. *Writing Achievement of California Eighth Graders, A First Look*. California State Department of Education, 1989.
- Cooper, C.R. and L. Odell. *Evaluating Writing: Describing, Measuring, Judging*. Buffalo, NY: National Council of Teachers of English, 1977.
- Educational Testing Service. *Writing Objectives for the 1984 Assessment*. Princeton, NJ: Educational Testing Service, 1983.
- Educational Testing Service. *Writing Objectives for the 1988 Assessment*. Princeton, NJ: Educational Testing Service, 1987.
- Educational Testing Service. *Assessing Actual Student Performance*. Princeton, NJ: Educational Testing Service, 1991.
- Gentile, C. *Exploring New Methods for Collecting Students' School-Based Writing: NAEP's 1990 Portfolio Study*. Washington, DC: U.S. Department of Education, 1992.
- Hillocks, G. *Research on Written Composition: New Directions for Teaching*. Urbana, IL: ERIC Clearinghouse on Research on Reading and Composition Skills, 1986.

- Kean, J.M. *The Teaching of Writing in Our Schools*. Bloomington, IN: Phi Delta Kappa Educational Foundation, 1983.
- Kinneavy, J.L., W. McCleary, and N. Nakadate. *Writing in the Liberal Arts Tradition*. New York: Harper and Row, Publishers, 1985.
- Myers, M. and J. Gray, eds. *Theory and Practice in the Teaching of Composition: Processing, Distancing, and Modeling*. Urbana, IL: National Council of Teachers of English, 1983.
- Purves, A.C. "Reflections on Research and Assessment in Written Composition" in *Research in the Teaching of English*, 26, no. 1 (1992): 108–122.
- Ruth, L. and S. Murphy. *Designing Writing Tasks for the Assessment of Writing*. Norwood, NJ: Ablex Publishing Corporation, 1988.

Appendix

Writing Framework Panel

Writing Framework Panel

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Writing Assessment and Exercise Specifications

Introduction

The Nation's Report Card,TM which reports data from the National Assessment of Educational Progress (NAEP), is the only nationally representative and continuing assessment of what America's students know and can do in various academic subjects. Since 1969, assessments have been conducted periodically in reading, writing, mathematics, science, history, geography, and other fields. By making objective information on student performance available to policymakers at the national, state, and local levels, NAEP is an integral part of our nation's evaluation of the condition and progress of education.

NAEP is a congressionally mandated project of the National Center for Education Statistics (NCES) in the U.S. Department of Education. NCES is responsible, by law, for carrying out the NAEP project. In 1988, Congress established the National Assessment Governing Board to set policy for NAEP. The Board is responsible for selecting subject areas to be assessed, for developing assessment objectives and specifications through a national consensus approach, for setting appropriate student performance levels, and for performing other duties as required under the law.

NAEP has conducted periodic assessments of students' writing achievement over the past 30 years. The *Writing Framework for the 1992 National Assessment of Educational Progress* was developed under the direction of the Governing Board and involved writing educators, policymakers, scholars, teachers, and professionals in the field of writing. This framework, drawing on NAEP's three decades of experience in direct writing assessment, recommended increased time for writing, a wider variety of stimulus materials, suggestions and space to encourage prewriting, and a special writing portfolio study. Item development, scoring, analysis, and reporting for the 1992 assessment were conducted by Educational Testing Service, under contract to NCES. Results of the main 1992 assessment were reported in

the NAEP 1992 Writing Report Card, which was released in June 1994.

In preparation for the NAEP Writing Assessment, the Governing Board issued a request for proposals for the development of writing assessment and exercise specifications, which would augment the 1992 Framework. The Board awarded the contract to ACT in September 1995. During the project, ACT technical and writing staff drew on the expertise of two committees: a Planning Committee of teachers, writers, scholars, researchers, and curriculum coordinators; and a Technical Committee of psychometricians and state testing directors. The resulting specifications for the NAEP Writing Assessment are intended to guide item development and test construction, and to produce an assessment on which NAEP achievement levels can be set. Hundreds of individuals and organizations participated in reviewing drafts of the specifications document. The Governing Board unanimously adopted the specifications at its May 1996 meeting.

Overview of the NAEP Writing Assessment

The National Assessment of Educational Progress (NAEP) Writing Assessment will evaluate students' abilities to use their individual writing processes and appropriate writing strategies to compose with clarity, ease, and precision. Assessment exercises will provide the opportunity to engage in a variety of writing processes. Important aspects of writing include the act of invention through different prewriting strategies, the ability to write for varied purposes and audiences, the knowledge and use of various revision strategies, and attention to correctness through editing and proofreading skills.

The assessment was designed to be consistent with the overarching objectives identified in the Writing Framework for the 1992 National Assessment of Educational Progress. These five major assessment objectives are:

- Students should write for a variety of purposes: narrative, informative, and persuasive.
- Students should write on a variety of tasks and for many different audiences.
- Students should write from a variety of stimulus materials and within various time constraints.
- Students should generate, draft, revise, and edit ideas and forms of expression in their writing.
- Students should display effective choices in the organization of their writing. They should include detail to illustrate and elaborate their ideas, and use appropriate conventions of written English.

