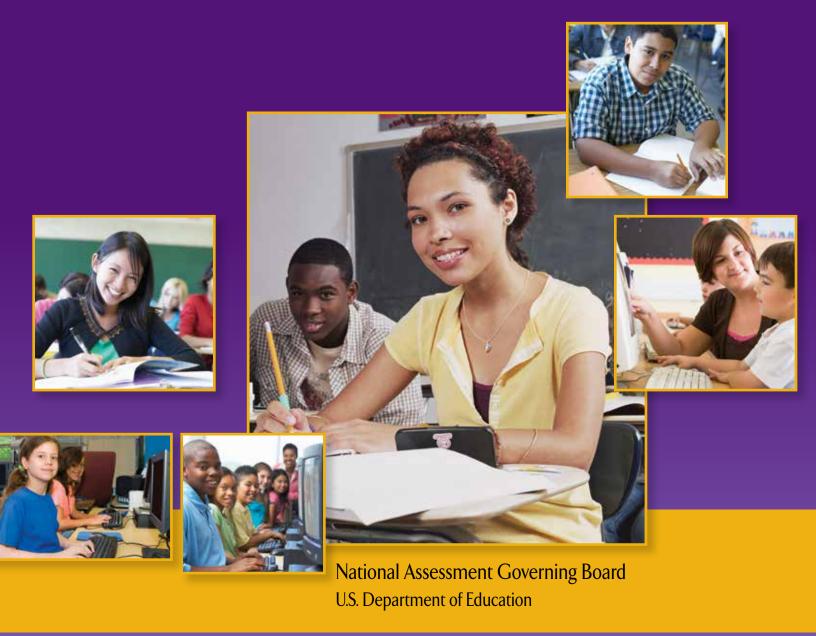
Writing Framework for the 2017 National Assessment of Educational Progress



WHAT IS NAEP?

The National Assessment of Educational Progress (NAEP) is a continuing and nationally representative measure of trends in academic achievement of U.S. elementary and secondary students in various subjects. For nearly four decades, NAEP assessments have been conducted periodically in reading, mathematics, science, writing, U.S. history, civics, geography, and other subjects. By collecting and reporting information on student performance at the national, state, and local levels, NAEP is an integral part of our nation's evaluation of the condition and progress of education.

The 2015–2016 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.

Members

Terry Mazany, Chair

President and CEO The Chicago Community Trust Chicago, Illinois

Lucille E. Davy, Vice Chair

President and CEO Transformative Education Solutions, LLC Pennington, New Jersey

Alberto Carvalho

Superintendent Miami-Dade County Public Schools Miami, Florida

Honorable Mitchell Chester

Commissioner Massachusetts Department of Elementary and Secondary Education Malden, Massachusetts

Frank Fernandes

Principal Kaimuki Middle School Honolulu, Hawaii

Honorable Anitere Flores

Legislator Florida Senate Miami, Florida

Rebecca Gagnon

Director Minneapolis Board of Education Minneapolis, Minnesota

Shannon Garrison

Fourth-Grade Teacher Solano Avenue Elementary School Los Angeles, California

Honorable James Geringer

Director of Policy and Public Sector Strategies Environmental Systems Research Institute (ESRI) Cheyenne, Wyoming

Doris Hicks

Principal and CEO Dr. Martin Luther King, Jr. Charter School for Science and Technology New Orleans, Louisiana

Andrew Ho

Professor Harvard Graduate School of Education Cambridge, Massachusetts

Carol Jago

Associate Director California Reading and Literature Project at UCLA Oak Park, Illinois

Tonya Matthews

President and CEO Michigan Science Center Detroit, Michigan

Tonya Miles

General Public Representative Mitchellville, Maryland

Honorable Ronnie Musgrove

Founding Member Musgrove/Smith Law Jackson, Mississippi

Dale Nowlin

Teacher and Mathematics Department Chair Bartholomew Consolidated School Corporation Columbus, Indiana

Father Joseph O'Keefe, S.J.

Professor Boston College Lynch School of Education Chestnut Hill, Massachusetts

W. James Popham

Emeritus Professor University of California, Los Angeles Los Angeles, California

B. Fielding Rolston

Chairman Tennessee State Board of Education Kingsport, Tennessee

Linda Rosen

CEO Change the Equation Washington, DC

Cary Sneider

Associate Research Professor Portland State University Portland, Oregon

Ken Wagner

Commissioner for Elementary and Secondary Education Rhode Island Department of Education Providence, Rhode Island

Chasidy White

Teacher Brookwood Middle School Brookwood, Alabama

Joe Willhoft

Consultant Tacoma, Washington

Writing Framework for the 2017 National Assessment of Educational Progress



National Assessment Governing Board

Terry Mazany *Chair*

Lucille E. Davy *Vice Chair*

William J. Bushaw *Executive Director*

Mary Crovo
Deputy Executive Director and
Project Officer

Developed for the National Assessment Governing Board under contract number ED–05–R–0022 by ACT, Inc.

For further information, contact:

National Assessment Governing Board 800 North Capitol Street, N.W. Suite 825 Washington, DC 20002–4233 www.nagb.org

March 2016

TABLE OF CONTENTS

LIST OF EXHIBITS	
EXECUTIVE SUMMARY	
Key Features of the Framework	
Plans for 2011, 2013, 2017, and Future Assessments	
NAEP WRITING PROJECT STAFF AND COMMITTEES	
CHAPTER ONE	
OVERVIEW	
Introduction	
Content of the NAEP Writing Assessment	
Design of the NAEP Writing Assessment	
Evaluation of Responses for the NAEP Writing Assessment	
Reporting Results of the NAEP Writing Assessment	
NAEP Writing Special Study	
Comparison of the 1998–2007 and the 2011–2017 NAEP Writing Frameworks	
CHAPTER TWO	
CONTENT OF THE NAEP WRITING ASSESSMENT	
Introduction	
Communicative Purposes for Writing	
Audience	
Student Choice of Form	
Example Task Illustrating Communicative Purpose, Audience, Example Approach	
Thinking and Writing, and Potential Forms	
CHAPTER 3	
DESIGN OF THE NAEP WRITING ASSESSMENT	
Writing with Computers on the NAEP Writing Assessment	
Time per Task	
Distribution of Communicative Purposes	
Assessing Students with Special Needs	
CHAPTER 4	
EVALUATION OF RESPONSES ON THE NAEP WRITING ASSESSMENT	
Which Features of Writing Will Be Evaluated	
How Responses Will Be Evaluated CHAPTER 5	
REPORTING RESULTS OF THE NAEP WRITING ASSESSMENT	
How NAEP Results are Reported	
Reporting Scale Scores and Achievement Levels	
Reporting Background Variables	
New Component of NAEP Reporting: Profile of Student Writing	
Methodology and Reporting of the Profile of Student Writing Uses of NAEP Reporting	
Conclusion	
APPENDIX A	
GLOSSARY OF TERMS	
APPENDIX B1	
PRELIMINARY HOLISTIC SCORING GUIDE FOR TO PERSUADE	

APPENDIX B2	63
PRELIMINARY HOLISTIC SCORING GUIDE FOR TO EXPLAIN	63
APPENDIX B3	67
PRELIMINARY HOLISTIC SCORING GUIDE FOR TO CONVEY EXPERIENCE, REAL OR	
IMAGINED	67
APPENDIX C	71
NAEP WRITING ACHIEVEMENT LEVEL DESCRIPTIONS	71
APPENDIX D	75
NAEP WRITING SPECIAL STUDY	
STUDY: GRADE 4 COMPUTER-BASED WRITING	75
APPENDIX E	77
NAEP WRITING ASSESSMENT REFERENCES	77
APPENDIX F	91
ORGANIZATIONS CONTACTED TO REVIEW INITIAL 2011 NAEP WRITING FRAMEWORK	
RECOMMENDATIONS	91

LIST OF EXHIBITS

Exhibit 1.1. Key Guidelines for Writing Tasks	6
Exhibit 1.2. Percentage Distribution of Communicative Purposes by Grade	9
Exhibit 1.3. Criteria for Evaluating Responses	11
Exhibit 1.4. Generic Achievement Level Policy Definitions for NAEP	13
Exhibit 1.5. Comparison of 1998-2007 and 2011-2017 NAEP Writing Frameworks	15
Exhibit 2.1. Content Components for the NAEP Writing Assessment	20
Exhibit 2.2. Example Writing Task for <i>To Persuade</i> (Grade 4)	23
Exhibit 2.3. Example Writing Task for To Explain (Grade 12)	24
Exhibit 2.4. Example Writing Task for To Convey Experience (Grade 8)	25
Exhibit 2.5. Example Task Illustrating Communicative Purpose, Audience,	
Example Approaches to Thinking and Writing, and Potential Forms	28
Exhibit 3.1. Percentage Distribution of Communicative Purposes by Grade	31
Exhibit 4.1. Criteria for Evaluating Responses on the NAEP Writing Assessment	36
Exhibit 5.1. Generic Achievement Level Policy Definitions for NAEP	45
Exhibit 5.2. Highlights of Background Variables Recommended for	
the 2017 NAEP Writing Assessment	47
Exhibit 5.3. Summary of NAEP Reporting Components	50
Exhibit 6.1. Basic Achievement Level Descriptions	71
Exhibit 6.2. Proficient Achievement Level Descriptions	72
Exhibit 6.3. Advanced Achievement Level Descriptions	73

EXECUTIVE SUMMARY

The purpose of the 2017 NAEP Writing Framework is to describe how the new NAEP Writing Assessment is designed to measure students' writing at grades 4, 8, and 12. As the ongoing national indicator of the academic achievement of students in the United States, NAEP regularly collects information on representative samples of students in those three grades.

The use of written language has become a critical component of the daily lives of millions of Americans. This is in part because, as technology continues to alter societies and cultures, it has fostered and supported an unprecedented expansion of human communication. In 2005, 172,000 new books were published in the United States alone. One hundred million websites existed worldwide. One hundred and seventy-one billion e-mail messages were sent *daily*. To write in this world is to engage in a millennia-old act that is reinventing and regenerating itself in the modern age.

The impact of communications technologies has changed the way people write and the kinds of writing they do. Writing in the 21st century is defined by its frequency and efficiency, and modern writers must express ideas in ways that enable them to communicate effectively to many audiences. It is clear that the ability to use written language to communicate with others—and the corresponding need for effective writing instruction and assessment—is more relevant than ever.

Given expanding contexts for writing in the 21st century, the 2017 NAEP Writing Framework is designed to support the assessment of writing as a purposeful act of thinking and expression used to accomplish many different goals. Although NAEP cannot assess all contexts for student writing, the results of the 2017 NAEP Writing Assessment will offer new opportunities to understand students' ability to make effective choices in relation to a specified purpose and audience for their writing in an "ondemand" writing situation. In addition, the assessment results will provide important information about the role and impact of new technologies on writing in K12 education and the extent to which students at grade 12 are prepared to meet postsecondary expectations.

The 2017 NAEP Writing Assessment reflects writing situations common to both academic and workplace settings, in which writers are often expected to respond to ondemand writing tasks. The 2017 NAEP Writing Assessment will assess ability to respond to a 30-minute writing task. Students at all three grades, including students with disabilities and English language learners, will complete two on-demand writing tasks.

Development of this framework involved extensive research, outreach, and in-person meetings over the course of 18 months. More than 500 individuals from across the nation participated in the process. This framework reflects the results of extensive and thorough research on writing assessment (appendix E). Many resources were consulted, including

states' writing standards and assessments, policy statements on writing assessment, and numerous journal articles. In addition, the framework reflects the perspectives of a diverse array of individuals and groups who collaborated on this project. These contributors included elementary, middle, secondary, and postsecondary educators; coordinators of writing instruction and assessment; experts in communication technologies; policymakers at the local, state, and national levels; representatives of the military; and business professionals. Members of many key professional organizations (appendix F) reviewed elements of the framework at various stages of development and provided their guidance. State testing and curriculum experts were consulted via inperson and computer conference sessions held throughout the framework project. This 18-month effort has resulted in a rigorous and innovative framework for the 2017 NAEP Writing Assessment.

KEY FEATURES OF THE FRAMEWORK

COMMUNICATIVE PURPOSES AND RHETORICAL FLEXIBILITY

On the 2017 NAEP Writing Assessment, students will have the flexibility to make rhetorical choices that help shape the development and organization of ideas and the language of their responses. Using age- and grade-appropriate writing tasks, the assessment will evaluate writers' ability to achieve three purposes common to writing in school and in the workplace: to persuade; to explain; and to convey experience, real or imagined. Because understanding the nature of one's audience is fundamental to successful communication, writing tasks will specify or clearly imply an audience, and writers will be asked to use approaches that effectively address that audience.

Given the topic, purpose, and audience for the writing task, writers will be expected to draw upon a variety of approaches to thinking and writing in order to develop and organize their ideas and to craft language in ways that help them achieve their purpose for writing. At grades 8 and 12, students may be asked to choose the form or text type they wish to use in responding to the writing task—such as an editorial, a letter, an essay, etc.—that they believe best helps them achieve their purpose for writing. Writers' work at all three grade levels will be evaluated using a holistic scoring guide that will support the assessment of how well all elements of a piece of writing work together.

COMPUTER-BASED WRITING

The design of the 2017 NAEP Writing Assessment reflects the way today's students compose—and are expected to compose—particularly as they move into various postsecondary settings. The assessment is designed to measure the ability of students to write using word processing software with commonly available tools. Students will complete writing tasks by using their knowledge of effective uses of language in order to make use of common tools for editing, formatting, and text analysis.

PROFILE OF STUDENT WRITING

The 2017 NAEP Writing Assessment may introduce a new component to reporting that will provide a more detailed survey of writing achievement at grades 4, 8, and 12. This *Profile of Student Writing* will provide a deeper analysis of more specific dimensions of students' responses, particularly with regard to how writers have approached the development and organization of ideas and to how they have used language in relationship to each communicative purpose being assessed.

PLANS FOR 2011, 2013, 2017, AND FUTURE ASSESSMENTS

In May 2010, the National Assessment Governing Board made several changes to the NAEP Schedule of Assessments, including a delay of the grade 4 NAEP Writing Assessment to 2013. The plan is to conduct a computer-based assessment at grade 4, which will enable NAEP to collect baseline data on fourth graders' computer-based writing skills. This change is also consistent with the Board's goal to move all NAEP assessments to a computer-based platform in the future. In the 2017 NAEP Writing Assessment at grades 4 and 8, NAEP will report achievement results for a nationally representative sample of students as it did for the 2011 NAEP Writing Assessment at grades 8 and 12. As computers become more prevalent in schools, reporting state-level results and results for districts in the NAEP Trial Urban District Assessment may also become feasible.

As in the past, the depth and extent of the information available from the results of the assessment will provide important data on writing achievement in 2017 and beyond. The assessment results reported by NAEP will provide the public, policymakers, and educators with important new information about the achievement of student writers and the nature of their performance in different communicative situations. There are, however, limitations to the range and scope of skills that NAEP can assess because, like most standardized assessments, NAEP is an "on-demand" assessment with limited time and resources. Therefore, the assessment results in 2017 and beyond should not be interpreted as a complete representation of student writing performance.

Results of the assessment will also be reported in The Nation's Report Card by means of scale scores and achievement levels, which present the percentage of students who perform at the *Basic*, *Proficient*, and *Advanced* levels. Demographic and subject-specific data gathered from students, teachers, and schools will also be available. While student performance trends in writing were reported from 1998 to 2007, the resulting information from the 2017 NAEP Writing Assessment will be used to continue a trend line from 2011 Assessment that should continue for at least 10 years.

NAEP WRITING PROJECT STAFF AND COMMITTEES

STEERING COMMITTEE

Sandra Murphy (Co-Chair)

Professor, School of Education University of California, Davis Davis, California

Michael Aitken

Director, Governmental Affairs Society for Human Resource Management Alexandria, Virginia

Charles Bazerman

Professor of Education University of California, Santa Barbara Santa Barbara, California

Cherry Boyles

Assistant Director of Curriculum Kentucky Department of Education Frankfort, Kentucky

Kevin Byrne

Director, Scholarships Michael and Susan Dell Foundation Austin, Texas

Patricia Cobb

4th Grade Teacher St. Mary Magdalen Catholic School Altamonte Springs, Florida

Darnella Cunningham

Principal Lee Hill Elementary School Fredericksburg, Virginia

Stephen Dunbar

Director, Iowa Testing Programs and Professor, Educational Measurement and Statistics University of Iowa Iowa City, Iowa

Ronni Ephraim

Chief Instructional Officer Los Angeles Unified School District Los Angeles, California

William Fitzhugh

Founder The Concord Review Sudbury, Massachusetts

Tom Gentzel

Executive Director Pennsylvania School Boards Association Mechanicsburg, Pennsylvania

Darion Griffin

Associate Director, Educational Issues American Federation of Teachers Washington, D.C.

Arthur Halbrook

Senior Associate Council of Chief State School Officers Washington, D.C.

Bobbi Ciriza Houtchens

12th Grade Teacher Arroyo Valley High School San Bernardino, California

Abigail Hurt

8th Grade Teacher Inman Middle School Decatur, Georgia

Ann Johns

Professor Emerita, Linguistics and Writing Studies San Diego State University San Diego, California

Carlton Jordan

Literacy Consultant The Education Trust Washington, D.C.

Dorry Kenyon

Director, Language Testing Division Center for Applied Linguistics Washington, D.C.

Judith Levinson

Director, Research, Evaluation and Assessment Evanston Township High School District #202 Evanston, Illinois

Megan O'Neil

Access to Assets Project Manager World Institute on Disability Oakland, California

Laurie Pessah

Professional Development Literacy Liaison Teachers College Columbia University New York, New York

Edys Quellmalz

Director, Assessment Research and Design SRI International Menlo Park, California

Charles Saylors

Secretary Treasurer National Parent Teacher Organization Taylors, South Carolina

Kathleen Yancey

Kellogg W. Hunt Professor of English Florida State University Tallahasee, Florida

PLANNING COMMITTEE

Arthur Applebee (Co-Chair)

Leading Professor and Director of the Center on English Learning and Achievement University at Albany Albany, New York

Phyllis Aldrich

Adjunct Professor, Education Department Skidmore College Saratoga Springs, New York

Depeka Croft

Elementary Writing Consultant Kentucky Department of Education Frankfort, Kentucky

Barbara Dogger

Lead Faculty for ESOL Writing/Grammar Richland College Dallas County Community College District Dallas, Texas

Jill Dowdy

English Language Arts Teacher C.A. Johnson Preparatory Academy Columbia, South Carolina

Elyse Eidman-Aadahl

Director, National Programs and Site Development National Writing Project Berkeley, California

Nikki Elliott-Schuman

Washington State Writing Assessment Specialist Office of Superintendent of Public Instruction Olympia, Washington

JoAnne Eresh

Senior Associate for English Language Arts Achieve, Inc. Washington, D.C.

Glenna Fouberg

President South Dakota State Board of Education Aberdeen, South Dakota

Melodie Friedebach (Retired)

Assistant Commissioner
Missouri Department of Elementary and
Secondary Education
Jefferson City, Missouri

Edward Gadsden

Vice President, Global Diversity and People Practices The Coca-Cola Company Atlanta, Georgia

Carolee Gunn

Assessment Specialist Utah State Office of Education Salt Lake City, Utah

Steven Hansen

Chief, Institutional Effectiveness Air Command and Staff College Maxwell Air Force Base, Alabama

Lou Howell

Facilitator, Iowa Support System for the Schools in Need of Assistance and Past President, Iowa Association for Supervision Curriculum and Development Iowa Department of Education Des Moines, Iowa

Carol Jago (Retired)

Co-Director, California Reading and Literature Project (UCLA) and English Department Chairperson Santa Monica High School Pacific Palisades, California

George Kamberelis

Associate Professor, Department of Reading University at Albany Albany, New York

Barbara Kapinus

Senior Policy Analyst National Education Association Washington, D.C.

Andrea Keech

8th Grade Language Arts Teacher Northwest Junior High School Iowa City, Iowa

Rosalyn King

Professor of Psychology and Chair, Center for Teaching Excellence Northern Virginia Community College Sterling, Virginia

Patsy Mills

Title III Bilingual/ESL Coordinator Houston Independent School District Houston, Texas

Jennifer O'Brien

8th Grade Language Arts Teacher St. Dominic School Cincinnati, Ohio

Patricia Porter

Vice President, Large-Scale Assessment Data Recognition Corporation Austin, Texas

Cynthia Rudrud (Retired)

High School Principal and Past President, National Association of Secondary School Principals Glendale, Arizona

Vicki Urquhart

Lead Consultant Mid-continent Research for Education and Learning Denver, Colorado

Jacquelyn Varnado

4th Grade Language Arts Teacher Beecher Hills Elementary Atlanta, Georgia

Timothy Wade

Assistant Professor of Education Administration Rider University Lawrenceville, New Jersey

Carl Whithaus

Associate Professor and Coordinator of Professional Writing Old Dominion University Norfolk, Virginia

Edward Wolfe

Associate Professor, Educational Research and Evaluation Virginia Polytechnic Institute and State University Blacksburg, Virginia

NAEP Writing Project Consultants

Beverly Ann Chin, Senior Project Consultant

Professor of English and Director of English Teaching Program University of Montana Missoula, Montana

Barbara Kolupke, Project Consultant

Adjunct Assistant Professor, Adams State College, and Head of the English Department Alamosa High School Alamosa, Colorado

Catherine Welch, Project Consultant

Professor, Educational Measurement and Statistics University of Iowa Iowa City, Iowa

NAEP WRITING PROJECT STAFF— NAGB

Mary Crovo

Deputy Executive Director

NAEP WRITING PROJECT STAFF—ACT

Rosanne Cook

Project Director

Carly Bonar

Assistant Project Director

Bradlev Cawn

Assistant Project Director

Teri Fisher

Project Manager

Tim Burden

Technical Project Advisor

Dean Colton

Technical Project Advisor

Note: This list of project staff and committees reflects professional affiliations during the project period for framework development.

CHAPTER ONE

OVERVIEW

The purpose of this chapter is to present an overview of the 2017 NAEP Writing Assessment.