The assessment calls for a variety of written responses to tasks within the confines of a large-scale writing assessment. The written responses will be viewed and evaluated as first draft, not polished, writing. The limitations of any large-scale writing assessment do not

allow for a complete revision and refinement process. The NAEP Writing Assessment is offered as a single assessment that cannot fully evaluate performance across the entire domain of writing. However, the results do provide valuable information about student ability to generate first-draft writing in response to a variety of purposes, tasks, and audiences. The following pages present detailed specifications for the overall assessment and for the tasks.

A Prompt Writer's Guide setting forth basic rules for good construction is to be provided by the assessment development contractor. The Guide will include criteria for developing tasks using a combination of stimulus materials and prompts and must conform to the specifications set forth in this document and the "National Assessment Governing Board Policy on Cognitive Item Development and Review," as well as any formatting requirements of NAEP.

The following specifications for the assessment are divided into two sections: Assessment Specifications and Task Specifications. The Assessment Specifications section provides an overall description of the construction, review, and scoring of the assessment and defines how the assessment should be built. The Task Specifications section describes the construction of the assessment in terms of content and format.

As indicated in the *Writing Framework for the 1992 National Assessment of Educational Progress*, the Writing Assessment will measure three purposes, or modes, of writing: narrative, informative, and persuasive (see table 1). The Framework document proposed these three broad types of writing to assist in the organization of the domain of writing, although it is recognized that other modes of writing are possible and an overlap of modes is probable.

The Purposes of Writing

The purposes of writing are offered as one way of describing the domain and are not intended to place constraints on the students' writing. The selection of these three modes of writing was based on the importance of the modes as commonly found in instruction. This distinction of mode, although recognized as artificial, is often a helpful

distinction for novice writers. In addition, the modes are offered as a means to ensure that the NAEP Writing Assessment covers a wide range of tasks. Because NAEP serves as a national monitor of student achievement, assessment of these broad writing types was seen as appropriate and consistent with NAEP's role. These three broad writing types are defined in the Framework as:

Narrative

Narrative writing involves the production of stories or personal essays. Practice with these forms helps writers to develop an ear for language. Also, informative and persuasive writing can benefit from many of the strategies used in narrative writing. For example, there must be an effective ordering of events when relating an incident as part of a report. Sometimes narrative writing contributes to an awareness of the world as the writer creates, manipulates, and interprets reality. Such writing—whether fact or fiction, poem, play, or personal essay—requires close observation of people, objects, and places. Further, this type of writing fosters creativity, imagination, and speculation by allowing the writer to express thoughts and then stand back, as a more detached observer might, and grasp more fully what is being felt and why. Thus, narrative writing offers a special opportunity to analyze and understand emotions and actions.

Informative

Informative writing focuses primarily on the subject-matter element in communication. This type of writing is used to share knowledge and to convey messages, instructions, and ideas. Like all writing, informative writing may be filtered through the writer's impressions, understanding, and feelings. Used as a means of exploration, informative writing helps both the writer and the reader to learn new ideas and to reexamine old conclusions. Informative writing involves reporting on events or experiences, or analyzing concepts and relationships, including developing hypotheses and generalizations. Any of these types of informative writing can be based on the writer's personal knowledge and experience or on information newly presented to the writer that must be understood in order to complete a task. Usu-

ally, informative writing involves a mix of the familiar and the new, and both are clarified in the process of writing. Depending on the task, writing based on either personal experience or secondary information may span the range of thinking skills from recall to analysis to evaluation.

Persuasive

Persuasive writing emphasizes the reader. Its primary aim is to influence others to take some action or to bring about change. Persuasive writing may contain great amounts of information—facts, details, examples, comparisons, statistics, or anecdotes—but its main purpose is not simply to inform but to persuade. This type of writing involves a clear awareness of what arguments might most affect the audience being addressed. Writing persuasively also requires use of critical thinking skills such as analysis, inference, synthesis, and evaluation.

Persuasive writing is called for in a variety of situations. It may involve responding to a request for advice by giving an opinion and providing sound reasons to support it. It may also involve presenting an argument in such a way that a particular audience will find convincing. When there is opposition, persuasive writing may entail refuting arguments that are contrary to the writer’s point of view.

In all persuasive writing, authors must choose the approach they will use. They may, for instance, use emotional or logical appeals or an accommodating or demanding tone. Regardless of the situation or approach, persuasive writers must be concerned with having a particular desired effect upon their readers, beyond merely adding to knowledge of the topic presented.

The NAEP Writing Assessment will be developed in these three modes at each grade level but will not be equally divided at each grade level (see table 2). Although students are capable of writing in all three modes at all grade levels, the modes receive different emphases in instruction at each grade level. The assessment will support the process approach to writing without requiring a specific approach of students, as some students may be unfamiliar with any particular approach. The assessment will provide substantial time for writing, will

offer suggestions for prewriting and drafting when appropriate, and will provide an opportunity for prewriting exercises within the test booklet.

Developmental Changes in Students' Understanding of Writing Processes

Developing student writers are expected to achieve an increasingly broad and deep knowledge and understanding of the value of writing in their lives, of their own individual writing processes, of the range of writing strategies available to them, and of the benefits of sharing and publishing their writing for a wider audience. The following discussion seeks to show how these developmental changes manifest themselves at grade levels 4, 8, and 12 with the assumption that students have participated in a well-developed instructional writing program. The assessment development committee should draw upon this discussion to ensure that the exercises they are constructing are age-appropriate.

Grade 4

By the fourth grade, students should have the critical skills, vocabulary, and concepts that allow them to use school and leisure time to write. Personal choices for writing, fluency of ideas, and freedom of expression are emphasized. They are developing an understanding that there are many stages to the writing process, including prewriting/brainstorming, composing/drafting, revising, editing/proofreading, and sharing/publishing. They understand that each writing task does not necessarily entail all stages of the writing process. Fourth-grade students have a growing awareness of their own individual writing processes and the personal choices open to them.

Fourth-grade students write for public and private purposes in a variety of literary forms, including poems, stories, reports, and personal narratives. They write to persuade, using order of importance and classifying differences and likenesses (or advantages and disadvantages). They use writing according to purpose and intended audience. They compose individually and collaboratively. Their developing

awareness of revision strategies involves a move from the deliberate, systematic, and concrete to a tentative, flexible, risk-taking, large-scale revision process. Fourth-grade students are becoming aware of many alternatives, of new possibilities, through the writing process. Fourth-grade students gather information and ideas from a variety of sources, including personal experiences and literature. They add information and ideas to early drafts in developing writing projects. They write across the curriculum for formal and informal purposes, in various modes of discourse, and for a variety of audiences, including themselves.

Fourth-grade students respond to the writing of peers in pairs and small groups. They demonstrate a sense of authorship by sharing and publishing writing. They are learning to critically view their own and others' work. They revise for specific and precise language and for sequencing of paragraphs. They develop editing and proofreading skills, which include editing for word choice and expanding basic sentence patterns. They proofread—individually and collaboratively—for conventional usage, spelling, capitalization, and punctuation. They apply appropriate conventions for dialogue and quotation. They demonstrate the use of conventions for different documents, such as letters and reports.

Grade 8

In addition to the knowledge and skills developed at the fourth-grade level, eighth-grade students recognize and use author techniques, such as appeals to reason and emotion, figurative language, and satire, which demonstrate a sense of audience when composing their own texts. Eighth-grade students have a deeper understanding of the stages of the writing process and are developing a wider range of writing strategies.

Eighth-grade students have a growing awareness of their own individual writing processes and the range of personal choices they may make.

Eighth-grade students write in an expanding repertoire of forms, which includes letters to the editor, directions, and summaries.

Eighth-grade students are able to explain and demonstrate how written communication is affected by choices writers make in language, tone, and voice, and why some choices are considered more appropriate than others. These students have a developing sense of personal voice that varies with purpose and audience.

Eighth-grade students will reflect on their own developing literacy, set goals, and evaluate their progress. Eighth-grade students respond to various written, visual, and electronic texts, and make personal connections between these texts and their own lives. Eighth-grade students use writing mechanics that clarify meaning.

Grade 12

At the 12th-grade level, students have extended capabilities in the use of written forms that include satire, drama, interview, précis, evaluation, and analysis. Twelfth-grade students have an enhanced understanding of the stages in the writing process and a recognition that all writing tasks need not go through each stage in the process. Twelfth-grade students have deep insight into their own writing processes and the varied writing choices open to them.

Twelfth-grade students recognize and use innovative techniques such as stream of consciousness and multiple viewpoints to convey meaning and engage an audience. These students recognize and demonstrate ways in which communication can be manipulated through word usage as in propaganda, sarcasm, and humor. Twelfth-grade students have an enhanced sense of personal voice that is demonstrated for different audiences and purposes. Twelfth-grade students will use various strategies when constructing meaning in writing and will develop strategies to deal with new communication needs.

Twelfth-grade students write analytical responses to various texts—written, visual, and electronic—making personal connections with their own lives. Twelfth-grade students reflect on their understanding of literacy, set personal learning goals, create strategies for attaining those goals, and take responsibility for their literacy development. Twelfth-grade students will identify and manipulate writing mechanics that enhance and facilitate understanding.

Section I: Assessment Specifications

Content Specifications

The Planning Committee recommended the development and inclusion a variety of tasks within the three modes of writing.

A task is defined as the combination of stimulus materials and accompanying prompts. A prompt, which usually presents a rhetorical situation, topic, purpose, and audience, is that part of the task that requests a student's response. The details of the content specifications are provided below.

- *Increase the size of the task pool.* The number of tasks developed as part of the 1992 assessment was far too low. The size of the task pool should be increased in an effort to increase the degree of freedom in selection and administration at the operational stage. A minimum of 20 tasks will be included in the Writing Assessment for each grade level.
- *Develop a variety of stimulus materials.* The developed task pool will provide a variety of stimulus materials and accompanying prompts to reflect the large number of tasks that are typically asked of students. The newly developed pool will be large enough to cut across a wide range of real-life experiences. Although the writing prompts will draw from real-life experiences, caution should be exercised in the interpretation of the resulting writing samples. It must be clear that a large-scale writing assessment can go only so far to mirror real-life writing experiences. The writing samples produced will not be viewed or evaluated as final or polished drafts.
- *Provide extensive prewriting and revising guidelines.* Students use varied approaches to the prewriting process, such as brainstorming, mapping, and free writing; however, not all students employ a formal process approach to writing. The Planning Committee recommended that some structure be provided within

the testing experience. Students will be provided directions for scaffolding exercises such as thinking, planning, or drafting. They also will be provided with a checklist of questions that helps them to focus on a particular task. The administration of each task will be separately timed and will allow the students an opportunity to work through topic generation, selection, and development. The opportunity for student engagement in these activities will not require separately timed activities within the testing block. Rather, students will be able to structure their time within the block to accommodate their own writing strategies. Although the Planning Committee recognized the importance that collaborative work plays in the writing classroom, it is not logistically possible to incorporate such strategies as peer or teacher collaboration in a timed, secure assessment such as NAEP.