Introduction

The ability to write well is essential to the economic success of the nation. Americans in the 21st century need to be able to communicate in a variety of forms and mediums, create texts under the constraints of time, and play a productive role in an economy that increasingly values knowledge and information. The pace of written communication in today's environment—the velocity of writing—reflects the transition to an information-based economy built on speed, efficiency, and complexity.

Writing is essential to productivity and to personal and social advancement. Corporations in almost all industries and services report that a significant majority of salaried employees—80 percent or more—have some responsibility for writing in their professions, a substantial growth from previous decades (Berman, 2001). It is no wonder, then, that communicating effectively is considered the most desirable skill among new hires by major corporations, and that good writing is essential to mid-career professionals for both day-to-day operations and long-term career advancement (National Association of Colleges and Employers, 2005; Light, 2001).

Developments in the theory and practice of composition underscore these changes and provide the basis for the 2017 NAEP Writing Framework. Researchers, conscious of how social influences shape the composing process, define writing as an action shaped by its intended goal and by the expectations of a reader (Miller, 1984). Writing, then, can be understood to be a negotiation between the demands of a writing situation—its objectives, its audience, etc.—and what one decides to act upon in order to complete the writing task and satisfy the demands of those reading it. Clarity of expression and effective presentation of ideas depend on a writer's ability to focus and organize information and to correctly employ conventions of language.

In K-12 education, good writing instruction empowers students to acquire new knowledge and to develop critical thinking skills. This is true of writing in all subject areas, not just English language arts. Writing and reasoning effectively are increasingly embedded in the learning of every subject discipline (Squire, 1988). Moreover, writing is not merely a school-based practice but a lifelong skill used to accomplish specific goals and convey particular messages within community and workplace settings.

The use of computers—in the workplace, in schools, and in the home—has also reshaped the nature of writing and the importance of effective communication. Government studies have shown that as many as 96 percent of K-12 students use computers to some degree

for academic or personal purposes (U.S. Department of Commerce, 2002; DeBell and Chapman, 2006). Similarly, a Bureau of Labor Statistics (2005) survey reports that more than 90 percent of college graduates use computers at work. The increasing frequency of computer-based writing outside of school or the workplace (e.g., e-mails, instant messaging, blogs) will undoubtedly expand the variety of writing situations in the future to include many new purposes and audiences. Future trends in writing instruction must take into account how computers affect both the writing process and the types of text produced.

The computerization of the 2017 NAEP Writing Assessment takes into consideration the prevalence of computer technology in schools and the workplace, the projected future growth of large-scale computer-based tests, and the increasing role computers play in the economic and educational activities of the nation. Initial research on the effects of computer-based writing in the K-12 curriculum is promising. Several studies suggest that using word processing applications can lead to more collaboration with other writers, support the production of longer compositions, and encourage the use of researched arguments that require inquiry and investigation (Baker and Kinzer, 1998; Goldberg, Russell and Cook, 2003; Graham and Perin, 2007; Grejda and Hannafin, 1992; Lunsford and Lunsford, 2007).

KEY GOALS FOR THE NAEP WRITING ASSESSMENT

Though the number of large-scale direct writing assessments has increased since the 1998 NAEP Writing Framework was developed—particularly with the incorporation of a writing component into the ACT and SAT college admissions tests—NAEP continues to provide the only nationally representative data on writing achievement. As a survey of student achievement, NAEP items are designed to measure what students *know and are able to do* in relation to the instruction they have received and in relation to expectations for postsecondary preparedness. To that end, the 2017 NAEP Writing Framework has the following goals:

To encourage student writers to move beyond prescriptive or formulaic approaches in their writing. In this framework, the decisions writers make about how to develop and organize ideas and use language are considered an important component of their writing ability. The most successful writers are those who are able to consistently make effective decisions in all dimensions of their writing in order to communicate effectively with their audience. Therefore, writing tasks in this assessment will be designed to support the evaluation of students' ability to make a variety of effective choices in how they approach the development and organization of ideas and in how they craft language to support their communicative purpose.

To assess students' writing using word processing software with commonly available tools. Because the computer plays a significant role in writing production, the technology used to compose is an important part of the writing process and reflects new conditions for writing at school and at work. Thus, in 2011, at grades 8 and 12, NAEP began to assess writing with word processing software. At grade 4, students' keyboarding

expertise and experience using computers on assessments was reviewed in 2012 as part of the Grade 4 Writing Computer-Based Assessment Study.

To measure students' ability to respond to a writing task in an on-demand scenario. While writing tasks in schools or the workplace often involve composing and editing processes lasting days or weeks, on-demand writing situations occur in both academic and professional settings where writers must often compose to achieve goals under time constraints. The 2017 NAEP Writing Framework is designed to provide information about what students can accomplish in such on-demand writing situations.

WRITING IN THE CONTEXT OF NAEP

Writing is a complex, multifaceted, and purposeful act of communication that is accomplished in a variety of environments, under various constraints of time, and with a variety of language resources and technological tools.

People communicate to accomplish goals or meet needs. Writing, then, can be thought of as a relationship or negotiation between the writer and reader to satisfy the aims of both parties. As a result, the 2017 NAEP Writing Framework focuses on writing for communicative purposes and on the relationship of the writer to his or her intended audience. The 2017 NAEP Writing Assessment will measure three communicative purposes common to academic and professional settings.

In a complex society with a plurality of perspectives and opinions, students need to be capable of expressing their viewpoints clearly and logically to convince others. Therefore, the 2017 NAEP Writing Assessment will measure the ability to persuade in order to change the reader's point of view or affect the reader's action.

The ability to inform others of ideas and concepts is also critical in an information-driven society. Therefore, another communicative purpose to be measured by the 2017 NAEP Writing Assessment is the ability *to explain in order to expand the reader's understanding*.

Finally, in an era in which many of the borders that have long separated the world's peoples blur, exploring and sharing human experience through writing helps define not only individual identity, but also the universal connections that people share. Therefore, the 2017 NAEP Writing Assessment also will measure writers' ability to convey experience, real or imagined, in order to communicate individual and imagined experience to others.

In choosing to evaluate these purposes for writing, developers of the 2017 NAEP Writing Framework do not intend to discount the importance of other common purposes for writing. K-12 curricula are rich with writing experiences in all subject areas. Many writing situations encourage students to write as a means of self-expression and comprehension, as is the case with writing-to-learn activities when the student composes as a means of thinking through key ideas on a topic. The importance of written

communication for personal purposes cannot be overstated: students given adequate practice in developing their own thoughts and feelings through such writing are better able to perform well in all forms of writing (Britton, et al., 1975). While NAEP cannot assess personal writing tasks (e.g., journals) or longer assignments (e.g., research reports or multimedia projects), it can provide a national survey of writing for these three communicative purposes in an on-demand writing situation.

For a glossary of terms used in the 2017 NAEP Writing Framework, see appendix A.

CONTENT OF THE NAEP WRITING ASSESSMENT

Writing tasks for the 2017 NAEP Writing Assessment will allow students to include information and ideas from their own reading, observations, and experiences, or to respond to short reading passages or to visual stimuli such as photographs or simple visual displays of information. The NAEP Writing Assessment will measure student ability to write in English. At all three grade levels, age- and grade-appropriate reading passages and visual stimuli will be incorporated as resources in some writing tasks.

Writing tasks will be as open ended as is appropriate to allow students to use supporting ideas that best fit the purpose and audience for the writing task. Tasks will not be subject-area specific; if they choose, students will be able to respond with ideas from areas outside of English language arts, such as history and science. The complexity of the tasks and the level of sophistication expected in the responses will increase at each grade level.

Examples of writing tasks at grades 4, 8, and 12 are provided in chapter two and in the NAEP Questions Tool (http://nces.ed.gov/nationsreportcard/nqt).

THE ROLE OF PURPOSE

Throughout K-12 and higher education, as well as in the workplace, most required writing falls under the broad categories of persuasive texts; explanations of events and phenomena; and narratives and reflective pieces, both real and imagined. Thus, the 2017 NAEP Writing Framework assesses these three communicative purposes: *to persuade, to explain, and to convey experience, real or imagined*. Tasks for the 2017 NAEP Writing Assessment will clearly identify the purpose for writing, providing NAEP with an important context for assessing student writing achievement at grades 4, 8, and 12.

THE ROLE OF AUDIENCE

Writing is a social act—not only do writers always write for a purpose, but they usually write to communicate ideas to others. Demonstrating an awareness of audience is considered to be one of the most important writing skills, particularly by college instructors and business professionals (Harris, 2006).

In most school and postsecondary writing situations, writers are either assigned an audience or the audience is clearly implied by the nature of the task. Therefore, tasks on

the 2017 NAEP Writing Assessment will specify or clearly imply an audience for the writing. These audiences will be realistic audiences that correspond to the purpose of the writing task. Audiences specified on the assessment will generally vary for each grade. At grade 4, audiences may include peers, teachers and school officials, and parents; at grades 8 and 12, writers may more often be asked to write for less familiar, more authoritative audiences, such as school or community leaders and government officials.

THE ROLE OF APPROACHES TO THINKING AND WRITING

When given a purpose and audience for writing, writers must decide how to develop and organize their ideas to achieve the demands of the task. Defined by various composition theorists as thinking and writing approaches or problem-solving strategies, such techniques allow writers to develop responses of depth and substance (Claggett, 2005; National Writing Project and Nagin, 2003; Flower, 1993). Some approaches commonly used to develop and organize ideas in effective written communication include analyzing, describing, evaluating, and narrating. By using these and other approaches to thinking and writing, alone and in combination, writers have considerable flexibility for the development and organization of a text.

While writing tasks on the 2017 NAEP Writing Assessment will not specify the use of particular approaches to thinking and writing, tasks will be designed to encourage students to draw upon a wide variety of approaches to support the development and organization of ideas. Responses will be evaluated for the effectiveness of writers' development and organization of ideas in relation to purpose and audience.

THE ROLE OF FORM IN THE NAEP WRITING ASSESSMENT

The term "form" refers to text features characteristic of a particular kind of writing, such as a short story or a newspaper editorial. The 2017 NAEP Writing Assessment may call for students at grades 8 and 12 to choose the form they believe is most effective for the purpose and audience specified in the task.

However, because the impact of asking students to choose a form in an on-demand writing task is unknown, three kinds of writing tasks will be considered during assessment development at grades 8 and 12: with the specification of form, without the specification of form, and with suggestions for two or more possible forms. The information from the assessment development process will help determine which tasks, if any, require the specification of form on the NAEP Writing Assessment.

However, students at grade 4 will be assigned a specific form in each writing task.

SUMMARY OF GUIDELINES FOR WRITING TASKS

The key guidelines for writing tasks are summarized in Exhibit 1.1 and presented as a graph in chapter two (see Exhibit 2.1).

Exhibit 1.1. Key Guidelines for Writing Tasks

Exhibit 1.1. Key Guidelines for Writing Tasks				
		Key Characteristics		
Guidelines for Development of Writing Tasks	Topic	 Topics will: Address real-world, age-appropriate, and grade-appropriate issues. Be familiar and accessible to students and not controversial in nature. Encourage the use of effective approaches to thinking and writing. 		
	Purpose	Purpose will be: Clearly stated in the writing task. Age-appropriate and grade-appropriate. Consistent with the audience identified in the writing task. Distributed appropriately at all three grades.		
	Audience	 Audience will be: Specified or clearly implied by the context of the writing task. Age-appropriate and grade-appropriate. Familiar to students. Consistent with the purpose identified in the writing task. 		
Student Engagement with Writing Tasks	Content	Make choices within parameters provided by the writing task (e.g., "persuade a classmate to read your favorite book" – writer would choose the book to write about). Draw upon their experiences and observations. Occasionally respond to an external stimulus, such as a brief reading passage or an illustration, photograph, table, chart, or other visual representation.		
	Approaches to Thinking and Writing	Students will: Consider the purpose and audience for their writing task when determining how to develop and organize ideas and how to craft language. Decide for themselves which thinking/writing approaches to use in developing and organizing ideas.		
	Form	Students may: • Choose the form most suitable to their purpose and audience at grades 8 and 12. Grade 4 students will be asked to respond by using a specific form.		

DESIGN OF THE NAEP WRITING ASSESSMENT

Writing with Computers

In 2017 and beyond, the NAEP Writing Assessment will measure computer-based writing. For the purposes of the 2017 NAEP Writing Assessment, "computer-based writing" means that students compose and construct their responses using word processing software on a computer, with the option to use commonly available tools.

At grade 4, a computer-based assessment was previously impractical because of time constraints for computer instruction, the unequal availability of technology in elementary schools, and elementary school students' current limited keyboarding proficiency. The goal, however, was for the assessment at grade 4 become computer-based during the tenure of this NAEP Writing Framework. It was expected that by 2019, widespread access to computers and increased keyboarding instruction in elementary schools would provide students with more opportunities to compose on the computer, thus warranting the delivery of a computer-based assessment at grade 4. In 2011, at grades 8 and 12, NAEP began to assess writing with word processing software. At grade 4, students' keyboarding expertise and experience using computers on assessments was reviewed in 2012 as part of the Grade 4 Writing Computer-Based Assessment Study. As a result of this study, it was determined that NAEP should assess grade 4 students using the computer-based NAEP Writing Assessment in 2017.

RATIONALE FOR COMPUTER-BASED ASSESSMENT OF WRITING

The movement to a computer-based assessment for the 2017 NAEP Writing Assessment reflects radical changes in the uses of technology for writing since the development of the 1998 NAEP Writing Framework. The number of students ages 12-17 who regularly or occasionally use computers to complete schoolwork and to access the Internet has increased from 32 percent in 1995 to a range in 2006 between 87 and 93 percent (Pew Research Center, 1995; Rainie and Hitlin, 2005; DeBell and Chapman, 2006). During the tenure of the previous NAEP Writing Framework, the students to computer ratio of 6 to 1 in 1998 decreased to 3.8 to 1 in 2005 (Goldberg, et al., 2003; Technology Counts, 2006). In addition to an increase in the number of computers available to students, the use of computers to write has become nearly universal: 97 percent of grade 8 teachers surveyed on the 1998 and 2002 NAEP Writing Assessments indicated that their students used computers to compose. These teachers saw the use of computers during the composing process as positively affecting student writing achievement, particularly with regard to increases in student motivation and time spent on revising written drafts (Solomon, et al., 2004).

As computers are increasingly becoming the established mode for completing academic and professional tasks, computer-based testing is increasingly becoming the established mode for large-scale assessments. In 2006, half of all states assessed student learning on computers or were piloting computer-based assessments, and several other states outlined plans to transition to computer-based tests. By 2011, a majority of states were expected to

offer some form of testing via computers (ACT Research Brief, 2006). In 2007, 19 states were using, piloting, or developing direct writing assessment using computers. Forty-seven states had separate standards for technology use; the remaining states have embedded technology expectations in their subject area standards (ACT Research Brief, 2006; Russell and O'Connor, 2003).

Concerns about students' access to computers and equity of access are common among policymakers and educators. However, progress continues to be made in bridging the "digital divide." As of 2009, the ratio of students to computers in the classroom every day was 5.3 to 1 (Gray, Thomas, and Lewis, 2010). The 2005 computer-to-student ratio at high-poverty and high-minority schools was only slightly higher than the national average of 3.8—at 3.9 for high-poverty schools and 4.1 for high-minority schools (*Technology Counts*, 2006). Expectations for student computer proficiency remain consistent across all educational contexts. The Trial Urban Districts that participated in the 2007 NAEP Writing Assessment all possessed benchmarks for computer proficiency—some developed their own, others followed state standards—that call for competence at grades 8 and 12 in producing written texts on computers and utilizing electronic resources. In several studies, including a 2002 NAEP pilot study examining computer-based writing assessment, most research has found that no significant differences exist in performance within subgroups (gender, race, socio-economic, etc.) when paper and pencil scores were compared to an online assessment (Horkay, et al., 2006; Russell, Higgins, and Hoffman, 2004; Sandene, et al., 2005).

Although there were students who reported not using computers for writing in 2011, it is reasonable to expect that the number of students who commonly use computers to write will substantially increase. Indeed, though the implementation of a computer-based writing assessment at grades 8 and 12 in 2011 may have raised equity issues for those students who were not comfortable with electronic composition, a paper and pencil assessment would have created similar issues of bias for students who commonly use computers to write (Russell, et al., 2004). Research has shown that paper and pencil assessments negatively affect the writing performance of computer-proficient students (Carlson, 2000; Russell, et al., 2004; Russell, 1999; Sandene, et al., 2005).

ASSESSING COMPUTER-BASED WRITING

The decision to assess computer-based writing addresses expectations for what students should know and be able to do at those grade levels. Because the ability to use word processing software and its tools has become a critical component of the composing process, the 2017 NAEP Writing Framework supports an assessment environment for writing more similar to that used by students and adults who write on computers in postsecondary education, in the workplace, and in their daily lives. The goal of this assessment, then, is to measure writing achievement using word processing software with commonly available tools.

In the context of NAEP, "tools" refers to the extensions built into word processing software that help writers modify or revise their written documents. For the 2017 NAEP

Writing Assessment, the following kinds of tools will be considered: prewriting tools (e.g., notepad windows, paper); editing tools (e.g., cut, copy, paste); formatting tools (e.g., line spacing, indenting); spelling tools (e.g., spell check, automatic capitalization); grammar tools (e.g., grammar check); and reference tools (e.g., dictionary, thesaurus). The specific tools to be used will be determined at a later time, pending changes in technology. Features considered distracting or irrelevant to what is being assessed will not be available to students, nor will the Internet or other online applications (e.g., databases, encyclopedias, etc.).

Framework developers considered whether to enable any composing and editing tools. However, eliminating access to common word processing tools on the computer would create a highly artificial platform for composing, since a writer normally has access to and uses at least some common tools when composing on a computer. The purpose of assessing writing produced on the computer comes into question when access to such common features of word processing software is eliminated.

TIME PER TASK

NAEP ascertains what students know and can do in a limited amount of time with limited resources (e.g., with limited opportunities for reflection and revision or for feedback from peers and teachers). The NAEP Writing Assessment assigns students two on-demand writing tasks. Each task will represent one of the three communicative purposes NAEP writing assesses—*To Persuade*; *To Explain*; or *To Convey Experience*, *Real or Imagined*. The writing assessment will be administered as two 30-minute, computer-based writing tasks.

DISTRIBUTION OF COMMUNICATIVE PURPOSES

Exhibit 1.2 shows the distribution of communicative purposes on the 2017 NAEP Writing Assessment. The percentages represent the proportion of tasks for a particular purpose out of the total number of tasks developed for each grade.

Exhibit 1.2. Percentage Distribution of Communicative Purposes by Grade

Purpose	Grade 4	Grade 8	Grade 12
To Persuade	30%	35%	40%
To Explain	35%	35%	40%
To Convey	35%	30%	20%
Experience			

There is a progression of emphasis on writing *to explain* and *to persuade*, though many students in all three grades will also write *to convey experience*, *real or imagined*. The distribution of percentages reflects the focus on these three communicative purposes in writing instruction at the elementary and secondary levels, as well as the writing expectations in postsecondary settings.

ASSESSING STUDENTS WITH SPECIAL NEEDS

The NAEP Writing Assessment is designed to measure the writing skills and academic achievement of students at grades 4, 8, and 12, so tasks on the NAEP Writing Assessment will be as fully and clearly explained as possible in order to be accessible to all students. Further, students with disabilities and English language learners are included in the assessment sample. The 2017 NAEP Writing Assessment will be administered to English language learners and students with disabilities who, based on inclusion criteria specified by NAEP, are capable of participating.

Some students may need accommodations to be able to participate in the NAEP Writing Assessment. NAEP attempts to provide accommodations to students that match the accommodations these students are allowed in school (for example, a student would be offered the same accommodations as directed by the student's Individualized Education Program) as long as those accommodations do not alter the construct being measured on the assessment. Appropriate accommodations will be available for computer-based delivery of the 2017 NAEP Writing Assessment.

EVALUATION OF RESPONSES FOR THE NAEP WRITING ASSESSMENT

WHICH FEATURES OF WRITING WILL BE EVALUATED

Three broad features of writing will be evaluated in students' responses:

- Development of Ideas
- Organization of Ideas
- Language Facility and Conventions

These broad features are consistent with state learning standards and reflect what most states evaluate in their direct writing assessments at grades 4, 8, and 12. They are also consistent with expectations for postsecondary preparedness.

Exhibit 1.3 presents these three broad domains and the important features within each domain that will be used to determine the level of achievement in students' writing. The effectiveness of these features will be evaluated in relation to the purpose and audience specified in the writing task.

Exhibit 1.3. Criteria for Evaluating Responses

Development of ideas is effective in relation to the writer's purpose and audience.

- Depth and complexity
- Approaches to thinking and writing
- Details and examples

Organization is logical in relation to the writer's purpose and audience.

- Text structure
- Coherence
- Focus

Language facility and conventions support clarity of expression and the effectiveness of the writing in relation to the writer's purpose and audience.

- Sentence structure and sentence variety
- Word choice
- Voice and tone
- Grammar, usage, and mechanics (capitalization, punctuation, and spelling)

HOW RESPONSES WILL BE EVALUATED

The evaluation of responses will be based on the criteria listed in the three broad domains above. The recommended tool for evaluation is a holistic scoring rubric, which is designed to guide scorers' evaluation of the response as a whole using the criteria specified for the assessment. Individual elements or parts of the response will not be scored separately. Scoring rubrics will provide guidelines for determining the overall performance of a response on a scale from 1 to 6, with 1 being low and 6 being high. Trained readers will decide on a single score (one number on the scale of 1 to 6) based on a judgment about the relative strengths and weaknesses of the response in relation to specified criteria.

Appendix B includes preliminary holistic scoring rubrics for each of the three communicative purposes to be assessed.