- *Design the scoring rubrics to be grade specific.* The scoring rubrics will be designed to be grade specific. These within-grade rubrics will be customized for each task that is developed. The final scoring rubrics will be determined after the field test papers have been evaluated. As presented in the Task Specifications section to follow, scoring rubrics will include criteria on content, organization, form, language, and control of mechanics (spelling, punctuation, grammar, and capitalization).

Technical Specifications

The Technical Committee recognized the importance of the content specifications and strongly recommended that the content specifications be the first priority of the test developers. However, in addition to content specifications, an iterative development process is being recommended where the test developers and psychometricians will work collaboratively with content specialists to develop a test that is both content valid and technically sound.

Precise recommendations for distributions, intercorrelations, and levels of difficulty are not contained in this document; however, appropriate ranges are provided as guides for the test developers. Based on results of the last field test administration, these values seem

achievable given that the size of the task pool is being increased to 150 tasks. Decisions about distributions of task responses, task difficulty and discrimination, and intertask correlations will be made as a collaborative effort between the test development contractor's technical and content staff after the field test results have been scored and analyzed.

Recommendations for the technical specifications are:

- Adhere strictly to the content specifications.
- Consider content specifications as your primary responsibility. However, assuming adherence to the content specifications, field test an adequate sample of tasks (75) to allow for the identification and selection of the best possible tasks.
- Given the design of the writing field test, select tasks within the pool of field-tested tasks that demonstrate a reasonable level of intertask correlation. Selected tasks should not be so unique that generalizability is limited.
- Encourage appropriate analyses and data explorations following the field test administration. Given that the size of the field test administration will not support some types of analyses, use observable statistics such as means, variances, and frequency distributions to help select operational prompts.
- Seek a spread of difficulty (i.e., the average score for a particular prompt) within a moderate range (with averages or means ranging from 2.0 to 4.0, assuming a 6-point scale). The means should be uniformly distributed within that range. This is not to infer that all tasks should be similar in format or approach. Rather, given a variety of tasks, the overall performance on the tasks selected for inclusion in the operational test should be in the moderate range of difficulty.
- Assuming a 6-point scale, seek a task standard deviation of .90 or greater to help ensure a spread of responses. Seeking a standard deviation of at least .90 and mean difficulties in the range of 2.0 to 4.0 will help to ensure that student responses will be spread across all possible score points.

- Consider the balance between task variety and the generalizability of the tasks. For example, consistent with the Planning Committee’s recommendations, the tasks will offer a wide variety of real-life experiences. However, the tasks will not be so unique from one another that they limit the ability to generalize beyond the particular prompt.
- Consider the impact of the interaction between score-point distributions and interrater agreement (the percent of time that one reader’s assigned scores agree with a second reader’s assigned scores). High agreement statistics between readers may indicate the use of few score points. High agreement statistics should be examined in addition to interrater correlations to ensure both variability across the scoring rubric and consistency of assigned scores.
- Seek tasks that broadly discriminate over the entire scoring rubric. Tasks shall elicit responses at all possible score points. Assuming a 6-point scale, at least two percent of the respondents shall be found in each of the extreme values (1 and 6). Based on the field test results, revise or eliminate tasks that do not elicit responses at all score points, assuming adherence to the content specifications.
- Counterbalance the administration of the tasks to control for context and position effects.

Review Specifications

Writing Expert Review

To ensure the development of tasks that adequately represent the content domain and exhibit proper psychometric characteristics, as well as to construct a task pool that will adequately measure the processes, skills, and knowledge described in the three achievement levels, it is important that review by writing educators and practicing writers be incorporated at several points during the assessment development process. Therefore, the development, field testing, and selection of tasks will be monitored by an assessment development panel.

A minimum of 20 percent of the membership of the Planning Committee will serve on this panel as specified by National Assessment Governing Board policy.

After the tasks have been developed, the panel will review the pool at each grade level and judge the tasks for congruence with the specifications document. The tasks will be judged on criteria such as grade-level appropriateness, technical accuracy, content validity, variety of formats, and the mode of writing that references the tasks to the assessment dimensions they purport to measure. In addition, reviewers will ensure that the available pool is balanced, that it is representative of the content described in the achievement level definitions, and that it incorporates sufficient tasks in each writing mode at the various achievement levels for each grade.

Tasks will be reviewed again after field test administration, as part of the process of selecting those that will appear in the operational assessment. Any tasks that statistical evaluation reveals to be technically flawed will be eliminated.

Bias Review

All tasks will be screened for evidence of cultural bias and for lack of ethnic and gender sensitivity, and will be subjected to postfield test analyses. The field test administration samples will be selected to be as representative of the NAEP operational sample as possible.

Given the lack of evidence supporting the use of Differential Item Functioning statistics for tasks of this type, the Technical Committee recommended the examination of frequency distributions for consistency of response patterns for the various groups of interest. If, after close scrutiny, an exercise appears to be a valid measure of writing, and if no plausible explanation for a differential performance is apparent, the task will be retained. As mandated by law, the National Assessment Governing Board has final review authority of all cognitive items prior to field testing and, subsequently, prior to the operational assessment.