REPORTING RESULTS OF THE NAEP WRITING ASSESSMENT

NAEP provides an ongoing representative sample survey of student achievement by administering assessments at regular intervals to students at grades 4, 8, and 12. In addition to reporting overall results at the national level, NAEP reports results at the state and jurisdiction levels, as well for large urban school districts participating in the NAEP Trial Urban District Assessment (TUDA). NAEP also reports on the performance of various student subgroups at the national, state, and urban district levels.

The 2011 NAEP Writing Assessment began a new trend line for writing, which should continue for at least 10 years. The results of the 2017 NAEP Writing Assessment will offer new opportunities to examine students' ability to write effectively in relation to the

purpose and audience for the writing and to understand the role and impact of computers on writing production.

NAEP REPORTS

The primary means for public release of NAEP results is a printed summary report known as The Nation's Report Card. This report is accompanied by a dedicated website: http://nationsreportcard.gov. The printed report and website will provide detailed information on the results of the 2017 NAEP Writing Assessment and the students who participated. Results will be reported for specific groups of students and for states and large urban districts that participate in the NAEP assessment. NAEP results are reported for demographic subgroups, including females and males, students from various racial/ethnic backgrounds, and students who took the 2017 NAEP Writing Assessment with and without accommodations. Individual student performance on NAEP assessments is not reported.

The information available from the results of the 2017 NAEP Writing Assessment will provide important new data during the tenure of the framework. Because the assessment measures student writing achievement within a specific context that is limited by time and resources, there are limitations to the data reported and to uses of those data. NAEP reports do not evaluate results or provide conclusive statements about the level of writing achievement among K-12 students, nor is the assessment designed to drive curriculum or writing instruction.

REPORTING SCALE SCORES AND PERCENTILES

NAEP writing results are reported in two ways: as scale scores and as percentages of students attaining each of the achievement levels. Scale scores, which are derived from student responses to assessment items, summarize the overall level of performance attained by a group of students. Scale scores are presented as average scale scores and as scale scores at selected percentiles. Achievement levels provide further information about student achievement by indicating the degree to which student performance meets the standards set for what students *should know and be able to do*.

ACHIEVEMENT LEVELS AND CUT SCORES

NAEP achievement levels are the primary means of reporting NAEP results to the general public and policymakers. Achievement Level Descriptions represent an informed judgment of "how good is good enough" in the various subjects assessed. NAEP achievement levels define in general terms what students at grades 4, 8, and 12 should know and be able to do at the *Basic*, *Proficient*, and *Advanced* levels. Cut scores represent the minimum score required for performance at each NAEP achievement level and are usually reported along with the percentage of students who scored at or above the specified level. Sample student responses provide illustrations of student skills within each level of achievement.

Exhibit 1.4 displays the Governing Board's generic policy definitions for *Basic*, *Proficient*, and *Advanced* achievement that pertain to all NAEP subjects and grades.

Exhibit 1.4. Generic Achievement Level Policy Definitions for NAEP

Achievement Level	Definition
Advanced	This level signifies superior performance.
Proficient	This level represents solid academic performance for each grade assessed. Students reaching this level have demonstrated competency over challenging subject matter, including subject-matter knowledge, application of such knowledge to real-world situations, and analytical skills appropriate to the subject matter.
Basic	This level denotes partial mastery of prerequisite knowledge and skills that are fundamental for proficient work at each grade.

The full text of Achievement Level Descriptions for the 2017 NAEP Writing Framework is located in appendix C.

BACKGROUND VARIABLES

Students participating in the NAEP Writing Assessment respond to questionnaires designed to gather information on variables important to understanding writing achievement nationwide. Teachers and school administrators also complete questionnaires to gather data relevant to student achievement. This information is used as part of the summative report on writing achievement.

Questionnaires for students on the NAEP assessments will contain questions about demographics, learning habits or attitudes, and reactions to the NAEP Writing Assessment itself. Teachers and school administrators will be asked questions on these topics as well as others related to instructional practices, professional development, and teacher qualifications. Background questionnaires may also contain subject-specific questions that elicit more information from students and school personnel about different elements of the content areas. For the purposes of the 2017 NAEP Writing Assessment, the questionnaires will reflect two primary interests: computer use (particularly with regard to writing with computers) and the number and kinds of opportunities students have to write. The 2017 NAEP Writing Framework includes some highlights of these recommendations in chapter five.

Recommendations for background variables for the 2017 NAEP Writing Assessment are presented in *Writing Background Variables Recommendations*.

NEW COMPONENT OF NAEP REPORTING: PROFILE OF STUDENT WRITING

Framework developers recognize that more information about the meaning of the data gathered from the 2017 NAEP Writing Assessment will be useful to K-12 schooling and in various postsecondary settings. The 2017 NAEP Writing Framework, therefore, recommends that a national sample of student responses at grades 4, 8, and 12 be selected

and examined to obtain more in-depth information on key features of student performance in writing. By selecting a nationally representative sample, the results of the analyses can be generalized to the whole population, supporting external validity of the conclusions. Four studies may be included in the Profile.

- Analysis of Development of Ideas: The decisions students make when developing ideas—particularly those that relate to the communicative purposes assessed, the rhetorical flexibility offered in the tasks, and the criteria used to evaluate the development of ideas—will be analyzed.
- Analysis of Organization of Ideas: Students' methods of organization, the structures of their texts, and their use of forms in relation to communicative purposes will be analyzed.
- Analysis of Language Facility: Collection of data on students' language use and stylistic choices, common errors in the use of conventions, and students' level of language complexity (e.g., word choice, sentence length) will be analyzed in relation to student performance data and background variable information.
- Exploratory Analysis: Data produced by these three studies will be analyzed in relation to performance and in relation to information collected on the background variables. These analyses will address what patterns, if any, exist between observations of various dimensions of writing and the quality of the responses.

The results of this investigation should be reported for writing done within the context of an on-demand writing assessment and at the national level only.

NAEP WRITING SPECIAL STUDY

The transition to a computer-based delivery by 2019 for grade 4 required further study before such a recommendation could be implemented. A special study was conducted to investigate changes in computer instruction at the fourth grade, on fourth graders' keyboarding proficiency, and on the extent to which fourth graders are accustomed to composing using word processing software.

Appendix D includes further discussion about the proposed design of the special study.

COMPARISON OF THE 1998–2007 AND THE 2011–2017 NAEP WRITING FRAMEWORKS

The 2017 NAEP Writing Assessment Framework continues the 2011 NAEP Writing Assessment Framework, which replaced the framework developed for the 1998, 2002, and 2007 NAEP Writing Assessments. The 2017 NAEP Writing Framework honors many aspects of the previous framework but also introduces important changes that will lead to better measurement of student writing and more precise reporting of assessment results.

Exhibit 1.5 highlights key differences between the 1998–2007 and 2011–2017 NAEP Writing Frameworks.

Exhibit 1.5. Comparison of 1998–2007 and 2011–2017 NAEP Writing Frameworks

	bit 1.5. Comparison of 1998- 1998–2007 Writing Framework	2011–2017 Writing Framework	Explanation for Change
Content of NAEP Writing Assessment	The 1998–2007 NAEP Writing Assessments measured three modes: Persuasive mode: Writing to convince Writing to construct an argument Writing to refute a position Informative mode: Description Explanation Analysis Narrative mode: First-person and third-person fictional stories, personal essays On the 1998–2007 NAEP Writing Assessments, some writing tasks required students to write for a particular audience (e.g., a peer, school principal, or committee). For other writing tasks, an audience was not specified.	The 2011–2017 NAEP Writing Assessments measure three communicative purposes: • To Persuade, in order to change the reader's point of view or affect the reader's action • To Explain, in order to expand the reader's understanding • To Convey Experience, real or imagined, in order to communicate individual and imagined experience to others In 2011–2017, a specific audience will be stated or clearly implied in all writing tasks at grades 4, 8, and 12.	Purposes for writing are emphasized as a way of: Recognizing that most writing is influenced in significant ways by interaction between writer, purpose, audience, and topic. Focusing the writer's attention on the goal of the writing task and the needs of the audience. To Convey Experience is a broader representation of the kinds of writing students will be asked to do. In the 2011–2017 Framework, "narrative" is viewed as an approach, not a purpose, and is a strategy also used in explanatory and persuasive writing. The specification of audience on all prompts and at all grades will encourage students to make decisions about how to develop and organize ideas ("approaches to thinking and writing") and how to craft language that meets the needs of the specified audience.
Design of NAEP Writing Assessment	Percentage of Writing Tasks for Each Writing Mode: Grade Grade Grade 4 8 12 Persuasive 25% 33% 40% Informative 35% 33% 35% Narrative 40% 33% 25%	Percentage of Writing Tasks for Each Writing Purpose: Grade Grade Grade 12 To Persuade 30% 35% 40% To Explain 35% 35% 40% To Convey Experience 35% 30% 20%	An increase in the percentage of tasks for the persuasive purpose at grade 4 reflects emerging pedagogical practices in elementary schools and complements expectations for postsecondary preparedness at grades 8 and 12. The distribution also reflects a progression of emphasis on writing to explain and to persuade, though many students in all three grades will also write to convey experience, real or imagined.

Exhibit 1.5 (continued). Comparison of 1998–2007 and 2011–2017 NAEP Writing Frameworks

	1998–2007 Writing Framework	2011–2017 Writing Framework	Explanation for Change
Design of NAEP Writing Assessment	Paper and pencil assessment for grades 4, 8, and 12.	Recommendation to provide computer-based assessment at grade 4 by 2019 or earlier. Computer-based assessment for grades 8 and 12.	As students have become accustomed to composing, revising, and editing on computers, a computer-based assessment will offer students an environment for writing that more accurately reflects how students compose. Students will also have the option of using commonly available editing, formatting, and text analysis tools to compose their response. The 2011–2017 computer-based assessments offer students the opportunity to compose in an environment that is similar to that of many writing situations in postsecondary education and training.
Evaluating Responses on the NAEP Writing Assessment	On the 1998–2007 assessments, evaluation criteria are defined as "general characteristics of writing by mode;" some characteristics (e.g., "organization" and "mechanics") apply to all three modes, whereas others are modespecific (e.g., "develops character" for the narrative mode).	The 2011–2017 NAEP Writing Assessments will evaluate three broad domains of writing in all students' responses: Development of Ideas Organization of Ideas Language Facility and Use of Conventions	The 2011–2017 NAEP Writing Assessments clearly and consistently define criteria for the evaluation of effective writing across grades. Features of writing will be evaluated in relation to the purpose and audience specified in the writing task. Development and organization of ideas will be evaluated for writers' use of relevant and effective approaches to thinking and writing (e.g., analyzing, evaluating, narrating, etc.).

Exhibit 1.5 (continued). Comparison of 1998–2007 and 2011–2017 NAEP Writing Frameworks

	1998–2007 Writing Framework	2011–2017 Writing Framework	Explanation for Change
Reporting NAEP Writing Assessment Results	On the 1998–2007 assessments, student performance was reported in two ways: Scale scores Achievement Level Descriptions Average scale scores are derived from the overall level of performance of groups of students on NAEP assessment items. For Writing, average scale scores have been expressed on a 0–300 scale. Achievement levels are performance standards set by NAEP that provide a context for interpreting student performance. These performance standards are used to report what students should know and be able to do at the Basic, Proficient, and Advanced levels of performance in each subject area and at each grade assessed.	For the 2011–2017 NAEP Writing Assessments, reports on student performance may include a new component. Assessment results will be reported in three ways: Scale scores Achievement levels Profile of Student Writing: A nationally representative sample of student responses at each grade will be closely analyzed in relation to the evaluative criteria used to score student writing. Utilizing both qualitative and quantitative methods, data will be analyzed in order to detect patterns between attributes of the responses and performance at the Basic, Proficient, and Advanced levels of achievement.	The Profile of Student Writing enhances the traditional NAEP reporting methods—scale scores and achievement levels— by providing information about various dimensions of writing and the relationship between those attributes and achievement.

CONTENT OF THE NAEP WRITING ASSESSMENT

The purpose of this chapter is to explain the content of the 2017 NAEP Writing Assessment.

Introduction

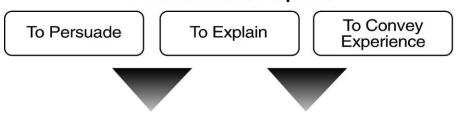
The focus of the 2017 NAEP Writing Assessment is to assess "effective communication," the ability to achieve the intended aims of composing and to address the needs of an audience (Britton, et al., 1975). Therefore, the writing tasks on the assessment will clearly identify the purpose for writing and will state or clearly imply the audience on the written task. This approach reflects writing research on the need to develop writing tasks that offer students genuine opportunities to communicate (Graves, 1999; National Writing Project and Nagin, 2003). Moreover, the principles underlying this writing framework are in accordance with the learning standards of most states (ACT Research Brief, 2006), which specify that effective written communication involves adjusting written language for specific audiences and purposes. Writing to meet specified purposes and audiences is also an objective of writing at the college level (Council of Writing Program Administrators, 1999).

On the 2017 NAEP Writing Assessment, each student at grades 4, 8, and 12 will respond to two writing tasks. Topics that students will respond to on these tasks will include real-world, age- and grade-appropriate issues that are familiar and accessible. To increase students' engagement with the topic and their motivation to write, writing tasks will be as open ended as is appropriate to encourage a variety of potential responses within the parameters of the task. In responding to NAEP writing tasks, students may include information and ideas from their own reading, observations, and experiences, or they may be asked to respond to short reading passages or to visual stimuli such as photographs or simple visual displays of information.

The 2017 NAEP Writing Assessment highlights successful writers' negotiation between a task's specified purpose and audience and the rhetorical choices writers need to make to communicate effectively. Writing tasks will require writers at all three grade levels to develop, organize, and craft the language of their text by drawing upon approaches to thinking and writing that are most effective for their purpose and audience. At grades 8 and 12, the writing task may also require students to determine what form is best suited to their purpose for writing. Exhibit 2.1 illustrates the process involved in completing tasks on the 2017 NAEP Writing Assessment and the relationship between this process and the evaluation of the writing task.

Exhibit 2.1. Content Components for the NAEP Writing Assessment

Communicative Purposes



Example Audiences

Principal Parents Peers
Community Leaders Teachers Government Officials etc.



Example Approaches to Thinking and Writing



Example Forms

Essay Story Article Letter Editorial Report etc.



Evaluation Criteria

Development of Ideas

Organization of Ideas

Language Facility and Conventions

COMMUNICATIVE PURPOSES FOR WRITING

Any piece of writing is constructed with a goal or objective in mind—a "communicative purpose." While writers often try to achieve multiple goals when composing texts—such as affecting a reader's emotions when trying to persuade an audience to change their point of view on an issue—certain overarching aims are more common to school and workplace settings and are also more appropriate for an on-demand writing assessment such as NAEP. The purposes for writing assessed by the 2017 NAEP Writing Assessment are found throughout the core curriculum in K-12 education—in English language arts, in science, in social studies, and in mathematics—and take many forms, including short stories, personal narratives, essays, reports, summaries, research papers, letters, proposals, newspaper articles, and so on. The three communicative purposes assessed are:

- **To Persuade**, in order to change the reader's point of view or affect the reader's action
- To Explain, in order to expand the reader's understanding
- To Convey Experience, real or imagined, in order to communicate individual and imagined experience to others

These three communicative purposes are also important in postsecondary education and in the workplace, where most writing can be broadly described as persuading readers to change their perspectives or to take action; explaining information, issues, and ideas; and reflecting on experience to make thoughtful judgments and create connections between the writer and the audience.

When completing writing tasks for any of these purposes, writers draw upon a variety of approaches to the development and organization of ideas in order to achieve their communicative purpose. These "approaches to thinking and writing" represent the ways in which all writers shape text and include such strategies as storytelling (e.g., narrating, describing), logical reasoning (e.g., analyzing, synthesizing), or critiquing (e.g., evaluating, interpreting). These approaches are sometimes used alone, but are also often used in various combinations, depending on the writer's purpose for writing. Approaches to thinking and writing will not be specified in the assessment writing tasks, but writers at all three grades will be expected to use relevant and effective approaches to developing and organizing their ideas.

To Persuade

Persuasive writing is a demanding task that requires critical thinking, complex language, and the ability to consider one's own views and those of others (Nippold, Ward-Lonergan, and Fanning, 2005). People write to accomplish persuasive purposes throughout their lives: adults write to persuade in many situations, including business proposals, letters of recommendation, or grant applications, and persuasive writing tasks are found in content areas throughout K-12 education. The demands and number of persuasive tasks increase across the grade levels as middle school and secondary school

students are asked to integrate research, address many perspectives on an issue, and craft language to move an audience that is disinterested or holds opposing views.

In writing to persuade, writers draw on a variety of approaches to thinking and writing that help them accomplish their communicative purpose. For example, someone writing to persuade an audience of parents with young children on the dangers of excessive television viewing might reflect on his or her own experiences by narrating, describing, and evaluating his or her own television viewing habits on a typical day. The writer might also analyze the viewing habits of Americans by comparing and contrasting contemporary television viewing habits with those of the past, or the writer might analyze the effects of television viewing on Americans' health or social interactions. Finally, the writer might argue for reducing the number of hours that American children and adults watch television by giving reasons, based on evidence, for the positive changes in people's lives that could result from a more physically active and socially involved lifestyle. In this example, the writer might decide to focus on extensive use of one or two of these approaches to thinking and writing, combine all of the approaches mentioned in the example, or employ others that are not included here.

On the NAEP Writing Assessment, persuasive writing tasks will ask writers to convince an audience to take action or change a viewpoint on a variety of topics important to others (e.g., peers, school, the nation). In writing tasks for grade 4, students may be asked to express and support a point of view. Grade 8 students may be expected to review a proposal and convince others of its soundness with reasons and detailed evidence. Grade 12 students may be assigned to compose an argument that demonstrates an understanding of other perspectives through its development and organization of ideas and that supports a position with logical reasoning.

Exhibit 2.2 on the following page is an example of a writing task for the purpose *To Persuade* for grade 4.

Exhibit 2.2. Example Writing Task for *To Persuade* (Grade 4)



Imagine that students at your school are going to select a new school mascot. A mascot is an animal or object used to represent a group. For example, many sports teams have mascots.

Four choices are being considered as your school's mascot: Tigers, Rising Stars, Dolphins, and Rockets. You have been asked to choose one of the four mascots and to support your choice in a letter to the school principal.

Write a letter to your principal convincing him or her that your choice should be the school mascot. Be sure to include reasons and examples in your letter.

For additional examples of *To Persuade* writing tasks, visit the NAEP Questions Tool (http://nces.ed.gov/nationsreportcard/nqt).

TO EXPLAIN

Writers who compose to explain seek to present information and ideas to others in a manner that aids understanding of a topic. Throughout the K-12 curriculum, writing to explain is the most commonly assigned communicative purpose (Graham and Perin, 2007): students write summaries, research reports, and other kinds of explanatory tasks in all of their school subjects. Writing to explain is an everyday occurrence in the workplace and the adult world as well, where people write informative e-mail messages, fill out applications, and write instructions.

As with writing to persuade, writers seeking to explain a subject to an audience also draw upon a variety of approaches to thinking and writing that help them present their ideas. For example, a writer who wants to explain to middle school science students how DNA was discovered might narrate the story of the competing efforts of James D. Watson and Francis Crick to discover DNA. The writer might also describe the steps in the process that led to the discovery of DNA and analyze how each step helped scientists toward the discovery. To explain the importance of the discovery, the writer might evaluate the impact of DNA research on other scientific research and on other fields by synthesizing

information from several perspectives. In this example, the writer might decide to focus on extensive use of one or two of these approaches to thinking and writing, combine all of the approaches mentioned in the example, or employ others that are not included here.

On the NAEP Writing Assessment, tasks designed to assess students' ability to write to explain at grade 4 might call for a basic explanation of personal knowledge or an explanation of a sequence of pictures and/or steps provided in the task. Grade 8 tasks may ask students to analyze a process or write a response that compares similarities and differences between two events or ideas. Grade 12 tasks may focus on asking students to identify the causes of a problem or define a concept. At all three grade levels, writers will be expected to explain a topic to an audience by drawing upon approaches to thinking and writing that help them clearly present their ideas and by using language that helps the audience fully understand the topic or subject being explained.

Below is an example of a writing task for the purpose *To Explain* for grade 12.

Exhibit 2.3. Example Writing Task for *To Explain* (Grade 12)

Members of your community, including local leaders and the mayor, are concerned about civic awareness and town pride. In order to open a dialogue with area residents, your local newspaper is inviting residents to respond to a question civic leaders have debated: "What makes a good community?" The newspaper wants those who respond to define a good community and to explain what elements are needed to create a good community. Responses to this question will be read by members of the city council, including the mayor, and used to support their efforts to improve civic awareness and town pride.

Write a response for the newspaper in which you define a good community and explain what elements make a good community. Be sure to use specific examples and details to explain your ideas.

For additional examples of *To Explain* writing tasks, visit the NAEP Questions Tool (http://nces.ed.gov/nationsreportcard/nqt).

TO CONVEY EXPERIENCE, REAL OR IMAGINED

In conveying experience, writers seek to bring real or imagined experience to life for their readers. Writers connect to their audiences through descriptive details, voice, style, reflection on the meaning and significance of events and actions, and evocation of emotional response. Writing to convey experience reflects many text forms in the K-12 and postsecondary curricula: stories, personal statements, and reflective essays; biographies; satirical essays; and so on. Writing to convey experience is commonly used throughout life to establish and convey identity in forms such as blogs, interviews, and memoirs.

Narration is a common approach used in writing to convey experience, but writers also draw upon other thinking and writing approaches. For example, in writing to convey a particularly important event in one's life to peers, a writer might analyze the causes of the event and then tell the story of the event by narrating what happened and describing the setting and others who were involved. The writer might also reflect on the meaning of the event by sharing thoughts about how it has affected his or her attitudes or actions. The writer might also evaluate the importance of the changes brought about by the event. In this example, the writer might decide to focus on extensive use of one or two of these approaches to thinking and writing, combine all of the approaches mentioned in the example, or employ others that are not included here.