Administration Specifications

Preparation

The Planning Committee recommended that the students be told what is expected of them prior to the testing experience. In an effort to give students every opportunity to write as well as they can, an abbreviated version of the scoring rubric will be distributed prior to the testing experience. This version may be a checklist of the criteria that will be ultimately used in scoring. Facilitators will use the abbreviated scoring rubrics to enhance students' understanding of how their writing samples are scored.

After the test, students will be provided questions that would help to evaluate their opportunity to learn particular types of writing.

Training of Facilitators

Extensive training will be provided to ensure that facilitators are appropriately prepared to administer the writing assessment. The training materials should cover topics such as room arrangements for students, preparation for testing, administration procedures, and guidelines for the amount and type of interaction that can be allowed between examinees and facilitators.

Ethical Considerations

The writing assessment tasks will need to be sensitive to the privacy of students and not ask them to reveal sensitive personal experiences. Further, the tasks will not ask students about privileged home information or psychological information.

Scoring and Reporting Specifications

The Planning Committee recommended that within-grade scoring rubrics be developed. These within-grade rubrics will be customized for each task that is developed. The papers selected as anchor papers will be specific to the grade level and to the task. The final scoring rubrics will be determined after the field test papers have been evaluated. However, the general characteristics of writing to include in the

scoring rubrics for each of the three different modes of writing are contained in appendix A. For all three modes, the student's demonstration of control of mechanics (spelling, punctuation, capitalization, grammar) is one characteristic of writing that will be included in the overall rubric.

Previous experience with the NAEP Writing Assessment has shown that a 6-point score range was often reduced to 4 or 5 points, since very few papers received the highest scores. To help avoid this problem, the development of grade-appropriate scoring rubrics is recommended. The scoring contractor will work with the test development contractor to select papers at each point on the score scale for each task. It will be critical to obtain multiple and varied examples of student writing at each possible score point for each task. If such examples cannot be located, the task will be considered for revision or elimination from the pool of available tasks. These selected examples will serve to further define and elaborate on the language of the rubric and will be used to train the readers.

The Planning Committee drafted preliminary descriptions of the three NAEP achievement levels for writing. The committee defined what constitutes *Basic*, *Proficient*, and *Advanced* levels of achievement in writing at each grade level in terms of student writing. These preliminary descriptions encompass the characteristics of writing as defined by the modes of writing and as described in the guidelines for scoring rubrics. These descriptions will be used as input into the achievement level-setting process and will be refined at that time. Detailed descriptions of the preliminary achievement levels can be found in appendix B.

In general, the following recommendations for scoring were made:

- Finalize the characteristics of writing as a function of the responses obtained during the field test administration.
- If technically feasible, provide an overall or composite writing score that aggregates across modes of writing and different types of tasks.

- Develop within-grade scoring rubrics that are specific to a particular task. These rubrics will include mechanics (spelling, punctuation, capitalization, grammar) as one component of the overall rubric.
- Assemble training materials specific to each task.
- Develop scoring rubrics to prevent restriction of student performance as much as possible. For example, at the “6” level, define a 6 paper not as perfection, but as one that could contain minor flaws; communicate clearly to readers that 6 contains a wide range of papers from “true 6s” to exemplary papers. Make sure rubrics are grade appropriate—that is, 4th-graders should be able to receive a 6. Ensure that anchor papers are selected to illustrate the range of all score points, especially the lowest range of the 6s.

The results of the NAEP Writing Assessment will specify the type of writing tasks that were asked of participating students. Reported results should emphasize that the NAEP Writing Assessment is a measure of students’ ability to draft a response to a provided task completed under a timed administration. Given the limitations of the test administration and sampling design, reported results should caution against overinterpretation. Important differences between classroom writing and the NAEP Writing Assessment should be considered as the results are released. For example, the availability of time and opportunity for writing about a chosen topic, peer or teacher response, self-assessment, and revision are opportunities available to the classroom teacher that are not afforded to a national writing assessment being administered under standardized conditions. Classroom-based writing assessments involve a process that begins with time for prewriting and first-draft writing on a student’s topic of choice, multiple audiences for feedback, self-assessment of strengths and areas needing improvement, and thoughtful revision on content and mechanics. A national standardized writing assessment such as NAEP works within the constraints of large-scale writing assessment, topic choice and peer or teacher response are not possible, and the time for self-assessment and revision is shortened. The reported results should reflect these realities and recognize that the NAEP Writ-

ing Assessment does not measure students' abilities to produce a polished piece of writing.

Scaling Issues

The Technical Committee concurred with the Planning Committee's recommendation to combine the scales across modes of writing, if feasible. The Technical Committee recommended that the dimensionality of the data be investigated and used to empirically establish whether scaling can be done across modes of writing.

Given the difficulty in predicting statistical characteristics of tasks (difficulty, discrimination, intertask correlations), the task pool will be increased in an effort to provide more degrees of freedom in selection and administration at the operational stage. The committees acknowledged that the number of tasks that were developed as part of the 1992 assessment were far too few.

All results reported about the NAEP Writing Assessment will emphasize that the NAEP Writing Assessment is representative of students' ability to write within the constraints of a large-scale writing assessment administration. Participants in the achievement-levels setting process will be instructed to treat the responses as examples of first-draft writing. The committees made the following recommendations:

- The spread of student scores across the entire scoring rubric shall be maximized to help ensure the setting of achievement levels.
- The tasks will be developed to elicit a range of performance.

Reporting by Subgroup Performance

When reporting results for each grade level and for demographic subgroups, procedures should be used that are consistent with current NAEP practice.

Section II: Task Specifications

The NAEP tasks will be developed in conjunction with panels of task writers who are actively engaged in language arts instruction as well as professional writers. Task writers will be instructed to draft tasks that maintain a broad focus to allow for choice of response for a given task, variations in classroom style, and other concerns specific to a student or teacher within the context of a given task.

Specific to the persuasive task development, the Planning Committee recommended that students be provided the opportunity to persuade within the realm of their experiences. The text of the task should not be too prescriptive. Including persuasive writing at grade 4 will provide a baseline for persuasion that could be compared across years.

Writing tasks in each of the three modes will be administered to small, local samples prior to the field test administration. The format of the task, the time allocation, the spread of the responses, and the accessibility of the tasks will be evaluated and used to refine the tasks in preparation for the field test administration. All tasks will then be administered to nationally representative samples of students to help determine the appropriateness of each task for operational use. The test administration sessions will be carefully monitored to determine the types of problems that students encounter with each task. Responses to the testing activities will be elicited from both administrators and students and used to refine the testing process.

Student responses from the field test administration will be scored by readers trained by the scoring contractor. These readers have completed an undergraduate degree in writing, education, or a related field. The readers will be asked to describe the success of each task in terms of how well it elicits a range of student writing and in terms of their reaction to reading the papers. Readers' responses will be carefully considered and the prompts that are reviewed unfavorably will be eliminated. Given the difficulty with imposing "mode" into the test

specifications, readers will be aware of the possibility of students responding to particular prompts using a variety of modes. Readers will be trained how to deal with situations such as this in the scoring process.

Based on information from the field test (e.g., frequency distributions of students at each of the score levels and means and standard deviations of scores for each prompt), 25-minute tasks will be grouped into test blocks for the operational administration. The appropriateness of the tasks within a particular block will be based on both content and technical considerations. The final versions of the test forms will be subjected to several reviews to ensure that the forms conform to good test construction practice. As in the development stages, these reviews will include both content and sensitivity consultants from across the nation.

Format Specifications

The Planning Committee recognized the importance of motivation and its interaction with student performance. The committee recommended providing a variety of stimulus materials, varying the presentation of the test, providing manipulative materials, and providing visual presentations of the prompt. The tasks will be made as interesting and user-friendly as possible. Table 1 reflects the types of tasks that will be developed.

The test booklet will invite planning and revision, but not require it. However, some structure within the testing experience will be provided for the students to assist with the prewriting and planning processes. Recognizing that there are a variety of ways in which to approach the process of writing, no specific approach to prewriting will be imposed on students. Rather, students will be provided directions for scaffolding activities such as thinking, planning, and drafting for the appropriate tasks. They may also be provided with a checklist of questions that help them to focus on a particular task. Examples of such scaffolding activities are provided in appendix C.

Given the different approaches to writing by grade level, the Planning Committee recommended that the prompts be developed to be

grade specific. For example, fourth-grade persuasive prompts would be specifically developed as opposed to general persuasive prompts. Key to developing successful prompts within each grade level will be identifying the appropriate context for students. All prompts need to invite the desired type of writing as determined by one of the three modes. However, they also need to invite writing that is appropriate to the grade level of the students. Providing the student with stimulus materials similar to those typically found in classroom assignments at grades 4, 8, and 12 is one way to select appropriate prompts. The prompts also must allow for a range of responses, be clear and explicit in their instructions to the student, and be stated in language appropriate to the grade level of the student.

Table 1—Illustrative Examples of Writing Tasks

	Grade 4	Grade 8	Grade 12
Narrative	Provide visual stimuli of a season of the year. Ask students to write a letter to a grandparent telling the story of an interesting personal experience related to the season.	Provide visual stimuli. Ask students to write an article for a sports magazine telling the story of a time when they participated in a hobby or skill they enjoyed.	Provide an appropriate quotation. Ask students to write a letter to a friend telling the story of a time in their lives when they had to make an important decision.
Informative	Provide an appropriate quotation. Ask students to explain in an essay to their English teacher how a person (parent, teacher, friend) has influenced them in an important way.	Provide a series of brief journal entries from another historical time. Ask students to explain what is revealed about the person who wrote the entries.	Provide quotations from a political campaign. Ask students to choose one and in an essay inform their social studies teacher what it means in the context of the campaign.

	Grade 4	Grade 8	Grade 12
Persuasive	Provide visual stimuli of an animal. Ask students to convince their parents/guardians of an animal that would make the best pet.	Provide brief reviews, as models, of a film, TV program, or book. Ask students to write a review for the school newspaper that will convince other students to watch a favorite film or TV program or read a favorite book.	Provide a quotation on education in the United States. Ask students to write a letter to the editor of their local newspaper taking a position on some aspect of education and support it from their own experiences.

The size of the task pool was increased in an effort to increase the degrees of freedom in selection and administration at the operational stage. The Planning Committee acknowledged that the number of tasks that were developed as part of the 1992 assessment were far too few. A minimum of 20 tasks will be included in the Writing Assessment for each grade level. Table 2 provides a breakdown of the percentage of time students in each grade shall spend on tasks that reflect the various modes of writing.