Tasks designed to assess writing *to convey experience* on the 2017 NAEP Writing Assessment will encourage flexibility in thinking and form, allowing writers to organize complex reflective or imaginative responses. A grade 4 student could be asked to craft a short story by narrating events and describing setting and characters. A grade 8 student could be asked to write a narrative account of a favorite memory or experience and convey how it affected the writer and others. A grade 12 student might use writing to explore, reflect, and evaluate aspects of his or her character or growth as a person, using extended examples and self-questioning to illustrate the discussion.

Below is an example of a writing task for the purpose *To Convey Experience* for grade 8.

Exhibit 2.4. Example Writing Task for *To Convey Experience* (Grade 8)

Teen Life, a magazine for young adults, has announced a writing contest for middle school students. The theme of the contest is "Achieving Goals." The magazine has published the following contest instructions:

Teen Life wants to hear about the experiences of young people who have achieved goals. To enter, write about a memorable moment in your life when you achieved a goal you set for yourself. All successful responses will need to clearly convey the experience of achieving a goal so that the reader can fully understand the experience and its importance. The staff of *Teen Life* will select a winner, whose name will be published in next month's issue.

Write a response for the contest describing an experience of achieving a goal and the importance of that experience to your life. Be sure to include details in your response that help readers understand your experience and its importance.

For additional examples of *To Convey Experience* writing tasks, visit the NAEP Questions Tool (http://nces.ed.gov/nationsreportcard/nqt).

AUDIENCE

The intended recipient of a written text plays an important role in shaping the writer's approach to all dimensions of his or her response. From developing and organizing ideas to the language the student uses, clear and effective communication requires an

awareness of readers' needs and their level of knowledge about the writing topic. For this reason, audience will be clearly specified or implied in all writing tasks on the 2017 NAEP Writing Assessment.

The kinds of audiences specified on the 2017 NAEP Writing Assessment will differ at grades 4, 8, and 12 based on grade-level expectations and students' familiarity with writing for other audiences. These audiences will progressively broaden: grade 4 students will be asked to write for peers or familiar individuals, while grade 12 students may be asked to write for more distant, authoritative audiences, such as government officials or community leaders.

STUDENT CHOICE OF FORM

The term "form" refers to the organizational features customarily required by a particular kind of writing, such as a short story, friendly letter, letter of complaint, and so on. Since a writer's purpose and audience should determine the selection of the most appropriate form, several forms may be effective for a given writing task. On the 2017 NAEP Writing Assessment, students at grades 8 and 12 may have the flexibility to choose the form they believe best accomplishes the assigned communicative purpose for the audience the task specifies. For example, in response to a task asking students to "explain what the concept of community means to you," a student in grade 12 might choose to address the task by writing a definition essay, an editorial/opinion column, a letter to the City Council, and so on. In this instance, the writer would choose the form that, in his or her judgment, is most effective for communicating ideas to the intended audience.

Framework developers, however, recognize that it is necessary to make writing tasks accessible within the time allotted for writing, so it may be necessary for some or all tasks to explicitly state which form a writer will use. Therefore, the 2017 NAEP Writing Framework recommends that three types of writing tasks be considered at grades 8 and 12:

- Tasks that specify a text type, or form (e.g., "Write a **letter** to persuade the principal of your school to")
- Tasks that do not specify a text type (e.g., "Persuade the principal of your school to")
- Tasks that recommend several possible text types (e.g., "Write a **letter**, **editorial**, or **essay** to persuade the principal of your school to")

Given grade 4 students' limited experience writing without a specified form, the NAEP writing tasks at grade 4 will clearly state the form the response should take.

EXAMPLE TASK ILLUSTRATING COMMUNICATIVE PURPOSE, AUDIENCE, EXAMPLE APPROACHES TO THINKING AND WRITING, AND POTENTIAL FORMS

The negotiation between the parameters of the written task and the choices the writer makes within these parameters is central to the 2017 NAEP Writing Assessment. Writing tasks will specify the topic, the purpose for writing, the audience, and (at grade 4) the form, but writers will be expected to craft language and draw upon approaches to thinking and writing that they feel will best achieve their communicative purpose. Students at grades 8 and 12 may be asked to choose the form that they believe best supports the communicative purpose of the writing task.

In the example task on the following page, all content components of the assessment are identified: the writing task, the communicative purpose, the audience, some examples of approaches to thinking and writing that a writer might draw upon, and possible text forms.

Exhibit 2.5. Example Task Illustrating Communicative Purpose, Audience, Example Approaches to Thinking and Writing, and Potential Forms

Example Task

Scientists recently announced that a state park in your state contains large amounts of oil—a substance that can be converted into gasoline for cars or used to heat homes. Your state legislature is now debating whether to allow energy companies access to the protected land in this park in order to drill for the oil. In a speech to residents of the state, one of the state legislators identifies two sides of the debate:

"The debate over whether the state should allow energy companies to drill for petroleum on protected land is important to this state's future. Some in the state legislature believe that allowing access to lands currently protected would benefit our economy, creating thousands of jobs and lowering the costs of goods and services. Others, however, believe it is more important to protect our natural environment and support a high quality of life for citizens of this state.

The state legislature has called on citizens of the state to express their opinions about this issue. Take a position and write a response persuading members of your state legislature to support your position on whether or not protected land in your state should be opened to energy companies for drilling.

Analysis of Task

Grade: 12

Purpose: To Persuade (write a response persuading members of your state legislature to support your position on whether or not protected land in your state should be opened to energy companies for drilling)

Audience: Members of the student's state legislature

Examples of Approaches to Thinking and Writing: Students might address this writing task using multiple approaches, alone or in combination with each other. For example, students could:

- Discuss the role of governments in protecting natural resources and whether economically beneficial land should be preserved (analyze, evaluate).
- Summarize and review current attitudes toward the issue, noting how these attitudes have affected the environment or economy (*summarize*, *analyze*).
- Critique the solutions offered by proponents and opponents of drilling, conceptualizing an alternative by finding a central idea that highlights opposing viewpoints (evaluate, synthesize).
- Analyze the importance of state parks or strong industries to the state (*analyze*, *evaluate*).
- Describe what an area in the state might look like if the land is or is not open to energy companies to drill oil (*describe*).
- Write personal anecdotes illustrating how their experiences with state parks or protected natural areas inform their views on the issue (describe, narrate, and reflect).

Potential Forms: Letter, essay, opinion piece

DESIGN OF THE NAEP WRITING ASSESSMENT

The purpose of this chapter is to explain the design of the 2017 NAEP Writing Assessment.

WRITING WITH COMPUTERS ON THE NAEP WRITING ASSESSMENT

In 2017 and beyond, the NAEP Writing Assessment will measure computer-based writing. "Computer-based writing" means that students compose and construct their responses using word processing software, with commonly available word processing tools enabled. The 2017 NAEP Writing Assessment will measure how well students write when using word processing software on a computer.

The move to a computer-based assessment from traditional paper and pencil assessments acknowledges the vital role computers play in both student composition and writing instruction. Word processing programs are a common composing mode for multi-draft process writing in middle school language arts classes (Christy, 2005) and are routinely used by high school students to create complex texts or to collaborate during the writing process (Thomas, 2005; Perry, 2005). In fact, two separate studies conducted in 2002 found that 90 to 94 percent of middle and high school students reported using computers to produce drafts during the school year; 86 percent of teachers surveyed in one study said they used word processing for in-class writing instruction that year (Goldberg, Russell, and Cook, 2003; Horkay, et al., 2006). Results from two separate series of student background questions on the 2002 NAEP Writing Assessment also found that more than 75 percent of grade 8 and 12 students always or occasionally used computers throughout the writing process, while more than 70 percent of grade 12 students used word processing tools to compose and revise their drafts (Horkay, et al., 2006; Applebee and Langer, 2006).

As writing on computers becomes an increasingly common means of composing, a computer-based assessment is the best method of understanding the writing practices of K-12 students. The 2017 NAEP Writing Assessment reflects students' preference for the composing mode that more easily and efficiently allows them to generate and revise texts (Russell and Plati, 2000), and research has shown that students prefer to compose on computers when completing a large-scale writing assessment (McClarty, Keng, and Davis, 2006; Bennett, 2002). A computer-based writing assessment also provides students with writing environments more similar to those of postsecondary education and the workplace than a paper and pencil assessment can provide.

WRITING WITH COMMONLY AVAILABLE WORD PROCESSING TOOLS

The 2017 NAEP Writing Assessment measures computer-based writing skills: students

will complete writing tasks using word processing software and the software's commonly available tools. In the context of NAEP, "tools" refers to the extensions built into word processing software that help writers modify or revise their text documents. These tools—such as paragraph formatting, copy, cut, and paste; or thesaurus—are often used by students when producing texts. Tools help students revise and rethink their writing during the process of composing (Cramer and Smith, 2002) and have not been shown to have a detrimental effect on the development of language skills (Grejda and Hannafin, 1992). In fact, the availability of a fuller set of tools on a computer-based writing assessment has been shown to lead to considerable improvement in the development of ideas in students' responses to an assessment task (Russell, et al., 2004).

The following list includes tools that were commonly available to writers when the Framework was adopted by the Governing Board. The list provides examples of the kinds of tools that will be considered for the NAEP Writing Assessments, pending the nature of tools available.

Prewriting/Planning Tools: those used to help the student prepare to compose, such as scratch paper to brainstorm or a simple text editor (such as Notepad) to outline or take notes.

Editing Tools: those used to add, delete, correct, or adapt typed text, such as copy, cut, paste, undo/redo, clipboard, and select all.

Formatting Tools: those used to alter the physical appearance of the text, including the fonts, paragraphs, margins, and general layout. Current examples of such tools include paragraph formatting and templates.

Spelling Tools: those used to verify or suggest options for the accurate spelling of typed words or phrases.

Grammar Tools: those used to verify or suggest options for altering the grammar; usage; and mechanics of typed words, phrases, and sentences.

Reference Tools: those used to verify the meaning or usage of a word or to find a synonym/antonym for a word or phrase. These tools include electronic dictionaries and thesauruses.

Composing tools considered irrelevant to an assessment of writing or distracting to students—including such tools as clip art, font color, and the Internet—will not be enabled on the 2017 NAEP Writing Assessment.

A computer-based writing assessment creates additional opportunities to develop assessments that align with what students know and can do, but requires considerable resources and cooperation to be administered successfully. Extensive research, study, and field testing will be necessary before implementing the components of a computerized NAEP Writing Assessment. Considerations related to the delivery and administration of a

computer-based assessment, security, collection of responses, and reporting results will be considered in detail in the 2017 NAEP Writing Assessment Specifications.

COMPUTER-BASED TESTING AT GRADE 4

A computer-based assessment at grade 4 has been impractical because of limited instructional time for computer use prior to grade 4 and the limited keyboarding proficiency of many grade 4 students. However, the grade 4 assessment should become computer-based at some point during the tenure of the 2011 NAEP Writing Framework, potentially by 2019. By this time, computer instruction and keyboarding proficiency among grade 4 students should support a computer-based assessment. Pursuant to the Governing Board's May 2010 decision, NAEP conducted a pilot computer-based writing assessment at grade 4 in 2013, which allowed for an in-depth examination of these issues and a determination that the 2017 NAEP Writing Assessment will be computer based for grade 4.

TIME PER TASK

For the 2017 NAEP Writing Assessment, students will be presented with two extended response tasks. This design is the best means of constructing a fair and effective large-scale survey of student achievement in writing. The 2017 NAEP Writing Assessment will be administered as two 30-minute writing tasks.

DISTRIBUTION OF COMMUNICATIVE PURPOSES

Exhibit 3.1 shows the distribution of tasks at each grade level in relation to communicative purposes on the 2017 NAEP Writing Assessment. The percentages represent the proportion of tasks designed to assess each purpose out of the total number of tasks at each grade.

Exhibit 3.1. Percentage Distribution of Communicative Purposes by Grade

Purpose	Grade 4	Grade 8	Grade 12
To Persuade	30%	35%	40%
To Explain	35%	35%	40%
To Convey Experience	35%	30%	20%

The assessment measures responses to a variety of communicative purposes at all grades, with an increase of *To Persuade* tasks at grades 4, 8, and 12; a consistent range of *To Explain* tasks among all three grades; and a decrease in the distribution of *To Convey Experience* tasks across the later grades. Students are accustomed to writing for all three communicative purposes in grades and subject areas throughout the K-12 curriculum, and this distribution highlights the particular importance of *To Convey Experience* and *To Explain* tasks in elementary and middle school, and *To Persuade* and *To Explain* tasks in secondary school settings. This progression also reflects the increasing importance of these two purposes in postsecondary and workplace settings.

ASSESSING STUDENTS WITH SPECIAL NEEDS

The framework committees have endeavored to design a writing assessment that allows for the participation of the widest possible range of students at grades 4, 8, and 12. Students with a range of backgrounds and experiences are included in the assessment, including English language learners (ELL) and students with disabilities (SD) who, based on inclusion criteria provided by NAEP, are capable of participating.

Item and assessment development procedures will be followed that build accessibility into the assessment, while assessing student ability to write in English. Tasks on the 2017 NAEP Writing Assessment will be as fully and clearly explained in order to allow more sophisticated tasks to be included without disadvantaging students who have limited English language proficiency. Writing tasks that rely heavily on cultural or experiential knowledge for a successful response will not be included in the assessment.

Special care will be taken to ensure that all student populations have an equal opportunity to demonstrate what they know and are able to do on the 2017 NAEP Writing Assessment. As many students as possible should be encouraged to participate in the NAEP Writing Assessment. Accommodations should be offered, if necessary, to enable students with disabilities and English language learners to participate, but should not alter the knowledge and skills being assessed as defined in this framework.

INCLUSION CRITERIA FOR STUDENTS WITH DISABILITIES

A student identified as having a disability—that is, a student with an Individualized Education Program (IEP), a Section 504 Plan, or an equivalent classification—will be included in the NAEP assessment unless the student has previously been identified in an IEP as having the most significant cognitive disabilities and is assessed by the state on an alternate assessment based on alternate achievement standards.

In deciding how a student will participate in NAEP:

- a) If the student has an IEP or Section 504 plan and is tested without accommodation, then he or she takes NAEP without accommodation.
- b) If the student's IEP or 504 plan specifies an accommodation permitted by NAEP, then the student takes NAEP with that accommodation.
- c) If the student's IEP or 504 plan specifies an accommodation or modification that is not allowed on NAEP, then the student is encouraged to take NAEP without that accommodation or modification.

(National Assessment Governing Board, 2010)

INCLUSION CRITERIA FOR ENGLISH LANGUAGE LEARNERS

The NAEP program has established procedures to include and accommodate as many English language learners as possible in NAEP assessments. All English language learners selected for the NAEP sample who have been in United States schools for one year or more should be included in the National Assessment. One year or more shall be

defined as one full academic year before the year of the assessment. School staff make the decisions about whether to include ELL students in the NAEP assessments, and which testing accommodations, if any, they should receive. The NAEP program furnishes tools to assist school personnel in making those decisions.

A sample of students is first selected at each grade level being tested. Students are selected for participation in the NAEP assessments without regard to English language learner (or disability) status. Accommodations should be offered that maximize meaningful participation, are responsive to the student's level of English proficiency, and maintain the knowledge and skills being assessed as defined in this framework.

A student may still be able to participate in the assessment even if the student did not participate in the regular state assessment, or even if he/she generally uses accommodations NAEP does not allow. In either instance, school staff would be asked whether that student could participate in NAEP with the allowable accommodations.

ACCOMMODATIONS

Some students may need accommodations to be able to participate in the 2017 NAEP Writing Assessment. Accommodations in NAEP assessments include:

- Extended time in regular session
- Small group testing
- One-on-one testing
- Large-print booklets
- Other: format or equipment accommodations such as a Braille version of the assessment, amplification devices, or magnification equipment (if provided by the school)

Accommodations will be offered in combination as needed (e.g., students who receive one-on-one testing generally also use extended time) and attempts will be made to match the accommodations students are allowed in school and on their state assessment(s). To ensure consistency in administering the assessment, accommodations will be standardized to as great an extent as possible across the 2017 NAEP Writing Assessment. Appropriate accommodations for English language learners and students with disabilities will also be available for computer-based delivery of the assessment.

Additional information about assessing students with special needs is included in the 2017 NAEP Writing Specifications. Detailed manuals and training procedures will also be developed by NAEP contractors to ensure that inclusion criteria are applied uniformly and that students are assessed appropriately with accommodations.

EVALUATION OF RESPONSES ON THE NAEP WRITING ASSESSMENT

The purpose of this chapter is to explain how students' responses will be evaluated for the 2017 NAEP Writing Assessment.

WHICH FEATURES OF WRITING WILL BE EVALUATED

The most successful writers consistently make effective choices in all dimensions of their writing to achieve the writing task's purpose and to meet the needs of their intended audience. The 2017 NAEP Writing Assessment has been constructed to emphasize that many important features of writing contribute to the overall quality of a written response.

For the 2017 NAEP Writing Assessment, three broad domains will be evaluated:

- Development of Ideas
- Organization of Ideas
- Language Facility and Conventions

These broad domains are consistent with learning standards and benchmarks in most states. In 2006, over 90 percent of states' standards, benchmarks, and assessments at grades 4, 8, and 12 included development and organization of ideas, style and varied sentence structure, vocabulary and precise diction, and conventions of standard written English (grammar, usage, punctuation, capitalization, and spelling). In addition, approximately 60 percent of states had benchmarks for complexity of ideas and the logical progression of ideas, primarily at grades 8 and 12 (ACT Research Brief, 2006).

Representatives from higher education and workplace settings also agree that a strong demonstration of many important features of writing is critical for success in these postsecondary arenas. Postsecondary educators value abstract reasoning and marshalling strong evidence in support of an argument, while representatives from various workplace settings tend to emphasize the importance of clarity and conciseness. All of these groups, however, emphasize the importance of awareness of audience, strong organization of ideas, and correct use of the conventions of standard written English (ACT Research Brief, 2006).

Exhibit 4.1 presents the three broad domains assessed by the 2017 NAEP Writing Assessment and the features within each domain that will be used to evaluate student performance on the writing tasks.

Exhibit 4.1. Criteria for Evaluating Responses on the NAEP Writing Assessment

Development of ideas is effective in relation to the writer's purpose and audience.

- The depth and complexity of ideas are effective in relation to the writer's purpose and audience.
- Approaches to thinking and writing (e.g., analyzing, synthesizing) are used effectively in relation to the writer's purpose and audience.
- The details and examples used to develop ideas are specific and effective in relation to the writer's purpose and audience.

Organization is logical in relation to the writer's purpose and audience.

- Text structure is logical and effective in relation to the writer's purpose and to the approaches to thinking and writing that the writer has used.
- Coherence is maintained within and between paragraphs.
- Focus is maintained throughout the response.

Language facility and conventions support clarity of expression and the effectiveness of the writing in relation to the writer's purpose and audience.

- Sentence structure is well controlled and sentence variety is appropriate for the writer's purpose and audience.
- Precise and appropriate word choice supports clarity of expression and enhances the presentation of the writer's ideas.
- Voice and tone are effective in relation to the writer's purpose and audience.
- Grammar, usage, and mechanics (capitalization, punctuation, and spelling) support clarity of expression and enhance the presentation of the writer's ideas.

DEVELOPMENT OF IDEAS

To communicate thought to others, writers need to develop ideas to go beyond the presentation of superficial assertions—or mere opinions—which are likely to raise unanswered questions about the writers' thoughts or experiences. When informing or persuading the audience, for example, writers must show in detail how generalities apply to particular cases, the basis for their conclusions, or how their conclusions differ from those of others. When conveying experience, writers often need to include extensive and exact descriptive detail to communicate a clear understanding of the experience.

Although not all forms of writing require the same kind or extent of development (e.g., a detailed analysis of a problem versus a brief business letter or memorandum), effective writing is dependent on writers' ability to anticipate the questions that might arise in the reader's mind. Effective writers judiciously address those questions, with the depth and extent of the development of ideas determined by the difficulty of the material to be explained and by the purpose and audience for the writing.

As Exhibit 4.1 illustrates, the following features will be used to evaluate the Development of Ideas in a written response.

Depth and Complexity

Successful writers show depth and complexity by demonstrating insight, knowledge, and/or understanding that allows them to move beyond a superficial discussion of a topic and establish credibility with their readers. Some of the most common means of creating substance include examining the relationships between a topic and related concepts, examining the topic from a global or "big picture" perspective, and/or demonstrating a broad understanding of how a topic might be perceived by the writer's audience or by other readers. On *To Persuade* tasks, then, successful writers might demonstrate depth and complexity by examining different perspectives on an issue and by providing convincing evidence to support the writer's own position. On *To Explain* tasks, successful writers might demonstrate depth and complexity by providing a thoughtful and insightful explanation of the subject in terms the reader can readily understand or by fully examining the relationship of its parts.

Approaches to Thinking and Writing

The 2017 NAEP Writing Framework emphasizes that a number of approaches to thinking and writing (e.g., describing, evaluating, reflecting/questioning) may be used effectively to support the development of ideas and connect with the reader. Successful writers draw upon relevant approaches to thinking and writing that enhance their communicative purpose, or they extend the development of their ideas by weaving multiple approaches into a successful written response. Specific approaches to thinking and writing will not be specified on NAEP tasks, but responses will be evaluated for their use of effective approaches in relation to the development and organization of ideas.

Details and Examples

Successful writers develop responses by providing compelling details and examples that illustrate the writer's points and expand the reader's understanding. For example, on a task asking students to explain to a curious new student what to expect on the student's first day of class, a writer might discuss recess and lunchtime rules, describe the way the cafeteria smells at lunchtime, and/or tell a story illustrating how kind the teachers are to the students. For the 2017 NAEP Writing Assessment, students will be able to develop their ideas with details and examples taken from their own experiences or observations, or, in some cases, from brief reading passages or visual stimuli.

ORGANIZATION OF IDEAS

Organization refers to the logical arrangement of sentences and paragraphs in order to coherently express ideas that readers can understand and follow. Organization is thus a fundamental component of effective writing—no matter the purpose, the form, or the audience—because the order and presentation of ideas is an important component of what compels readers to be convinced, enlightened, or affected. If writing is poorly organized,

the writer's ideas will not be clearly conveyed and readers are likely to become confused or frustrated. Good organization requires the writer to remain focused on the writing topic by establishing a clear presentation and progression of ideas.