Table 2—Percentage of Time To Be Spent on Tasks for Each Writing Purpose (Mode)

	Grade 4	Grade 8	Grade 12
Narrative	40%	33%	25%
Informative	35%	33%	35%
Persuasive	25%	33%	40%

Scoring Rubric Specifications

Refinement of the scoring criteria will be an integral and ongoing part of the test development process. Advice from Planning Committee members involved in the project was solicited in order to develop

criteria consistent with good writing assessment. Preliminary guidelines for drafting rubrics and the general characteristics of the scoring rubrics are included in appendix B of this document.

The scoring guides shall be supported by samples illustrating the range of variation within each score level. The writing samples included in the scoring guides will illustrate the range of responses that are selected by experienced readers who apply the scoring guide to a random selection of the papers for a particular task. It is critical that the samples selected for illustration demonstrate low-, moderate-, and high-performance levels at each possible score point. For example, on a 6-point scale, examples of low 5s, middle 5s, and high 5s will be contained in the training materials. This is particularly critical for score points at the extreme ends of the scale (1 and 6). These samples will then become the basis of the training materials that are used during the scoring process.

Reader Training Specifications

Readers will be trained to read and score a piece of writing by evaluating it against the following factors:

- A score point description specifically designed for a particular writing assessment.
- Anchor papers chosen through a consensus process.

Readers will be provided with extensive training before beginning to score student writing samples. Training staff will explain to readers the goals of the assessment and its relationship to the scoring process. These goals will be reiterated throughout the training, keeping an emphasis on the students whose writing is being evaluated.

Training will provide readers with the opportunity to read a selected sample of student papers and understand the broad range of writing performance demonstrated by the students. After discussing the sample papers, readers will have the opportunity to practice scoring additional samples of papers.

Prior to scoring writing samples for a particular form or mode, each reader will be required to qualify by scoring at least two sets of papers

that have been previously scored by expert readers. The scores assigned by each reader to the qualifying sets will be compared to those assigned by the expert readers.

Reader performance will be monitored throughout the scoring process, both statistically and by random second reading by an expert reader. Readers will be provided with statistics showing how their scores compare to fellow readers with whom they have been paired, allowing them and their supervisors to check for any tendency toward inaccurate or inconsistent scoring. Reader reliability will be determined from first- and second-reader correlations and agreement statistics, not from adjudicated scores.

Procedures will be established to monitor the amount of reader drift that occurs during the scoring process. This is typically done through the use of validity papers that are randomly assigned to readers throughout the scoring process. The relationship between reader performance and the “master” score assigned to the validity papers will be carefully monitored.

To facilitate the achievement-levels setting process, all papers used for the achievement-levels setting process will be double scored. The performance of readers on validity papers will be checked, and any necessary recalibration of readers will be done prior to the scoring of papers to be used in the achievement-levels setting process.

Appendix A

**Achievement Level Descriptions for Grade 4
Writing**

**Achievement Level Descriptions for Grade 8
Writing**

**Achievement Level Descriptions for Grade 12
Writing**

Achievement Level Descriptions for Grade 4 Writing

These achievements levels are proposed for first drafts, not final or polished student writing, that are generated within limited time constraints in large-scale assessment environment.

Basic

Fourth-grade students performing at the *Basic* level should be able to produce a somewhat organized response within the time allowed that shows a general grasp of the writing task they have been assigned. Their writing should include some supporting details. Its grammar, spelling, and capitalization should be accurate enough to communicate to a reader, although there may be mistakes that get in the way of meaning.

Proficient

Fourth-grade students performing at the *Proficient* level should be able to produce an organized response within the time allowed that shows an understanding of the writing task they have been assigned. Their writing should include details that support and develop the main idea of the piece, and its form, content, and language should show that these students are aware of the audience they are expected to address. The grammar, spelling, and capitalization in the work should be accurate enough to communicate to a reader; there may be some mistakes, but these should not get in the way of meaning.

Advanced

Fourth-grade students performing at the *Advanced* level should be able to produce an effective, well-developed response within the time allowed that shows a clear understanding of the writing task they have been assigned. Their writing should be clearly organized, making use of techniques such as consistency in topic or theme, sequencing, and a clearly marked beginning and ending. It should make use of precise and varied language to speak to the audience the students are expected to address, and it should include details and elaboration that support and develop the main idea of the piece. Their writing may also show signs of

analytical, evaluative, or creative thinking. The grammar, spelling, and capitalization in the work should be accurate enough to communicate clearly; mistakes should be so few and so minor that a reader can easily skim over them.

Achievement Level Descriptions for Grade 8 Writing

These achievement levels are proposed for first drafts, not final or polished student writing, that are generated within limited time constraints in a large-scale assessment environment.

Basic

Eighth-grade students performing at the *Basic* level should be able to produce an effective response within the time allowed that shows a general understanding of the writing task they have been assigned. Their writing should show that these students are aware of the audience they are expected to address, and it should include supporting details in an organized way. The grammar, spelling, punctuation, and capitalization in the work should be accurate enough to communicate to a reader, although there may be mistakes that get in the way of meaning.

Proficient

Eighth-grade students performing at the *Proficient* level should be able to produce an effective response within the time allowed that shows an understanding of both the writing task they have been assigned and the audience they are expected to address. Their writing should be organized, making use of techniques such as sequencing or a clearly marked beginning and ending, and it should make use of details and some elaboration to support and develop the main idea of the piece. Their writing should include precise language and some variety in sentence structure, and it may show analytical, evaluative, or creative thinking. The grammar, spelling, punctuation, and capitalization in the work should be accurate enough to communicate to a reader; there may be some errors, but these should not get in the way of meaning.