The following text features will be used to evaluate Organization of Ideas.

Logical Text Structure

The rhetorical flexibility available to the writer on the 2017 NAEP Writing Assessment will impact how the written response is constructed and how ideas are arranged. Students may respond to the topic, purpose, and/or audience in any number of different ways to best accomplish the demands of the writing task, leading to many kinds of effective text structures. For example, the use of analysis to explain might result in comparing and contrasting two or more ideas or objects, or an evaluation intended to persuade the reader might address potential solutions to a problem in some order of priority. In a text written *To Convey Experience*, writers might use a basic chronological approach to telling a story, or they might use other narrative techniques (e.g., flashbacks). Writers will be evaluated for the way their approach to organization helps build a logical progression of ideas to achieve the purpose of the task and to communicate to an audience.

Eighth and twelfth graders will also draw upon their knowledge of form to structure their texts. Successful writers will use a form and structure appropriate to the topic, purpose, and audience when responding to a task on the assessment. For example, when asked to persuade members of a state legislature to support a particular position about drilling for oil in state parks, a student might effectively structure her ideas in the form of a newspaper editorial addressing and refuting points of opposition to her beliefs. Depending on the purpose and audience for the task, other potential forms eighth and twelfth graders may use include letters, different kinds of essays, articles, reports, and so on.

Coherence and Focus

Successful writers maintain focus by ensuring that ideas, details, and examples are relevant to the purpose, topic, and audience for the text. A written text is coherent if its ideas are clearly connected within and between paragraphs. Similarly, a text is coherent if the sentences within paragraphs and the paragraphs themselves are presented in a clear and logical order. Strong use of transitions helps to ensure that the reader perceives the relationship among parts of the writing and the relationship of the parts to the whole.

LANGUAGE FACILITY AND CONVENTIONS

Language facility refers to stylistic effectiveness and grammatical clarity in the ways writers express ideas to the reader. Good writers make many choices about language use. They decide what kinds of sentences to use and how to construct sentences to clearly convey relationships among ideas; they also purposefully arrange these sentences to enhance the organizational qualities of their writing. They choose particular words and alter how emotion and voice are expressed to clearly and effectively communicate

meaning—and to maintain the reader's interest. They adhere to established rules of communication to ensure understanding and avoid distractions.

The following text features will be used to evaluate students' language facility and conventions.

Sentence Structure and Sentence Variety

Good writers craft the structure and variety of their sentences to illuminate their topic, to effectively accomplish the purpose of the task, and to engage the reader. Effective sentence structure can also enhance the development and organization of ideas and is a device used by writers to emphasize ideas within a sentence. For example, students on the 2017 NAEP Writing Assessment might use parallel sentence structure to demonstrate the comparability of points when explaining similarities or differences, or they might combine clauses with colons or semicolons in order to persuade an audience that their ideas are connected and logical—and thereby worth believing.

Alternating the length and kinds of sentences used can also make a text easier to follow and more interesting to read. Successful writers achieve sentence variety by strategically crafting shorter and longer sentences, by varying the ways sentences begin, and by using a variety of sentence types (e.g., simple, compound, complex). These stylistic choices are made in order to best express or develop ideas that help the writer achieve the communicative purpose of the task.

Word Choice, Voice, and Tone

Successful writers are able to decide what words will most precisely and clearly express their ideas and what words will support their purpose for writing. Successful writers also consider their relationship with the reader, choosing words that encourage a reader to connect to their ideas and intentions. When conveying experience, for example, writers often choose evocative words that appeal to the reader's senses and give the sensation of experiencing the event.

Effective writing also involves adapting word choice, voice, and tone depending on the purpose, audience, and/or topic of a writing task. In other words, the most successful writers recognize the context of the writing situation—what they are writing about, who their audience is—and deliberately alter their style and language to achieve a purpose. Two ways this is achieved are through voice, the writer's ability to convey a personality or attitude in language, and tone, the writer's attitude toward the topic or audience.

Writers alter their manner of expression (e.g., their word choice, sentence structures, etc.) as a means of demonstrating their attitudes towards a topic or an audience. For example, a writer composing a satirical essay may express a tone of mockery or disgust for a topic by altering his or her voice to include common elements of sarcasm, such as exaggeration or rhetorical questions. The 2017 NAEP Writing Assessment will evaluate how these stylistic choices help the writer achieve the purpose of the writing task and communicate effectively to the audience.

Conventions: Grammar, Usage, and Mechanics

Grammar is the system through which a given language is ordered according to an agreed-upon set of internal rules; usage refers to established conventions of written language commonly used in forms of communication; and mechanics refers to conventions of capitalization, punctuation, and spelling. Good writers have a command of grammar, usage, and mechanics so that only minimal errors, if any, are present in their writing. Just as the variety, severity, and pervasiveness of errors in grammar, usage, and mechanics can distract readers and make it difficult to understand the writer's meaning, correct use of language can facilitate understanding by allowing the reader to focus on the writer's thoughts and ideas.

HOW RESPONSES WILL BE EVALUATED

SCORING RUBRIC FOR EACH COMMUNICATIVE PURPOSE

The use of a holistic rubric is recommended as the basic tool for evaluation of responses on the 2017 NAEP Writing Assessment. The holistic approach to scoring focuses on an evaluation of the whole response rather than on its individual parts (Myers, 1980). That is, a response will not be evaluated with a separate score for each writing feature, and an overall score will not be derived by adding together scores for each separate feature. Instead, a response will be scored by assessing performance across multiple criteria—development of ideas, organization of ideas, language facility and conventions—to evaluate overall performance. Because of the depth of evaluative criteria and the wide range of potential responses to the writing tasks, responses to tasks on the 2017 NAEP Writing Assessment will be scored on a six-point scale, with 1 being low and 6 being high. A six-point scale provides the clearest possible distinction among achievement levels, the most explicit operational definitions, and a continuum of performance (Wolcott, 1998).

To score responses for the writing assessment, a holistic rubric unique to each communicative purpose will be used. This approach will result in the use of three rubrics: one for the communicative purpose *To Explain*, another for the purpose *To Persuade*, and a third for the purpose *To Convey Experience*. Each scoring rubric will contain all the features to be evaluated and will include descriptions of the performance expected at each score point.

Although the same scoring rubric will be used for each communicative purpose across grades 4, 8, and 12, the interpretation, or application, of the rubric will be different at each grade. Scorers will be carefully and extensively trained to interpret and apply the scoring rubric by reading actual responses selected at each grade level. These responses will be chosen to demonstrate appropriate and increasing expectations for performance at each grade level. For example, responses selected to guide evaluation of writing at grade 4 for the purpose *To Persuade* might, at the highest level of performance, use some specific and relevant details to support the writer's opinion. At grade 12, however, responses selected to demonstrate performance at the highest level might demonstrate the

ability to consistently present reasons and details that show an awareness of other perspectives on the issue.

SCORING RUBRICS

Final scoring rubrics will be developed by using actual student responses obtained during field testing of NAEP Writing Assessment tasks. All features of writing to be evaluated will be present in the final scoring rubrics for the NAEP Writing Assessment. That is, the features used as a basis for evaluating responses will not change. However, the language used to describe expectations for the levels of performance may differ in the final scoring rubrics based on actual student performance found in the field test responses.

The preliminary scoring rubric for *To Persuade* uses the following description of the qualities of a response at score point 5. The words and phrases describing the level of expectation at this score point are italicized in the excerpt below. These are the kinds of descriptors that may be revised based on actual performance in field test responses prior to scoring actual responses from the 2017 NAEP Writing Assessment.

Score = 5 Responses in this range demonstrate competent skill in responding to the writing task. Elements are usually well controlled and clearly support the writer's purpose, audience, and form.

- The response formulates a position that *usually* recognizes and acknowledges multiple significant aspects of the issue but may not *fully* address some of the complexities of the issue. The response demonstrates *some* insight by acknowledging and *partially* addressing other perspectives, by evaluating *some* implications of the writer's position, and/or by using affective arguments that are *usually* persuasive.
- The response *usually* provides persuasive reasons and evidence to support the writer's position. Approaches to the development of ideas are *usually* used skillfully to support the persuasive purpose.
- Ideas are *usually* focused on the topic. Organization is clear and may demonstrate a logical progression of ideas that supports the persuasive purpose and is relevant to the writer's approaches to organization. Transitions *clearly* convey relationships among ideas.
- Sentence structure is *well controlled* to communicate relationships among ideas and varied as appropriate for the writer's purpose. Word choice is *usually* precise and evaluative and *usually* supports the persuasive purpose. Voice and tone are *usually* controlled and effective for the writer's purpose and audience.
- Grammar, usage, and mechanics are *usually* correct with a few distracting errors, but meaning is *clear*.

Preliminary holistic scoring rubrics for each of the three communicative purposes are provided in appendix B.

TRAINING READERS TO SCORE RESPONSES

In a large-scale assessment like NAEP, scorers are taught to use the scoring rubric through extensive training using many example responses at each score point. Scorers are also required to demonstrate their ability to score accurately by passing a qualification test. Responses to writing tasks on the 2017 NAEP Writing Assessment will likely vary widely, so scorers will be carefully trained to evaluate the effectiveness of responses that may look very different from one another. Therefore, the responses used to train scorers will be selected to demonstrate many different examples of how writers employ different approaches when communicating ideas to the audience identified in the writing task.

In addition, scorers will be trained to evaluate students' responses as on-demand writing. Scorers will be trained to assess responses based on all of the features included in the scoring rubric, but they will take into consideration that the time limit for writing does not allow writers to pursue all the possibilities for revision and editing of their initial draft.

REPORTING RESULTS OF THE NAEP WRITING ASSESSMENT

The purpose of this chapter is to explain how the results of the NAEP Writing Assessment will be reported.

HOW NAEP RESULTS ARE REPORTED

The National Assessment of Educational Progress provides the only national report on student achievement in a variety of subjects. NAEP administers writing assessments at regular intervals to students in grades 4, 8, and 12 attending both public and nonpublic schools, collecting a significant, representative sample of student writing at these grades. The 2007 NAEP Writing Assessment, for example, sampled 20,000 grade 12 students from public and private schools at the national level. In 2007, NAEP also sampled 152,000 grade 8 students at the state and national levels from public and private schools and from the districts participating in NAEP's Trial Urban District Assessment.

The primary means for public release of NAEP results is a printed summary report known as The Nation's Report Card. This report is also available on a dedicated website: http://nationsreportcard.gov. Both resources provide detailed information on the nature of the assessment, the students who participate, and the assessment results.

The Nation's Report Card includes information on the performance of various subgroups of students at the national, state, and urban district levels. Subgroups for NAEP include:

- Gender
- Race/Ethnicity (White, Black, Hispanic, Asian/Pacific Islander, American Indian/Alaska Native)
- Eligibility for Free/Reduced-Price Lunch
- Students with Disabilities
- English Language Learners

Detailed data on NAEP results, demographic variables, and subject-specific background information are available via the NAEP Data Explorer. Additional restricted data are available for scholarly research, subject to National Center for Education Statistics (NCES) licensing procedures.

The Nation's Report Card also reports performance for public schools in states and jurisdictions and the NAEP Trial Urban Districts. The Trial Urban District Assessment (TUDA) was initiated in 2002 in five large urban school districts that are members of the Council of the Great City Schools (Atlanta, Chicago, Houston, Los Angeles, and New York). Five additional districts were added between 2003 and 2005: Boston, Charlotte-

Mecklenburg, Cleveland, San Diego, and Austin. These 10 districts participated in the 2007 NAEP Writing Trial Urban District Assessment.

In addition to The Nation's Report Card, the NAEP website provides access to other NAEP reports, sample writing tasks, and scoring rubrics with example responses. The website also lists data sources that can be used for more in-depth analysis of student achievement results or of the assessments themselves. The Nation's Report Card and its website include references and links to the National Assessment Governing Board's website and to the National Center for Education Statistics website.

REPORTING SCALE SCORES AND ACHIEVEMENT LEVELS

NAEP writing results are reported in two ways: as scale scores and as percentages of students attaining achievement levels. Scale scores, which are derived from student responses to NAEP assessment items, summarize the overall level of performance attained by a group of students. In 1998, 2002, and 2007, NAEP writing scale scores were presented as average scale scores on a 0–300 scale and as scale scores at selected percentiles. For example, grade 8 students who scored 180 on the 2002 administration fell into the 75th percentile. When used in conjunction with interpretive aids, such as item maps, scale scores provide information about how much students know and can do in writing. Performance for each grade is scaled separately; therefore, average scale scores cannot be compared across grades. For example, equal scores on the grade 4 and grade 8 scales do not imply equal levels of writing ability. The scale score range for 2017 will be determined during the assessment development process.

Reporting on achievement levels is the primary way in which NAEP results reach the general public and policymakers. Achievement level results indicate the degree to which student performance meets the standards set for what students should know and be able to do at the *Basic*, *Proficient*, and *Advanced* levels. Descriptions of achievement levels articulate expectations of performance at each grade level. They are reported as percentages of students within each achievement level range, as well as the percentage of students at or above *Basic* and the percentage at or above *Proficient*. Results for students not reaching the *Basic* achievement level are reported as below *Basic*. Results are also reported for subgroups of students using demographic data and background variables specific to the NAEP Writing Assessment. An individual student's performance cannot be reported based on NAEP results.

Exhibit 5.1 displays the Governing Board's generic policy definitions for *Basic*, *Proficient*, and *Advanced* achievement that pertain to all NAEP subjects and grades.

Exhibit 5.1. Generic Achievement Level Policy Definitions for NAEP

Achievement Level	Definition		
Advanced	This level signifies superior performance.		
Proficient	This level represents solid academic performance for each grade assessed. Students reaching this level have demonstrated competency over challenging subject matter, including subject-matter knowledge, application of such knowledge to real-world situations, and analytical skills appropriate to the subject matter.		
Basic	This level denotes partial mastery of prerequisite knowledge and skills that are fundamental for proficient work at each grade.		

There are three components to the NAEP achievement levels:

- Achievement Level Descriptions
- Cut scores
- Examples of students' responses

ACHIEVEMENT LEVEL DESCRIPTIONS

The Achievement Level Descriptions represent an informed judgment of *how good is good enough* at each grade. Achievement Level Descriptions represent student performance on the evaluative criteria specified in the rubrics.

The full text of the Achievement Level Descriptions for the NAEP Writing Assessment (appendix C) includes descriptions for all three achievement levels at each grade. The following text presents the description for grade 8 at the *Proficient* level.

Grade 8

Eighth-grade students writing at the *Proficient* **level** demonstrate competence in writing a response appropriate to the topic, purpose, and audience. They develop their ideas with some well-chosen details, reasons, or examples. Writers at this level create an organized structure that shows a mostly logical, coherent progression of sentences and ideas. Their writing contains some sentence variety and precise word choices, and voice and tone are usually appropriate for the topic, purpose, and audience. These writers demonstrate an overall command of grammar, usage, and mechanics, including capitalization, punctuation, and spelling, although their writing may contain some errors.

Achievement Level Descriptions are included in the NAEP Writing Framework to guide the development of writing tasks of increasing complexity across grade levels and to support the process of standard setting.

After decisions about the implementation of the assessment have been finalized (i.e., standard versus non-standard platform, what word processing tools will be enabled, etc.), the Governing Board convenes panels of experts to recommend final Achievement Level Descriptions for each grade level. A broadly representative panel of exceptional teachers, educators, and professionals is then convened to engage in a standard setting process to

determine the cut scores that correspond to these Achievement Level Descriptions. The panelists are trained and engage in a series of discussions designed to ensure informed judgments about mapping cut scores to the assessment.

CUT SCORES

Cut scores, the second component of reporting on achievement levels, represent the minimum score required for performance at each NAEP achievement level. Cut scores are reported along with the percentage of students who scored at or above the cut score.

EXAMPLES OF STUDENTS' RESPONSES

The third component of achievement level reporting includes examples of student responses on released writing tasks. As in previous NAEP writing assessments, these examples provide illustrations of student skills within each level of achievement. In addition to examples of responses at each achievement level, the 2017 NAEP Writing Assessment will provide examples to demonstrate achievement for each communicative purpose at grades 4, 8, and 12 and at each score point. Example responses will be annotated to explain the score for the response and salient features of development, organization, and language use in relation to the writer's purpose and audience. Significant strengths and weaknesses of the response will be addressed in annotations as well.

REPORTING BACKGROUND VARIABLES

Background data on students, teachers, and schools are needed to fulfill the statutory requirement that NAEP include information, whenever feasible, for groups identified in the first section of this chapter (e.g., gender, race/ethnicity). Therefore, students, teachers, and school administrators participating in NAEP are asked to respond to questionnaires designed to gather demographic information. Information is also gathered from non-NAEP sources, such as state, district, or school records.

In addition to demographic information, background questionnaires include questions about variables related to achievement in writing. The variables are selected to be of topical interest, to be timely, and to be directly related to academic achievement and current trends and issues in writing. Questions do not solicit information about personal topics or information irrelevant to the collection of data on writing achievement.

Background variables for the 2017 NAEP Writing Assessment reflect two primary interests: computer use (particularly with regard to writing with computers) and the number and kinds of opportunities students have to write. NAEP's ability to show similarities and differences among groups in relation to achievement in writing has the potential to inform educational policy at the national level as well as in states and school districts. For example, data from a question about students' use of computers might show that students who score in the *Proficient* range compose on the computer more often than those who score in the *Basic* range.

Recommendations for background variables for the 2017 NAEP Writing Assessment are presented in *Writing Background Variables Recommendations*, but some highlights follow. Exhibit 5.2 displays several topics for background variables on technology and opportunities to write.

Exhibit 5.2. Highlights of Background Variables Recommended for the 2017 NAEP Writing Assessment

TAEL WITTING ASSESSMENT			
Topics	Grades 4, 8, and 12		
Students: Computer	Frequency and purpose of computer use (e.g., doing homework,		
Use	writing, Internet research, computer games)		
	What tools are commonly used for composing and what tools were		
	used on the 2017 NAEP Writing Assessment		
English Language Arts	How often and how computers are used in instruction (e.g., to write		
(ELA) Teachers:	papers, do Internet research, use an online encyclopedia)		
Computer Use	How students are instructed to use computers for writing (e.g., find		
00 p.u.00 1 050	information for writing, generate ideas, compose their first draft)		
Schools: Computer Use	School expectations or standards for computer proficiency and/or		
_	technological literacy		
	Location and accessibility of computers (e.g., classrooms, labs,		
	libraries)		
Students:	How often the student is given a specific time period for writing in		
Opportunities to Write	class (not including tests), and how much time is usually allowed		
	Kinds of writing students compose on the computer outside of		
	school (e.g., e-mail, blogs, instant messaging)		
ELA Teachers:	Purposes for writing taught or assigned		
Opportunities to Write	Participation in professional development related to the teaching of		
	writing		
Schools: Opportunities	Existence of and extent to which writing is a school-wide initiative		
to Write	(e.g., writing across the curriculum, literacy coaching, etc.)		
	Opportunities for professional development in writing		

NEW COMPONENT OF NAEP REPORTING: PROFILE OF STUDENT WRITING

The 2017 NAEP Writing Framework recommends that a subset of student responses at grades 4, 8, and 12 be selected and examined to obtain more in-depth information about what students do in relation to the three domains of writing assessed by NAEP—development of ideas, organization of ideas, and language facility and conventions. The analyses in the *Profile of Student Writing* will be reported at the national level only and will provide the public, policymakers, and educators with data about important features of student writing. The Profile will also include a considerable number of student responses that model qualities of the text features and language facility analyzed in student responses, along with detailed annotations describing particular features of the response.

While the feasibility of this new component of NAEP reporting is to be determined, the Profile should include four components. The first three would include the results of studies of a variety of characteristics of student writing. These three analyses are intended

to provide observations of what students do in their responses, independent of how the responses were scored. For example, one analysis might be designed to investigate how the communicative purposes for the tasks impact the choices students make in their approaches to developing and organizing ideas and in their uses of language.

The fourth component of the Profile would then link the results of these analyses to achievement. In this section of the Profile, data derived from analyses of rhetorical features present in responses would be correlated with performance reflected in the achievement levels (*Basic*, *Proficient*, and *Advanced*). For example, this component might report on achievement levels in relation to students' selection of form (at grades 8 and 12) for *To Persuade* tasks, or on achievement levels in relation to students' use of certain sentence structures.

METHODOLOGY AND REPORTING OF THE PROFILE OF STUDENT WRITING

SAMPLING

By selecting a nationally representative sample, the results of the analyses can be generalized to the whole population. To produce stable estimates of statistical results for the Profile and to enable sound conclusions from the data, the national sample would be selected according to specific guidelines based on demographic attributes, geographical diversity, kinds of schools, scores on responses, and so on.

METHODOLOGY FOR RHETORICAL ANALYSES

Analyses of the responses for the first three components of the Profile should be done in two stages. In the first stage, an observational study should be conducted to determine what specific dimensions of the responses will be studied, and how key questions used to guide further investigation will be developed. In the second stage, evidence drawn from the responses should be quantified in relation to the key questions. In some cases, computer software can be utilized to support analysis of responses. It is expected that this approach will be particularly useful in supporting analyses of some language features. For example, if types and variety of sentences were analyzed, computer software could be used to efficiently identify and count types of sentences (e.g., simple, compound, complex, periodic, etc.) used in responses. Additionally, if the nature and extent of errors were analyzed, computer software could be used to identify and count most kinds of language errors that may occur in the responses.

REPORTING RESULTS OF RHETORICAL ANALYSES

Because NAEP will have collected information about a variety of demographic factors and about students' writing experiences, including those related to composing on the computer, data drawn from analyses of the responses should be aggregated and disaggregated in many different ways in order to illuminate how students approach the writing tasks. Background variables relevant to key questions should also be analyzed to

learn what information about the students might be related to findings from the quantitative analyses of dimensions of writing. For example, background variables might be used to better understand how students from different demographic groups or how students who report different kinds of writing experiences respond to each communicative purpose across tasks at their grade level.