Advanced

Eighth-grade students performing at the *Advanced* level should be able to produce an effective and fully developed response within the time allowed that shows a clear understanding of both the writing task they have been assigned and the audience they are expected to address. Their writing should show some analytical, evaluative, or creative thinking, and should demonstrate precise word choice and varied sentence structure. Their work should include details and elaboration that support and develop the main idea of the piece, and it may make use of strategies such as analogies, illustrations, examples, anecdotes, or figurative language to clarify a point. At the same time, the writing should show that these students can keep their work clearly and consistently organized. Writing by eighth-grade students performing at the *Advanced* level should contain few errors in grammar, spelling, punctuation, capitalization, and sentence structure. These writers should demonstrate good control of these elements and may use them for stylistic effect in their work.

Achievement Level Descriptions for Grade 12 Writing

These achievement levels are proposed for first drafts, not final or polished student writing, that are generated within limited time constraints in a large-scale assessment environment.

Basic

Twelfth-grade students performing at the *Basic* level should be able to produce an effective response within the time allowed that shows an understanding of both the writing task they have been assigned and the audience they are expected to address. Their writing should show some analytical, evaluative, or creative thinking. It should include details that support and develop the central idea of the piece, and it should be clearly organized, making use of techniques such as a consistency in topic or theme, sequencing, and a clear introduction and conclusion. The grammar, spelling, punctuation, and capitalization in these students' work should be accurate enough to communicate to a reader;

there may be some errors, but these should not get in the way of meaning.

Proficient

Twelfth-grade students performing at the *Proficient* level should be able to produce an effective and fully developed response within the time allowed that uses analytical, evaluative, or creative thinking. Their writing should be organized effectively, and it should show that these students have a clear understanding of the writing task they have been assigned. It should be coherent, making use of techniques such as a consistent theme, sequencing, and a clear introduction and conclusion, and it should include details and elaboration that support and develop the main idea of the piece. The writing should show that these students are able to use precise language and variety in sentence structure to engage the audience they are expected to address. Writing by 12th-grade students performing at the *Proficient* level should contain few errors in grammar, spelling, punctuation, capitalization, and sentence structure. These writers should demonstrate a command of these elements and may use them for stylistic effect in their work.

Advanced

Twelfth-grade students performing at the *Advanced* level should be able to produce a mature and sophisticated response within the time allowed that uses analytical, evaluative, or creative thinking. Their writing should be fully developed, incorporating details and elaboration that support and extend the main idea of the piece. It should show that these students can use literary strategies— anecdotes and repetition, for example—to develop their ideas. At the same time, the writing should be well crafted, organized, and coherent, and it should incorporate techniques such as consistency in topic or theme, sequencing, and a clear introduction and conclusion. It should show that these writers can engage the audience they are expected to address through rich and compelling language, precise word choice, and variety in sentence structure. Writing by 12th-grade students performing at the *Advanced* level should contain few errors in grammar, spelling, punctuation, capitalization, and sentence structure. These writers should

demonstrate a sophisticated command of these elements and may use them for stylistic effect in their work.

Appendix B

A Suggested Process for Rubric Construction

General Characteristics of Writing by Mode

A Suggested Process for Rubric Construction

1. Convene a group of writing experts and classroom teachers to discuss the nature of the assessment (e.g., number and nature of tasks, time allowed).
2. Read a wide sampling of field-test papers, looking for special characteristics of the students contained in the sample as these characteristics will influence the level of complexity in the information specified by the rubric. Also, look through the student responses to get an idea of the diversity of responses and levels of achievement to identify the characteristics and content that should be included in the rubric.
3. Consider the level of discriminations necessary for the purpose of the test. Consider the length of time the student has had available to respond to the task.
4. Read all the papers and divide them into piles that demonstrate the characteristics of writing that are described in the rubric for each score point.
5. Write descriptors for each pile of papers. Consider what characteristics distinguish the top papers from the lowest levels. Then, assess what categories these characteristics fall into. In assessing writing, for example, the categories of most rubrics fall into purpose, audience, idea development/support, organization/structure, sentence structure, and word choice, voice, and mechanics.
6. Write rough drafts of descriptors for each score point.
7. Consider the rubric to be a “draft in process” until after the field test results have been evaluated.

General Characteristics of Writing by Mode

Narrative

- Understands the narrative purpose.
- Develops character.

- Maintains focus.
- Has satisfying resolution.
- Has appropriate ordering of events.
- Gives attention to audience when appropriate to the prompt.
- Uses elaboration and details.
- Handles direct and indirect discourse.
- Demonstrates control of mechanics.

Informative

- Understands the informative purpose.
- Has clear and complete information.
- Conveys messages, instructions, and/or ideas.
- Uses sufficient detail.
- Uses coherent and logical organization.
- Shows efficient relationships between and among ideas.
- Gives attention to audience.
- Fulfills the demands of the task.
- Uses language level appropriate to the topic and voice desired by the writing.
- Demonstrates control of mechanics.

Persuasive

- Understands the persuasive purpose.
- Takes and retains a position.
- Supports and develops a position through examples, details, statistics, and supporting evidence.
- Has coherent and logical organization.
- Gives attention to audience.

- Uses language level appropriate to the topic and voice desired by the writing.
- Demonstrates control of mechanics.

Appendix C

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