REPORTING RESULTS OF RHETORICAL ANALYSES IN RELATION TO ACHIEVEMENT

The fourth component of the Profile should include information relating the findings from the analyses of development and organization of ideas and from the analysis of language use to performance based on achievement levels. In this section of the Profile, observations about various dimensions of writing analyzed should be correlated with performance at the *Basic*, *Proficient*, and *Advanced* levels. Thus, for example, if one component of rhetorical analysis were to address what forms students at grades 8 and 12 choose (for tasks where a choice is given), this section of the Profile could report what kinds of forms students at each achievement level use, whether responses at different achievement levels tend to display a greater variety of approaches to thinking and writing in relation to forms chosen, and whether form impacts text structures differently at each achievement level.

In all components of the Profile, and in particular in the section linking characteristics of students' texts to performance, care will be taken to avoid reporting results that might appear to prescribe specific instructional practices. All results reported will be appropriately contextualized in relation to the parameters of the 2017 NAEP Writing Assessment with regard to time allowed for composing and the nature of the writing task.

USES OF NAEP REPORTING

The depth and extent of the information available from results of the 2017 NAEP Writing Assessment will provide important data during the tenure of the framework. The results of the 2011 NAEP Writing Assessment began a new trend line: policymakers, educators, and the public can use data from the assessments as a tool for monitoring certain aspects of student achievement in writing over time. NAEP reports compare student performance across states, within the subject area of writing, and among groups of students within the same grade. Long-term achievement trends (e.g., the comparison of score performance to previous administrations) can also be reported in 2017.

Because the 2017 NAEP Writing Assessment will measure some writing experiences but not all, there will be limitations to the range and scope of information it can produce. NAEP publishes data on student performance in relation to various achievement levels and demographic subgroups; the information reported does not evaluate results or provide conclusive statements about the level of achievement among the nation's K-12 students. Furthermore, the NAEP Writing Assessment is not designed to inform instruction—to guide how writing is taught—only to measure a representative sample of the student population at grades 4, 8, and 12 and students' performance within the assessment context outlined in this framework.

The important components of NAEP reporting are summarized in Exhibit 5.3.

Exhibit 5.3. Summary of NAEP Reporting Components

		Key Characteristics	
Reporting	How Information is Reported	Elements released to the public include: • Printed summary report known as The Nation's Report Card • Dedicated website: http://nationsreportcard.gov • Performance of various subgroups at the national, state, and district level published in print and online	
Components of NAEP Reporting	What is Reported	NAEP data are reported by: • Percentage of students attaining achievement levels • Scale scores • Sample responses to illustrate Achievement Level Descriptions	
Сош	What Information is Gathered	Types of background variables distributed to students, teachers, and schools: • Demographics • Computer use (especially in writing) • The number and kinds of opportunities to write	
New Component for NAEP Reporting	Profile of Student Writing	Components of the Profile include:	

CONCLUSION

The goal of the 2017 NAEP Writing is to meet the demands of assessing young people's ability to write to communicate in the 21st century.

The 2017 NAEP Writing Assessment represents a way forward for the large-scale assessment of writing. By focusing on the kinds of purpose-centered writing most common to K-12 and postsecondary settings, and by emphasizing the engagement of clearly defined audiences, the assessment better emulates many real-world writing situations. The 2017 assessment's emphasis on students' rhetorical flexibility encourages a rich variety of response approaches—students have the freedom to and are expected to draw upon many critical thinking and writing approaches to develop, organize, and articulate ideas.

The 2017 NAEP Writing Assessment reflects emerging definitions of what "effective communication" means. Because students will compose with word processing software and because common word processing tools that support writing will be enabled, the assessment offers a writing environment reflective of the way students most commonly compose in the 21st century. The on-demand writing scenarios that will be presented in the 2017 NAEP Writing Assessment are similar to many writing situations in academic and professional settings and provide a relevant survey of how students perform under time constraints.

The 2017 NAEP Writing Assessment seeks new ways of understanding student writing achievement. By using holistic rubrics designed specifically to assess performance in relation to particular communicative purposes for writing, and by training scorers to recognize the effectiveness of a variety of kinds of responses, the assessment design encourages writing that moves beyond prescriptive or formulaic qualities. In addition, new information on the kinds of writing students and teachers are composing in and out of school, as well as the role computers play in that writing (and writing instruction) will be gathered. Further, analysis of a nationally representative subset of responses will provide a deeper understanding of important features of students' writing and of connections between student performance and specific components of the assessment.

APPENDIX A

GLOSSARY OF TERMS

This glossary provides brief definitions of terms used throughout the 2017 NAEP Writing Framework. The terms are defined according to their use in the framework. The list includes terms that relate to types of reading materials, text structures and features, techniques of author's craft, and other key terms.

Accessibility: Content and design considerations that ensure all student populations can demonstrate what they know and can do on the 2017 NAEP Writing Assessment.

Achievement Level Descriptions: Statements established by the National Assessment Governing Board that define what students know and can do at each achievement level of writing (*Basic*, *Proficient*, and *Advanced*).

Accommodations: Changes to test materials or procedures (e.g., large print booklets, extended time) that allow students with disabilities and English language learners an equal opportunity to demonstrate what they know and can do.

Analyzing: An approach to thinking and writing that breaks down a large topic into logical parts, which can then be extensively examined individually or in relation to a broad subject as a whole.

Approaches to thinking and writing: Methods used on a writing task (e.g., analyzing, describing, narrating, synthesizing) to support the development and organization of ideas in relation to the purpose and audience specified.

Arguing: An approach to thinking and writing that attempts to prove or disprove by using a range of strategies, such as giving reasons, supporting and organizing evidence (e.g., analogies, illustrations), and/or by considering pros and cons on a subject.

Assessment: The evaluation of students' academic skills to determine what they know and can do.

Framework: For each NAEP subject, a framework is developed to describe the design of the assessment, the content to be assessed by NAEP, how that content will be measured, and how results will be reported.

Assessment Specifications: The document that specifies how framework guidelines are to be implemented in relation to the content, design, evaluation, and reporting of a NAEP subject assessment.

Audience: The specified or clearly implied person(s) on a 2017 NAEP Writing Assessment task to whom writers address their responses.

Background variables: Student, teacher, and school background questionnaires used to collect data that may support analysis of student performance on an assessment.

Coherence: The consistent relationship of parts and ideas in a piece of writing, helping the reader understand the writer's purpose and his or her argument.

Communicative purposes: The aim or goal of a writing task. In the context of NAEP, three communicative purposes are assessed: to persuade; to explain; and to convey experience, real or imagined.

Complexity: Refers to a) the level with which writing addresses the implications, complications, and multiple dimensions of a topic or issue, and b) the increase in difficulty of tasks and expectations for writing across grades.

Computer-based testing: The administration of any assessment on computers.

Construct (*noun*): The articulation of all components of the assessment as they relate to what the assessment is designed to measure.

Contextual information: Information provided in the task that supports understanding of the situation or topic to be addressed in a response. Contextual information on some NAEP Writing Assessment tasks will also include visual stimuli and reading passages.

Constructed response: A type of assessment task that requires students to produce their own answer rather than selecting from a given list (e.g., multiple choice). On the 2017 NAEP Writing Framework, the method of constructed response is the completion of written composition.

Conventions: Commonly accepted rules and guidelines for formal written language concerning grammar and usage, as well as mechanics (e.g., punctuation, capitalization, and spelling).

Convey experience, real or imagined: A communicative purpose in which students engage the reader in an event or perspective, real or imagined.

Cut score: The minimum score required to attain a NAEP achievement level (e.g., *Basic*, *Proficient*, or *Advanced*).

Describing: An approach to thinking and writing that depicts a person, object, or idea in ways that appeal to the senses of the writer's audience.

Development of ideas: The use of evidence, support, and approaches in expressing a purpose so that an audience can comprehend the writer's understanding of a topic or issue.

Direct writing assessment: The measurement of students' writing abilities by their performance on a writing task.

Distracting errors: Mistakes in language conventions and/or usage that prevent a reader from fully understanding the writer's ideas or message.

Domain: A broad feature of all writing (e.g., language facility) comprised of specific and important components that can be used to assess student performance within this feature.

English language learner: A student who is not a native English speaker and is still in the process of English language acquisition.

Evaluating: An approach to thinking and writing that defines and justifies the significance, value, or quality of an object or idea.

Explain: A communicative purpose in which a writer's aim is to make a subject, issue, or concept understandable to the reader.

Field testing: The process by which tasks under consideration for an assessment are determined to be accessible, comparable, and effective in discriminating among various levels of achievement or ability. Field tests are designed to simulate an actual assessment.

Focus: The emphasis on and/or consistent development of a main point, controlling idea, or theme.

Form: Types of text readily identifiable because of common organizational patterns or language features.

Grammar: A set of rules that define how a language is structured and communicated, thereby creating a standard language that writers commonly follow.

Holistic scoring rubric: A guide for scorers to evaluate writing performance, focusing on assessing performance across multiple domains—e.g., development, organization, language facility and conventions —to evaluate overall performance. Scorers evaluating responses on the 2017 NAEP Writing Assessment will use a holistic rubric with a scale of 1-6.

Inclusion criteria: The parameters used to determine whether a student with special needs or an English language learner is eligible for participation on a NAEP assessment.

Individual Education Program (IEP): The document that outlines an appropriate instructional program and relevant accommodations for a student with special needs.

Interpreting: An approach to thinking and writing that explains the meaning or significance of an idea not readily apparent from initial reading, discussion, or common understanding.

Large-scale assessment: Standardized assessment program designed to evaluate the achievement of large groups of students.

Mechanics: Conventions of spelling, capitalization, and punctuation.

NAEP special study: Research conducted by the National Center for Education Statistics that provides new information on NAEP assessments or a subject matter NAEP assesses.

Narrating: An approach to thinking and writing that presents events in a meaningful order—often chronological—that imparts experience, knowledge, or description.

On-demand writing: The assessment of students' writing abilities in a limited time frame.

Persuade: A communicative purpose in which a writer attempts to convince an audience of his or her point of view or to move the audience to action.

Reading passages: Text (e.g., such as a quotation or short excerpt from a book or article) included in a writing task to stimulate and support the writer's response.

Reflecting/Questioning: An approach to thinking and writing in which a writer demonstrates self-examination or contemplation in his/ or her response.

Rhetorical flexibility: The writer's ability to adapt his or her ideas, organization, syntax, word choice, and other conventions of writing depending upon the purpose and audience of the writing task.

Rubric: A scoring guide that notes what specific features of student learning will be assessed and the expected level of performance at each score point. A rubric is used to guide evaluators' assignment of numerical scores to different levels of performance.

Scaffolding: In a writing task, the clarity and quality of contextual information provided to support and guide the writer's response.

Scale score: A score derived from student responses to NAEP assessment items that summarizes the overall level of performance attained by a group of students. This score—presented as a number on a set scale—provides information about what a particular aggregate of students (e.g., grade 4 students) know and can do in writing.

Scorers: The evaluator or rater of responses to NAEP writing tasks.

Section 504 plan: The document that outlines a program of instructional services to assist students with special needs who are in mainstream educational settings.

Sentence structure: The ways in which sentences are organized and composed.

Sentence variety: The use of different lengths and kinds of sentence structures to engage an audience and support the clear expression of ideas.

Students with disabilities: Those students identified as having a disability, specified in an Individualized Education Program or a Section 504 Plan, and potentially in need of accommodations to complete the NAEP Writing Assessment.

Style: Elements of language (e.g., word choice, sentence variety) that the writer utilizes to produce the most effective presentation of ideas in relation to his or her purpose and audience.

Summarizing: An approach to thinking and writing that expresses the main points of one or several resources, including readings, research findings, events, the writer's own ideas, etc.

Syntax: The order of words, phrases, and clauses within a sentence.

Synthesizing: An approach to thinking and writing that combines different ideas or information into a coherent whole so a new understanding of a subject or issue is conveyed.

Text: A piece of writing.

Text structure: The organizational arrangement of written information to convey the purpose of a piece of writing to an audience (e.g., directions, problem-solution).

Tone: The writer's attitude toward the subject matter of the writing and/or the audience reading his or her work.

Trend line: For the purposes of NAEP, a long-term measure of student achievement as it corresponds to other factors (e.g., time, demographics, etc.).

Usage: Established conventions of word choice and phrasing.

Visual stimuli (in a writing task): Pictures, drawings, charts, graphs, or other images used in a writing task to stimulate and support the writer's response.

Voice: A writer's ability to convey attitude, personality, and/or character appropriate to the writing situation.

Word choice (diction): The use of vocabulary appropriate for the purpose and audience of a writing task.

Word processing software with commonly available tools: Computer applications that allow users to write, edit, and produce texts. "Commonly available tools" refers to the extensions built into this software that help writers modify or revise their text documents.

Writing process:	A series of overlapping and recursive processes (e.g., prewriting,
<i>U</i> , <i>U</i> ,	and editing) a writer often moves among when developing a piece of
writing.	

Writing task: Assessment item designed to elicit an extended written response that can be evaluated using specified criteria.

PRELIMINARY HOLISTIC SCORING GUIDE FOR TO PERSUADE

Score = 6 Responses in this range demonstrate effective skill in responding to the writing task. All elements of the response are well controlled and effectively support the writer's purpose, audience, and form.

- The response formulates a clear position that recognizes and acknowledges multiple significant aspects of the issue and insightfully addresses the complexities of the issue. The response demonstrates insight by fully addressing other perspectives, by fully evaluating implications of the writer's position, and/or by using affective arguments that are consistently persuasive.
- The response provides strong persuasive reasons and evidence to support the writer's position. Approaches to the development of ideas (e.g., summarizing, narrating, etc.) are used skillfully to support the persuasive purpose.
- Ideas are clearly focused on the topic throughout the response. Organization demonstrates a logical, well-executed progression of ideas that effectively supports the persuasive purpose and is relevant to the writer's approaches to organization (e.g., analyzing, evaluating, narrating, etc.). Transitions effectively convey relationships among ideas.
- Sentence structure is well controlled and varied to communicate relationships among ideas. Word choice is precise and evaluative and supports the persuasive purpose. Voice and tone are well controlled and effective for the writer's purpose and audience.
- Though there may be a few minor errors in grammar, usage, and mechanics, meaning is clear throughout the response.

Score = 5 Responses in this range demonstrate competent skill in responding to the writing task. Elements are usually well controlled and clearly support the writer's purpose, audience, and form.

- The response formulates a position that usually recognizes and acknowledges multiple significant aspects of the issue but may not fully address some of the complexities of the issue. The response demonstrates some insight by acknowledging and partially addressing other perspectives, by evaluating some implications of the writer's position, and/or by using affective arguments that are usually persuasive.
- The response usually provides persuasive reasons and evidence to support the writer's
 position. Approaches to the development of ideas are usually used skillfully to support
 the persuasive purpose.
- Ideas are usually focused on the topic. Organization is clear and may demonstrate a logical progression of ideas that supports the persuasive purpose and is relevant to the

writer's approaches to organization. Transitions clearly convey relationships among ideas.

- Sentence structure is well controlled to communicate relationships among ideas and varied as appropriate for the writer's purpose. Word choice is usually precise and evaluative and usually supports the persuasive purpose. Voice and tone are usually controlled and effective for the writer's purpose and audience.
- Grammar, usage, and mechanics are usually correct with a few distracting errors, but meaning is clear.

Score = 4 Responses in this range demonstrate adequate skill in responding to the writing task. Most elements are controlled and support the writer's purpose, audience, and form.

- The response takes a position and may acknowledge significant aspects of the issue. The
 response demonstrates some understanding of other perspectives and may evaluate some
 implications of the writer's position. If affective arguments or examples are used, they
 are persuasive.
- While details and examples provide adequate evidence to support the writer's position, their development may be somewhat uneven. Approaches to the development of ideas are adequate, but their relevance to the persuasive purpose may not always be clear.
- Ideas are usually focused on the topic, and an organizational structure is evident. Ideas are logically grouped and adequately reflect the writer's use of relevant approaches to organization. Relationships among ideas are mostly clear.
- Sentence structure is adequately controlled and somewhat varied to communicate relationships among ideas. Word choice is clear, often evaluative, and adequately supports the persuasive purpose. Voice and tone are mostly controlled and usually effective for the writer's purpose and audience.
- Grammar, usage, and mechanics are mostly correct with some distracting errors, but meaning is clear.

Score = 3 Responses in this range demonstrate developing skill in responding to the writing task. Some elements are controlled and provide some support for the writer's purpose, audience, and form.

- The response states a position but addresses only some of the aspects of the issue. The
 response shows little understanding of other perspectives, although most ideas are
 relevant to the persuasive purpose.
- Some relevant reasons and evidence for the writer's position are used, but they are not
 developed enough to be convincing, or they may be unevenly developed. Approaches to
 development of ideas are evident, but they may not be clearly relevant to the persuasive
 purpose.
- Most ideas are focused on the topic. The response uses a simple organizational structure, and, for the most part, ideas are logically grouped. There is some evidence of the writer's

use of approaches to organization, but they may not be clearly relevant, or they may be confusing. Relationships among ideas are sometimes unclear.

- Sentence structure is usually correct, and there may be a little sentence variety to
 communicate relationships among ideas. Word choice is usually clear and sometimes
 evaluative but at times may not be appropriate for the writer's purpose. Voice and tone
 show some understanding of what is appropriate for the writer's purpose and audience.
- Grammar, usage, and mechanics are mostly correct but with some distracting errors that may occasionally impede understanding.

Score = 2 Responses in this range demonstrate marginal skill in responding to the writing task. Elements are sometimes controlled but provide weak support for the writer's purpose, audience, and form.

- The response states a position and provides a few reasons to support the writer's position.
- A few reasons may be given, but they are not developed enough to be convincing. If details and examples are present, they are brief, general, or inadequately developed, and they may not be clearly relevant to the persuasive purpose. There may be minimal evidence of relevant approaches to the development of ideas.
- Some ideas may not be clearly focused on the topic. The response shows an attempt to
 organize thoughts by grouping ideas, and there may be minimal evidence of relevant
 approaches to organization. However, relationships among ideas are often illogical or
 unclear.
- Sentence structure is sometimes correct, but there is little, if any, sentence variety. Word choice is rarely specific and does little to support the persuasive purpose. Voice and tone show little understanding of what is appropriate for the writer's purpose and audience.
- Grammar, usage, and mechanics are usually correct but with many distracting errors that impede understanding.

Score = 1 Responses in this range demonstrate little or no skill in responding to the writing task. Elements are seldom controlled and provide almost no support for the writer's purpose, audience, and form.

- The response may state a position and may give a few simplistic reasons to support the writer's position.
- If any details or examples are present, they are brief, general, undeveloped, or not relevant to the persuasive purpose.
- The response shows an attempt to organize thoughts by grouping ideas, but groupings are illogical, and there is little or no evidence of relevant approaches to organization. Relationships among ideas are mostly unclear.
- Sentence structure is often incorrect, word choice is often unclear and inappropriate, and there is little or no control of appropriate voice and tone.

- Grammar, usage, and mechanics are sometimes correct but with frequent distracting errors that often impede understanding.
- The response may be too brief to support a sound judgment about the development of ideas, organization, or language facility and conventions.

Score = 0 Unscorable: Response is too brief to score, not written in English, off topic, or illegible.

PRELIMINARY HOLISTIC SCORING GUIDE FOR TO EXPLAIN

Score = 6 Responses in this range demonstrate effective skill in responding to the writing task. All elements of the response are well controlled and effectively support the writer's purpose, audience, and form.

- The response provides a thoughtful and insightful explanation of the subject by fully examining the topic as a whole, by identifying and fully discussing significant parts of the subject, and/or by evaluating and fully discussing the importance of the parts.
- The explanation maintains an effective balance between broad assertions and well-chosen general and specific details and examples to fully support understanding. Approaches to the development of ideas (e.g., analyzing, evaluating, narrating, etc.) are used skillfully to support the clarity of the explanation.
- Ideas are clearly focused on the topic throughout the response. Organization demonstrates a logical, well-executed progression of ideas that supports the clarity of the explanation and is relevant to the writer's approaches to organization (e.g., summarizing, narrating, etc.). Transitions effectively convey relationships among ideas.
- Sentence structure is well controlled and varied to communicate relationships among
 ideas. Word choice is specific, precise, and evaluative and supports the clarity of the
 explanation. Voice and tone are well controlled and effective for the writer's purpose and
 audience.
- Though there may be a few minor errors in grammar, usage, and mechanics, meaning is clear throughout the response.

Score = 5 Responses in this range demonstrate competent skill in responding to the writing task. Elements are usually well controlled and clearly support the writer's purpose, audience, and form.

- The response provides a clear explanation of the subject by examining the topic as a whole, identifying and discussing various parts of the subject, and/or by evaluating and discussing the importance of those parts.
- The explanation usually maintains an effective balance between broad assertions and general and specific details and examples to support the clarity of the explanation.
 Approaches to the development of ideas are usually used skillfully to support the clarity of the explanation.
- Ideas are usually focused on the topic. Organization is clear and may demonstrate a logical progression of ideas that supports the clarity of the explanation and is relevant to

- the writer's approaches to organization. Transitions clearly convey relationships among ideas.
- Sentence structure is well controlled to communicate relationships among ideas and
 varied as appropriate for the writer's purpose. Word choice is usually specific and
 precise, and it usually supports the clarity of the explanation. Voice and tone are usually
 controlled and effective for the writer's purpose and audience.
- Grammar, usage, and mechanics are usually correct with a few distracting errors, but meaning is clear.

Score = 4 Responses in this range demonstrate adequate skill in responding to the writing task. Most elements are controlled and support the writer's purpose, audience, and form.

- The response provides an explanation by addressing most parts of the subject and may include an evaluation of the importance of some of these parts.
- The explanation maintains an adequate balance between broad assertions and specific examples and details. While details and examples adequately support the clarity of the explanation, their development may be somewhat uneven. Approaches to the development of ideas are adequate, but their relevance to the explanation may not always be clear.
- Ideas are usually focused on the topic, and an organizational structure is evident. Ideas are logically grouped and adequately reflect the writer's use of relevant approaches to organization. Relationships among ideas are mostly clear.
- Sentence structure is adequately controlled and somewhat varied to communicate relationships among ideas. Word choice is sometimes specific and adequately supports the clarity of the explanation. Voice and tone are mostly controlled and usually effective for the writer's purpose and audience.
- Grammar, usage, and mechanics are mostly correct with some distracting errors, but meaning is clear.

Score = 3 Responses in this range demonstrate developing skill in responding to the writing task. Some elements are controlled and provide some support for the writer's purpose, audience, and form.

- The response provides some explanation of the subject.
- The explanation may provide both broad assertions and general and specific examples, but the balance may be uneven and only somewhat controlled. Some relevant details and examples are used, but they are not developed enough to support the explanation, or they may be unevenly developed. Approaches to the development of ideas are evident, but they may not be clearly relevant to the explanation.
- Most ideas are focused on the topic. The response uses a simple organizational structure, and for the most part, ideas are logically grouped. There may be some evidence of approaches to organization, but they may not be clearly relevant, or they may be confusing. Relationships among ideas are sometimes unclear.

- Sentence structure is usually correct, and there may be a little sentence variety to communicate relationships among ideas. Word choice is usually clear and sometimes specific, but at times it may not be appropriate for the writer's purpose. Voice and tone show some understanding of what is appropriate for the writer's purpose and audience.
- Grammar, usage, and mechanics are mostly correct but with some distracting errors that may occasionally impede understanding.

Score = 2 Responses in this range demonstrate marginal skill in responding to the writing task. Elements are sometimes controlled but provide weak support for the writer's purpose, audience, and form.

- The response provides a little explanation of the subject.
- A balance between broad assertions and general and specific examples may not be
 evident. If details and examples are present, they are brief, general, or inadequately
 developed, and they may not be clearly relevant to the explanation. There may be
 minimal evidence of relevant approaches to the development of ideas.
- Some ideas may not be clearly focused on the topic. The response shows an attempt to organize thoughts by grouping ideas, and there may be minimal evidence of approaches to organization. However, relationships among ideas are often illogical or unclear.
- Sentence structure is sometimes correct, but there is little, if any, sentence variety. Word
 choice is rarely specific and does little to support the clarity of the explanation. Voice and
 tone show little understanding of what is appropriate for the writer's purpose and
 audience.
- Grammar, usage, and mechanics are usually correct but with many distracting errors that impede understanding.

Score = 1 Responses in this range demonstrate little or no skill in responding to the writing task. Elements are seldom controlled and provide almost no support for the writer's purpose, audience, and form.

- The response may provide little or no explanation of the subject.
- If any details or examples are present, they are brief, general, undeveloped, or not relevant to the explanation.
- The response shows an attempt to organize thoughts by grouping ideas, but groupings are illogical, and there is little or no evidence of relevant approaches to organization. Relationships among ideas are mostly unclear.
- Sentence structure is often incorrect, word choice is often unclear and inappropriate, and there is little or no control of appropriate voice and tone.

- Grammar, usage, and mechanics are sometimes correct but with frequent distracting errors that often impede understanding.
- The response may be too brief to support a sound judgment about the development of ideas, organization, or language facility and conventions.

Score = 0	Unscorable: Response is too brief to score, not written in English, off topic, or
	illegible.

PRELIMINARY HOLISTIC SCORING GUIDE FOR TO CONVEY EXPERIENCE, REAL OR IMAGINED

Score = 6 Responses in this range demonstrate effective skill in responding to the writing task. All elements of the response are well controlled and effectively support the writer's purpose, audience, and form.

- The response effectively conveys the significance of the experience, either explicitly or implicitly, and conveys the complexities of the experience, whether real or imagined.
- Well-chosen examples and sensory details, if appropriate, are effectively used to illustrate and recreate the experience for the audience. Approaches to the development of ideas (e.g., narrating, describing, analyzing, etc.) are used skillfully to convey the experience.
- Ideas are clearly focused on the topic throughout the response. Organization demonstrates a logical, well-executed progression of ideas that effectively conveys the experience and is relevant to the writer's approaches to organization (e.g., summarizing, narrating, etc.). Transitions effectively convey relationships among ideas.
- Sentence structure is well controlled and varied to communicate relationships among
 ideas. Word choice is connotative, specific, and precise and effectively conveys the
 experience. Voice and tone are well controlled and effective for the writer's purpose and
 audience.
- Though there may be a few minor errors in grammar, usage, and mechanics, meaning is clear throughout the response.

Score = 5 Responses in this range demonstrate competent skill in responding to the writing task. Elements are usually well controlled and clearly support the purpose, audience, and form.

- The response clearly conveys the significance of the experience, either explicitly or implicitly, and conveys some complexities of the experience, whether real or imagined.
- Effective examples and sensory details, if appropriate, usually illustrate and recreate the
 experience for the audience. Approaches to the development of ideas are usually used
 skillfully to convey the experience.
- Ideas are usually focused on the topic. Organization is clear and may demonstrate a logical progression of ideas that supports the writer's purpose and is relevant to the writer's approaches to organization. Transitions clearly convey relationships among elements of the experience.
- Sentence structure is well controlled to communicate relationships among ideas and varied as appropriate for the writer's purpose. Word choice is usually connotative,

- specific, and precise, and it usually supports the writer's purpose. Voice and tone are usually controlled and effective for the writer's purpose and audience.
- Grammar, usage, and mechanics are usually correct with a few distracting errors, but meaning is clear.

Score = 4 Responses in this range demonstrate adequate skill in responding to the writing task. Most elements are controlled and support the intended purpose, audience, and form.

- The response adequately conveys the significance of the experience, either explicitly or implicitly, and may convey some complexities of the experience, whether real or imagined.
- Some examples and sensory details, if appropriate, are used to illustrate experience, but they may need to be more developed or more may be needed to support the writer's purpose. Approaches to the development of ideas are adequate, but their relevance to the writer's purpose may not always be clear.
- Ideas are usually focused on the topic, and an organizational structure is evident. Elements are logically grouped and adequately reflect the writer's use of relevant approaches to organization. Relationships among elements of the experience are mostly clear.
- Sentence structure is adequately controlled and somewhat varied to communicate relationships among ideas. Word choice is often connotative and specific, and it adequately supports the experience being conveyed. Voice and tone are mostly controlled and usually effective for the writer's purpose.
- Grammar, usage, and mechanics are mostly correct with some distracting errors, but meaning is clear.

Score = 3 Responses in this range demonstrate developing skill in responding to the writing task. Some elements are controlled and provide some support for the writer's purpose, audience, and form.

- The response conveys some elements of the significance of the experience and may demonstrate a little awareness of the complexities of the experience.
- Some examples and sensory details, if appropriate, are used, but they are not developed enough to support the writer's purpose, or they may be unevenly developed. Approaches to the development of ideas are evident, but they may not be clearly relevant to the writer's purpose.
- Most ideas are focused on the topic. The response uses a simple organizational structure, and for the most part, elements of the experience are logically grouped. There may be some evidence of approaches to organization, but they may not be clearly relevant, or they may be confusing. Relationships among elements of the experience are sometimes unclear.

- Sentence structure is usually correct, and there may be a little sentence variety to communicate relationships among ideas. Word choice is usually clear and sometimes connotative and specific, but at times it may not be appropriate for the writer's purpose. Voice and tone show some understanding of what is appropriate for the writer's purpose and audience.
- Grammar, usage, and mechanics are mostly correct but with some distracting errors that may occasionally impede understanding.

Score = 2 Responses in this range demonstrate marginal skill in responding to the writing task. Elements are sometimes controlled but provide weak support for the writer's purpose, audience, and form.

- The response conveys a few elements of the experience.
- If details and examples are present, they are brief, general, or inadequately developed, and they may not be clearly relevant to the writer's purpose. There may be minimal evidence of the use of relevant approaches to the development of ideas.
- Some ideas may not be clearly focused on the topic. The response shows an attempt to
 organize the elements of the experience, and there may be minimal evidence of relevant
 approaches to organization. However, relationships among ideas are often illogical or
 unclear.
- Sentence structure is sometimes correct, but there is little, if any, sentence variety. Word choice is rarely specific and does little to convey the experience. Voice and tone show little understanding of what is appropriate for the writer's purpose and audience.
- Grammar, usage, and mechanics are usually correct but with many distracting errors that impede understanding.

Score = 1 Responses in this range demonstrate little or no skill in responding to the writing task. Elements are seldom controlled and provide almost no support for the purpose, audience, and form.

- The response conveys few elements of the experience.
- If any details or examples are present, they are brief, general, undeveloped, or not relevant to the writer's purpose.
- The response shows an attempt to organize thoughts by grouping ideas, but groupings are illogical, and there is little or no evidence of relevant approaches to organization. Relationships among elements are mostly unclear.
- Sentence structure is often incorrect, word choice is often unclear and inappropriate, and there is little or no control of appropriate voice and tone.
- Grammar, usage, and mechanics are sometimes correct but with frequent distracting errors that often impede understanding.

	as, organization, or language facility and conventions. Unscorable: Response is too brief to score, not written i	n English off tonic or
Score = 0 Unscorable: Response is too brief to score, not written in English, off topic, or llegible.		

NAEP WRITING ACHIEVEMENT LEVEL DESCRIPTIONS

NAEP Achievement Level Descriptors define *what students should know and be able to do* at three levels: *Basic*, *Proficient*, and *Advanced*. The matrices in Exhibits 6.1 to 6.3 below correlate these three achievement levels to expectations of performance on important components of writing. *Basic*, *Proficient*, and *Advanced* levels apply to all students assessed at grades 4, 8, and 12; however, writing achievement at each of these levels will differ at each grade and cannot be compared across grades. To support understanding of the Achievement Level Descriptions, student responses should be used to define the expectations expressed at each grade level (e.g., "adequate" or "well-developed") and should also function as a demonstration of increasing levels of achievement across the grades.

Exhibit 6.1. Basic Achievement Level Descriptions

Grade 4	Grade 8	Grade 12
Fourth grade students writing at the <i>Basic</i> level develop ideas with a few supporting details, reasons, or examples relevant to the topic, the writer's purpose, and the audience. Students may loosely organize their writing using one or more approaches, such as chronology, steps in a process, or main idea with some details. Word choice is generally clear and appropriate for the topic. Most sentences are simple and show little variety in structure. Students demonstrate some control of grammar, usage, and mechanics, including capitalization, punctuation, and spelling, although there may be distracting errors that occasionally impede readers' understanding.	Eighth grade students writing at the <i>Basic</i> level demonstrate an ability to write a response that is appropriate to the topic, purpose, and audience. They develop their ideas with some relevant details, reasons, or examples. Writers at this level often create a loosely organized structure with some transitions. Their writing may contain some sentence variety and clear word choices, as well as minimal evidence of voice and tone that may be appropriate for the topic, purpose, and audience. Students demonstrate an overall command of grammar, usage, and mechanics, including capitalization, punctuation, and spelling, although there may be errors, at least some of which impede readers' understanding.	Twelfth grade students writing at the <i>Basic</i> level demonstrate an ability to write a response that is appropriate to the topic, purpose, and audience. They develop their ideas with some details, reasons, and examples. Writers at this level may create a somewhat loose organizational structure with some transitions. The writing contains some sentence variety or complexity, though it may be inconsistently executed. Although word choice may be somewhat limited in variety and richness of expression, it generally conveys meaning clearly. Tone may be ineffective for the purpose and audience, fluctuating inconsistently in places. Writing at the <i>Basic</i> level reflects a general command of grammar, usage, mechanics, and spelling but may include a number of errors.

Exhibit 6.2. *Proficient* Achievement Level Descriptions

Grade 4	Grade 8	Grade 12
Fourth grade students writing at the <i>Proficient</i> level develop ideas using some well-chosen details, reasons, or examples relevant to the topic, purpose, and audience. Students organize their writing using logical groupings and relationships among ideas, such as chronology, steps in a process, or main idea and details. The presence of some variety in word choice enhances the presentation of the writer's ideas and maintains the attention of the audience. Students vary some sentences in length or type, for example, by using exclamations or questions to engage the audience. Students demonstrate overall control of grammar, usage, and mechanics, including capitalization, punctuation, and spelling, but their writing may contain errors that detract from meaning.	Eighth grade students writing at the <i>Proficient</i> level demonstrate competence in writing a response appropriate to the topic, purpose, and audience. They develop their ideas with some well-chosen details, reasons, or examples. Writers at this level create an organized structure that shows a mostly logical, coherent progression of sentences and ideas. Their writing contains some sentence variety and precise word choices, and voice and tone are usually appropriate for the topic, purpose, and audience. These writers demonstrate an overall command of grammar, usage, and mechanics, including capitalization, punctuation, and spelling, although their writing may contain some errors.	Twelfth grade students writing at the <i>Proficient</i> level produce a competent response to the topic that addresses a specific audience and states a clear purpose. They develop their ideas with some well-chosen details, reasons, and examples that clearly address the audience. Writers maintain focus on the topic and purpose and make relationships among ideas clear. Overall, sentences are varied and structured to clarify the relationships among ideas, as well as to maintain the reader's interest. Precise word choices reinforce the purpose of the writing and are appropriate for the topic and audience. The tone is appropriate for both the purpose for writing and the audience. Writing at the <i>Proficient</i> level exhibits solid control of grammar, usage, mechanics, and spelling, although there may be some errors.

Exhibit 6.3. Advanced Achievement Level Descriptions

Grade 4	Grade 8	Grade 12
Fourth grade students writing at the Advanced level develop ideas using well-chosen details, reasons, or examples relevant to the topic, purpose, and audience. Their writing is organized effectively and shows an overall logical progression of ideas. Precise and varied word choice enhances the presentation of the writer's ideas and successfully sustains the attention of the audience. Students vary the length and complexity of sentences to engage the reader. Students' writing demonstrates control of grammar, usage, and mechanics, including capitalization, punctuation, and spelling, with relatively few errors.	Eighth grade students writing at the Advanced level demonstrate strategic composing in addressing the topic, purpose, and audience. They develop their ideas with precise, well-chosen details; reasons; or examples that elaborate and extend those ideas. Writers at this level create a well-organized, effective piece of writing that shows a logical, coherent, and well-elaborated progression of sentences and ideas. Their writing contains varied and well-crafted sentences and precise word choices and uses voice and tone that support the topic, purpose, and audience effectively. These writers demonstrate a strong command of grammar, usage, and mechanics, including capitalization, punctuation, and spelling, although there may be a few errors.	Twelfth grade students at the Advanced level demonstrate flexible and strategic composing in addressing the topic, purpose, and audience. Well-chosen details, reasons, and specific examples support, extend, and deepen their ideas. Writers develop an organizational structure that supports a natural, logical, and coherent progression of ideas. Skillfully crafted sentences enhance the response, reinforce the purpose, and engage the audience. Word choices are purposeful, precise, and at times powerful. Appropriate tone clearly conveys the writer's position on the topic and is appropriate for the intended audience. Writing at the Advanced level exhibits a strong control of grammar, usage, mechanics, and spelling that supports the presentation of ideas. Errors may be present, but they are few.

NAEP WRITING SPECIAL STUDY

To improve the quality of the NAEP assessment and to gain maximum information on student achievement, NAEP coordinates special studies on framework topics and issues. For the 2011 NAEP Writing Assessment, one special study was proposed.

STUDY: GRADE 4 COMPUTER-BASED WRITING

PURPOSE

This special study seeks to frame trends in computer support—both in the accessibility of computers in all schools and instruction on the computers—in order to achieve a greater understanding of how grade 4 students compose on computers. The study will also address the expectations for computer proficiency and the role of computers in instruction at the middle school level. This information will provide a clearer research base for future computer-based assessment practices by NAEP.

RATIONALE

The 2017 NAEP Writing Assessment will assess computer-based writing with some commonly available tools. The NAEP Writing Framework recommends that a computer-based platform also be implemented at grade 4 during the tenure of this framework—by 2019, if feasible.

Prior to any implementation of a computer-based writing assessment at grade 4, NAEP would benefit from additional research on the computer use of elementary students, particularly on keyboarding pedagogy; levels of computer literacy among elementary students; and computer use within the composition process. Exploration of these issues will inform the discussion of when a computer-based writing assessment at grade 4 will be warranted.

Research interests for this study comprise five categories: keyboarding experience, writing instruction and computers, computer tools and applications, assessment validity, and computer proficiency needed when students reach middle school.

RESEARCH QUESTIONS

1. Opportunities for computer-based writing

- How frequently do grade 4 students use computers and for what purposes?
- How often and in what ways does writing instruction at grade 4 involve computers?
- What parts of the writing process are computer based?

2. Keyboarding experience

- Are there significant differences among groups with regard to keyboarding proficiency (e.g., gender, race/ethnicity, socio-economic status, type of school [e.g., large urban/suburban/rural, etc.])?
- What factors impact differences in keyboarding proficiency (e.g., access to computers, when instruction in keyboarding begins)?
- When are keyboarding skills first taught? When do elementary students have the finger size, manual dexterity, attention span, and hand-eye coordination skills needed to begin keyboarding instruction? What is the interaction between keyboarding instruction and developing cursive handwriting skills?
- How many words per minute do students need to type in order to successfully compose on the computer for time-limited writing?
- In what ways is access to computers outside of schools a factor in grade 4 students' proficiency with computers?

3. Platform for computer-based writing at grade 4

• What applications and tools are most commonly available to grade 4 students for computer-based writing? Which tools are most commonly used? Are tools a positive or negative influence on the development of ideas, organization of ideas, and/or language facility?

4. Proficiency grade 4 students should have

• What proficiency should grade 4 students have with computer-based writing? What is expected on states' grade level assessments? What skills are needed for success in middle school?

5. Accuracy of assessment

• What mode (handwritten or computer based) is most likely to support an accurate assessment of grade 4 students' writing ability?

As a result of the Governing Board May 2010 decision supporting a computer-based NAEP Writing Assessment at grade 4, a significant amount of research will be needed in the assessment development, which may include one or more studies addressing the research questions in this special study.

NAEP WRITING ASSESSMENT REFERENCES

- Achieve, Inc. (2004). *The expectations gap: A 50 state review of high school graduation requirements*. Washington, DC: Author. (ERIC Document Reproduction Service No. ED484793)
- ACT, Inc. (1998-99). ACT's national curriculum survey. Iowa City, IA: Author.
- ACT, Inc. (2003, September). *Analysis of commonalities and gaps: Comparing the National Assessment of Educational Progress (NAEP) to ACT Workkeys*[®] *assessments.* (Study Conducted for the National Commission on NAEP 12th Grade Assessment and Reporting.) Iowa City, IA: Author.
- ACT, Inc. (2004). *Crisis at the core: Preparing all students for college and work.* Iowa City, IA: Author.
- ACT, Inc. (2006). Survey of states' policies regarding computer-based applications and tools. (Research Brief). Iowa City, IA: Author.
- ACT, Inc. (2006, January-November). Overview of national and state writing standards taken from personal interviews and states' websites. (Research Brief). Iowa City, IA: Author.
- ACT, Inc. (2006, October-November). *Survey of state technology standards*. (Research Brief). Iowa City, IA: Author.
- ACT, Inc. (2006, October-November). Survey of states' use of computer-based testing. (Research Brief). Iowa City, IA: Author.
- American Association of State Colleges and Universities. (2005, July). Improving alignment, advancing students: Demands and opportunities for states, systems, and campuses. *Perspectives*, 1-13.
- Anderson, O. R. (2001). The writing process rejected. *The National Writing Project Quarterly*. National Writing Project Publications. Retrieved January 14, 2006, from http://www.writingproject.org/cs/nwpp/print/nwpr/150
- Applebee, A. (1998). Student achievement: Making sense of the national assessment. In J. David and J. Marshall (Eds.) *Ways of knowing research and practice in the teaching of English*. Iowa City, IA: ICTE.
- Applebee, A. (2005, December). *NAEP 2011 Writing Assessment: Issues in developing a framework and specifications*. Paper commissioned by the National Assessment Governing Board.
- Applebee, A. and Langer, J. A. (1987). *How writing shapes thinking*. Urbana, IL: National Council of Teachers of English.
- Applebee, A. and Langer, J. A. (2006). *The state of writing instruction in America's schools: What existing data tell us.* Albany, NY: Center on English Learning and Achievement.
- Armstrong, J. (2005, January). *State strategies for redesigning high schools and promoting high school to college transitions* (Issue Brief No. 5774). Denver, CO: Education Commission of the States.
- Atwell, N. (1987). *In the middle: Writing, reading, and learning with adolescents*. Upper Montclair, NJ: Boynton/Cook Publishers.

- August, B. (2005, December 12). Interview.
- Austin, J. L. (1965). *How to do things with words*. Oxford: Clarendon Press.
- Babkie, A., and Provost, M. C. (2004). Teachers as researchers. *Intervention in School and Clinic*, 39 (5), 260-68.
- Baker, E. (1998). *Understanding educational quality: Where technology meets validity*. Princeton, NJ: Educational Testing Service.
- Baker, E., and Kinzer, C. K. (1998). Effects of technology on process writing: Are they all good? *National Reading Conference Yearbook*, 47, 428-440.
- Bakhtin, M. M. (1981). *The dialogic imagination: Four essays by M.M. Bakhtin*. (M. Holquist, Ed.). (C. Emerson and M. Holquist, Trans.). Austin: University of Texas Press.
- Barritt, L., Stock, P. T., and Clark, F. (1986). Researching practice: Evaluating assessment essays. *College Composition and Communication*, *37* (3), 315-27.
- Bartholome, L. W. (2002). *Typewriting/keyboarding instruction in elementary schools*. Unpublished manuscript.
- Bawarshi, Anis. (2005, December 29). Interview.
- Bazerman, C. and Russell, D. (Eds.). (1984). *Landmark essays on writing across the curriculum*. Davis, CA: Hermagoras Press.
- Beck, N., and Fetherston, T. (2003). The effects of incorporating a word processor into a year three writing program. *Information Technology in Childhood Education Annual*, 139-61.
- Bennett, R. E. (2002). *Inexorable and inevitable: the continuing story of technology and assessment.* Princeton, NJ: Educational Testing Service.
- Bennett, R. E. (2005). *Current issues and future direction for the computer-based assessment of writing*. Paper presented to the National Exam Congress.
- Berman, J. M. (2001, November). Industry output and employment projections to 2010. *Monthly Labor Review*, 40.
- Bitzer, L. F. (1968). The rhetorical situation. *Philosophy and Rhetoric*, 1, 1-14.
- Britton, J. N. (1970). Language and learning. London: Penguin Books.
- Britton, J. N., Burgess, T., Martin, N., et al. (1975). *The development of writing abilities*. London: MacMillan Education Foundation.
- Broad, B. (2003). What we really value: Beyond rubrics in teaching and assessing writing. Logan, UT: Utah State University Press.
- Burstein, J., Kukich, K., Wolff, S., et al. (1998). Automated scoring using a hybrid feature identification technique. *Proceedings of the 36th annual meeting of the Association of Computational Linguistics, Montreal, Canada, 206-10.*
- Burstein, J., Marcu, D., Andreyev, S., and Chodorow, M. (2001). Towards automatic classification of discourse elements in essays. *Proceedings of the 39th annual meeting of the Association of Computational Linguistics, France*, 90-92.
- Bushweller, K. (2000). Electronic exams. Electronic School, 187 (6), 20-4.
- Butler, D. L. (2003, January/February). *The impact of computer-based testing on student attitudes and behavior*. Retrieved November 2, 2006, from http://ts.mivu.org/default.asp?show=article&id=1034
- Calkins, L. M. (1986). The art of teaching writing. Portsmouth, NH: Heinemann.
- Cambourne, B. (1998). *The whole story: Natural learning and the acquisition of literacy in the classroom.* Sydney: Ashton Scholastic.

- Campbell, K. K. (1982). The rhetorical act. Boston: Wadsworth Publishing.
- Campbell, K. K., and Jamieson, K. H. (1978). Form and genre in rhetorical criticism: An introduction. In K. K. Campbell and K. H. Jamieson (Eds.), *Form and genre: Shaping rhetorical action*. Falls Church, VA: Speech Communication Association, 9-33.
- Cardellichio, T. L. (1995). Curriculum and the structure of school. *Phi Delta Kappan*, 76, 629-32.
- Carlson, S. (2000, April 18). Computer-savvy students perform poorly on handwritten composition, study finds. *Chronicle of Higher Education*, A40.
- Carnevale, A. P., and Desrochers, D. M. (2003, October). *Considerations in using 12th grade NAEP as a prospective indicator of readiness for college and employment.* (ETS Report). Princeton, NJ: Educational Testing Service.
- Conference on College Composition and Communication (CCCC) Executive Committee. (1998-2005). *CCCC position statement on second-language writing and writers*. National Council of Teachers of English. Retrieved January 14, 2006, from http://www.ncte.org/cccc/resources/123794.htm
- Center on Education Policy. (2004). *State high school exit exams, a maturing reform*. Retrieved January 14, 2006, from http://www.cep-dc.org/highschoolexit/statematuringAug2004.cfm
- Christy, J. (2005). *Integrating technology in the language arts classroom*. Glencoe/McGraw-Hill. Retrieved November 28, 2006, from http://www.glencoe.com/sec/teachingtoday/subject/int_tech_lit_la.phtml
- Claggett, F. (2005). Teaching writing: craft, art, genre. Urbana, IL: NCTE.
- Coley, R., Cradler, J., and Engel, P. K. (1997). *Computers and classrooms: The status of technology in U.S. schools*. (Policy Information Report). Princeton, NJ: Educational Testing Service.
- Consortium for Innovative Instruction. (2002, July). *Aligning writing instruction in secondary and postsecondary institutions*. Tidewater Community College, VA.
- Council of Writing Program Administrators. (1999). WPA outcomes for first-year composition. *Writing Program Administration*, 23 (1), 59-66.
- Crafton, R. E. (1996). Promises, promises: Computer assisted revision and basic writers. *Computers and Composition*, *13*, 317-326.
- Cramer, S., and Smith, A. (2002). Technology's impact on student writing at the middle school level. *Journal of Instructional Psychology*, 29 (1), 3-14.
- Daniels, A. (2004). Composition instruction: Using technology to motivate students to write. *Information Technology in Childhood Education Annual*, 157-77.
- DeBell, M. (2005, October). Rates of computer and Internet use by children in nursery school and students in kindergarten through twelfth grade: 2003. (Issue Brief NCES 2005-111rev). Washington, DC: U.S. Department of Education, National Center for Education Statistics.
- DeBell, M., and Chapman, C. (2003, October). *Computer and Internet use by children and adolescents in 2001*. (NCES 2004-014). Washington, DC: U.S. Department of Education, National Center for Education Statistics.
- DeBell, M., and Chapman, C. (2006, September). *Computer and Internet use by students in 2003*. (NCES 2006-065). Washington, DC: U.S. Department of Education, National Center for Education Statistics.

- Delpit, L. (1986). Skills and other dilemmas of a progressive Black educator. *Harvard Educational Review*, 56 (4), 379-85.
- Delpit, L. (1995). *Other people's children: Cultural conflict in the classroom*. New York: New Press, Distributed by W. W. Norton.
- Department of the Army. (1986, June). *Effective writing for Army leaders*. [Brochure]. Author, 600-67.
- Diederich, P. B. (1974). *Measuring growth in English*. Urbana, IL: National Council of Teachers.
- Duran, R. (2000, August). *Implications of electronic technology for the NAEP assessment*. (Commissioned by the NAEP Validity Studies Panel.) Washington, DC: U.S. Department of Education, National Center for Education Statistics.
- Dybdahl, C. S., Shaw, D. G., and Blahous, E. (1997). The impact of the computer on writing: No simple answers. *Computers in the Schools*, 13 (3/4), 41-53.
- Dyson, A. H., and Warshauer Freedman, S. (1990). *On teaching writing: A review of the literature*. Berkeley, CA: Center for the Study of Writing.
- Dyson, A. H., and Genishi, C. (1994). *The need for story: Cultural diversity in classroom and community*. Urbana, IL: National Council of Teachers of English.
- Economics and Statistics Administration and National Telecommunications and Information Administration. (2002, February). *A nation online: How Americans are expanding their use of the Internet*. Washington, DC: Author.
- The Education Trust. (1999). Ticket to nowhere: The gap between leaving high school and entering college and high-performance jobs. *Thinking K-16*, *3* (2), 1-31.
- The Education Trust. (2003, September). What can grade 12 NAEP tell us about readiness for college-level work? An analysis for the National Assessment Governing Board.
- The Education Trust. (2004). *A dream deferred: 50 years after* Brown v. Board of Education, *the struggle continues ... A 50 state look at achievement, attainment and opportunity gaps*. Retrieved January 14, 2006, from http://www2.edtrust.org/EdTrust/Press+Room/2004+reports.htm
- English standards provoke criticism. (1996). *Education Reporter*, *125*. Retrieved January 14, 2006, from http://www.eagleforum.org/educate/1996/june96/english.html.
- Espin, C.A., Weissenburger, J.W., and Benson, B.J. (2004). Assessing the writing performance of students in special education. *Exceptionality*, 20 (1), 55-66.
- Fitzpatrick, A.R., Ercikan, K., and Yen, W. M. (1998). The consistency between rater scoring in differing test years. *Applied Measurement in Education*, 11, 195-228.
- Fleming, S. (2002, August 2). When and how should keyboarding be taught in elementary school? Unpublished manuscript.
- Flood, J., Lapp, D., Squire, J. R., and Jensen, J. M. (Eds.) (2003). *Handbook of research on teaching the English language arts* (2nd ed.). Mahwah, NJ: Lawrence Erlbaum Associates.
- Flower, L. (1993). Problem-solving strategies for writing. Fort Worth, TX: Harcourt Brace.
- Foster, G. D. (1986, Spring). Research, writing, and the mind of the strategist. *Joint Force Quarterly*, 111-115.
- Fox, E. (2005). Tracking U.S. trends. *Education Week*, 24 (35), 40-2, 44-8, 50, 52-3.

- Goldberg, A., Russell, M., and Cook, A. (2003). The effect of computers on student writing: A meta-analysis of studies from 1992 to 2002. *Journal of Technology, Learning, and Assessment, 2* (1), 2-51.
- Goldschmidt, N. P. (2005). Lessons learned from surveying employers. *Assessment Update: Progress, Trends, and Practices in Higher Education, 17* (4), 1-4.
- Graham, S. and Perin, D. (2007). Writing next: Effective strategies to improve writing of adolescents in middle and high schools A report to Carnegie Corporation of New York. Washington, DC: Alliance for Education.
- Graves, D. H. (1983). Writing: Teachers and children at work. Portsmouth, NH: Heinemann.
- Graves, R. L. (Ed.). (1999). *Writing, teaching, learning: A sourcebook*. Portsmouth, NH: Heinemann.
- Gray, L., Thomas, N., and Lewis, L. (2010). *Teachers' Use of Educational Technology in U.S. Public Schools:* 2009 (NCES 2010-040). National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education. Washington, DC.
- Greene, B. M. (1999). The role of the personal in academic writing. In George Otte (Ed.), *Looking both ways: Studies in cross-institutional professional development* (Vol. I). (pp. 89-95). New York: CUNY Office of Academic Affairs.
- Greenwald, E. A., Persky, H. R., Campbell, J. R., et al. (1998). *The NAEP 1998 writing report card for the nation and the states*. U.S. Department of Education. National Center for Education Statistics. Retrieved January 14, 2006, from http://nces.ed.gov/nationsreportcard/pubs/main1998/1999462.asp
- Grejda, G. F. and Hannafin, M. J. (1992). Effects of word processing on sixth graders' holistic writing and revisions. *Journal of Education Research*, 85 (3), 144-149.
- Gundlach, R. A., Litowitz, B. E., and Moses, R. A. (1979). The ontogenesis of the writer's sense of audience: Rhetorical theory and children's written discourse. In R. Brown and M. Steinmann, Jr. (Eds.), *Rhetoric 78: Proceedings of theory of rhetoric: An interdisciplinary conference* (pp. 117-129). Minneapolis: University of Minnesota Center for Advanced Studies in Language, Style, and Literary Theory.
- Hackbarth, S. (2004). Changes in 4th-graders' computer literacy as a function of access, gender, and race. *Information technology in childhood education annual*, 187-212.
- Hamp-Lyons, E., and Condon, W. (2000). Assessing the portfolio: Principles for practice, theory, and research. Cresskill, New Jersey: Hampton Press, Inc.
- Harrington, S. M., Rollins, A. L., and Shermis, M. D. (2000). The influence of word processing on English placement test results. *Computers and Composition*, 17, 197-210.
- Harris Education Research Center. (1991, September). An assessment of American education: The view of employers, higher educators, the public, recent students, and their parents. New York: Author. (ERIC Document reproduction Service No. ED354797)
- Harris, M. (2006). What does the instructor want? The view from the writing center. In Patrick Sullivan and Howard Tinburg (Ed.), *What is college-level writing?* Urbana, IL: NCTE

- Harrison, S., Midyett, J., and Whithaus, C. (2006). *Keyboarding compared with handwriting on a high-stakes writing assessment: The influence of the material conditions for composing on students' and graders' perceptions of writing quality.* Unpublished manuscript.
- Haswell, R. H. (1998). Rubrics, prototypes, and exemplars: Categorization and systems of writing placement. *Assessing Writing*, 5 (2), 231-268.
- Haswell, R. H. (2004). Post-secondary entry writing placement: A brief synopsis of research. Corpus Christi: Texas A. & M. University.
- Heath, S. B. (1983). Ways with words: Language, life, and work in communities and classrooms. New York: Cambridge University Press.
- Hedges, L., Konstantopoulos, S., and Thoreson, A. (2003, April). *NAEP validity studies: Computer use and its relationship to academic achievement in mathematics, reading, and writing.* (Commissioned by the NAEP Validity Studies Panel). Washington, DC: U.S. Department of Education, National Center for Education Statistics.
- Heldrich, J. J. (2000). Nothing but net: American workers and the information economy. Work trends: Americans' attitudes about work, employers and government. New Brunswick, NJ: Rutgers, The State University, Center for Workforce Development. (ERIC Document Reproduction Service No. ED466753)
- Hill, I., and Matthews, J. (2005). *Supertest: How the International Baccalaureate can strengthen our schools*. Chicago: Open Court.
- Hillocks, G., Jr. (2002). *The testing trap: How state writing assessments control learning*. New York: Teachers College Press.
- Hillocks, G., Jr. (2005, December 29). Interview.
- Hillocks, G., Jr., and Smith, M. W. (1991). Grammar and usage. In J. Flood, J.M. Jensen, D. Lapp, and J. R. Squire (Eds.), *Handbook of Research on Teaching the English Language Arts* (pp. 591-603). New York: Macmillan.
- Hobson, E. H., and Steele, D.J. (1992, November). *Holistic scoring procedures for scoring writing samples*. Presented at the annual meeting of the Mid-South Educational Research Association, Knoxville, TN.
- Hopkins, G. (1998). Keyboarding skills: When should they be taught? *Educational World*. Retrieved November 6, 2006, from http://www.educationworld.com/a_curr/curr076.shtml
- Horkay, N., Bennett, R. E., Allen, N. et al. (2006). Does it matter if I take my writing test on computer? An empirical study of mode effects in NAEP. *Journal of Technology, Learning, and Assessment, 5* (2), 1-50.
- Houghton, M. (1996). Setting educational standards: Experiences in four states.

 Washington, DC: National Governors' Association, Center for Policy Research.

 (ERIC Document Reproduction Service No. ED406720)
- Howell, D, Kopczynski, C., and Nolden, J. (2002). A comparison of writing standards across the United States. Unpublished master's thesis, Portland State University, Portland, OR.
- Hoyt, J. E., and Sorensen, C. T. (1999, May). *Promoting academic standards?: The link between remedial education in college and student preparation in high school.* A report of the Department of Institutional Research and Management Studies.

- Intersegmental Committee of the Academic Senates of the California Community Colleges, the California State University, and the University of California. (2002, Spring). Academic literacy: A statement of competencies expected of students entering California's public colleges and universities. Sacramento: Author.
- Issacson, S. (2004). Instruction that helps students meet state standards in writing. *Exceptionality*, 12 (1), 39-54.
- Jackiewicz, G. (1995, April). The effect of computer based instruction on writing at the elementary level. Unpublished manuscript.
- Johnson, J., Duffett, A., and Ott, A. (2005). *Life after high school: Young people talk about their hopes and prospects*. New York: Public Agenda. (ERIC Document Reproduction Service No. ED485309)
- Jones, I. (1994). The effect of a word processor on the written composition of second-grade pupils. *Computers in the Schools*, 11 (2), 43-54.
- Kamberelis, G. (2006). *Thinking psychologically and rhetorically about genres and writing practices*. Unpublished manuscript.
- Kamberelis, G. (2006). *Writing and/in genres and/in fourth and fifth grades*. [Briefing Paper]. National Center on Education and the Economy.
- Keech, C. (1982). Practices in designing writing test prompts: Analysis and recommendations. In J. Gray and L. Ruth (Eds.), *Properties of writing tasks: a study of alternative procedures for holistic writing assessment*. Berkeley: University of California, Graduate School of Education, Bay Area Writing Project.
- Ketter, J., and Pool, J. (2001). Exploring the impact of a high stakes direct writing assessment in two high school classrooms. *Research in the Teaching of English*, 35 (3), 344-393.
- Kirst, M. W. (2000). The senior slump: Making the most of high school preparation. *National CrossTalk*, 8 (4). A Publication of the National Center for Public Policy and Higher Education, 5-12.
- Kirst, M. W. (2003, September). *College preparation and grade 12 NAEP*. Paper presented to The National Assessment Governing Board.
- Kopriva, R. (2000). *Ensuring accuracy in testing for English language learners*. Washington, DC: Council of Chief State School Officers.
- Koretz, D., and Barton, K. (2003-2004). Assessing students with disabilities: Issues and evidence. *Educational Assessment*, 9(1 and 2), 29-60.
- Kozol, J. (1991). Savage inequalities. New York: Harper Collins.
- Kroll, B. (2005, December 8). Interview.
- Kulik, J. A. (2003). *Effects of using instructional technology in elementary and secondary schools: What controlled evaluation studies say*. Arlington, VA: SRI International. Retrieved November 10, 2006, from http://www.sri.com/policy/csted/reports/sandt/it/Kulik_ITinK-12_Main_Report.pdf
- Landauer, T. K., and Dumais, S. T. (1997). A solution to Plato's problem: The latent semantic analysis theory of acquisition, induction, and representation of knowledge. *Psychological Review*, 104 (2), 211-240.
- Landauer, T. K., Laham, D., and Foltz, P. W. (2003). Automated scoring and annotation of essays with the Intelligent Essay Assessor. In M. D. Shermis and J. Burstein

- (Eds.), *Automated essay scoring: A cross-disciplinary perspective*. Mahwah, NJ: Lawrence Erlbaum Associates, 87-112.
- Lee, C. D. (1993). Signifying as a scaffold for literary interpretation: The pedagogical implications of an African American discourse genre. Urbana, IL: National Council of Teachers of English.
- Lewin, T. (2003, April 26). Writing in schools is found both dismal and neglected. *The New York Times*.
- Light, R. J. (2001). *Making the most of college: Students speak their mind*. Cambridge, MA: Harvard University Press.
- Lunsford, A. A. (2006). Writing, technologies, and the fifth canon. *Computers and Composition*, 23 (2), 169-77.
- Lunsford, A. A., and Lunsford, K. (2007). "Mistakes are a fact of life: A comparative national study. *College Composition and Communication* (forthcoming).
- Marsh, H. W. (1990). The structure of academic self-conduct: The Marsh-Shavelson model. *Journal of Educational Psychology*, 82, 623-36.
- Masters, J.R. (1992, April). A *study of arbitrations in Pennsylvania's writing assessment*. Paper presented at the annual meeting of the National Council on Measurement in Education, San Francisco.
- McClarty, K. L., Keng L., and Davis, L. L. (2006). Secondary analysis methods in comparability research: a review of methods used with the Texas assessment of knowledge and skills. Retrieved February 7, 2007, from http://www.pearsonedmeasurement.com/research/c_papers.htm#
- McCracken, N. M., and Appleby, B. C. (Eds.). (1992). *Gender issues in the teaching of English*. Portsmouth, NH: Heinemann Educational Books.
- McGarvey, J. (1997, October). Writing a wrong. Teacher Magazine, 52.
- McIntosh, W. A. (2003). *Guide to effective military writing* (3rd ed.). Mechanicsburg, PA: Stackpole Books.
- McNabb, M. L. (2005). Raising the bar on technology research in English language arts. *Journal of Research on Technology in Education*, 38 (1), 113-119.
- McNeil, L. (2000). Contradictions of school reform: Educational costs of standardized testing. New York: Routledge.
- Miller, C. R. (1984). Genre as social action. *Quarterly Journal of Speech*, 70 (2), 151-167.
- Moeller, D. (2002). Computers in the writing classroom. Urbana, IL: NCTE.
- Murphy, S. (2006). Teaching writing/teaching genres. (Briefing Paper). National Center on Education and the Economy.
- Myers, M. (1980). A procedure for writing assessment and holistic scoring. Urbana, IL: National Council of Teachers of English.
- Myers, M. (1985). *The teacher-researcher: How to study writing in the classroom*. Urbana, IL: National Council of Teachers of English.
- National Assessment of Educational Progress. (2002). *The Nation's Report Card: Writing 2002*. U.S. Department of Education, National Center for Education Statistics. Retrieved January 14, 2006, from http://nces.ed.gov/nationsreportcard/pdf/main2002/2003529.pdf.
- National Association of Colleges and Employers. (2005). *National Association of Colleges and Employers'* 2006 job outlook. Bethlehem, PA: NACE, 1-23.

- National Center for Education and the Economy. (1995). *Performance standards: English language arts, mathematics, science, applied learning* (Vol. 3: high school [consultation draft]). Washington, DC: Author. (ERIC Document Reproduction Service No. ED434798)
- National Center for Education Statistics. (2005). NAEP inclusion policy. *The Nation's Report Card*. Retrieved July 17, 2007, from http://nces.ed.gov/nationsreportcard/about/inclusion.asp
- National Center on Educational Outcomes. (2003). *Special topic area: Universally designed assessments*. Minneapolis: University of Minnesota. Retrieved July 17, 2007, from
- http://education.umn.edu/nceo/TopicAreas/UnivDesign/UnivDesign_topic.htm National Commission on NAEP 12th Grade Assessment and Reporting. (2004, March 5). 12th grade student achievement in America: A new vision for NAEP. A report to The National Assessment Governing Board. Iowa City, IA: ACT, Inc.
- The National Commission on Writing for America's Families, Schools, and Colleges. (2004, September). Writing: A ticket to work...or a ticket out, a survey of business leaders. Berkeley, CA: Author.
- The National Commission on Writing in America's Schools and Colleges. (2005, July). Writing: A powerful message from state government. New York: Author.
- National Council of Teachers of English. (1998-2005). *Grammar*. Retrieved January 14, 2006, from http://www.ncte.org/profdev/online/ideas/freq/114025.htm
- National Council of Teachers of English. (2005). *The impact of the SAT and ACT timed writing tests*. Retrieved January 14, 2006, from http://www.ncte.org/library/files/About_NCTE/Press_Center/SAT/SAT-ACT-tf-report.pdf
- National Research Council. (1997a). Educating one and all: Students with disabilities and standards-based reform. *Committee on Goals 2000 and the Inclusion of Students with Disabilities*. L. McDonnell, M. McLaughlin, and P. Morison (Eds). Board on Testing and Assessment, Commission on Behavioral and Social Sciences and Education. Washington, DC: National Academy Press.
- National Research Council. (1999). *High stakes: Testing for tracking, promotion, and graduation*. Committee on Appropriate Test Use. J. P. Heubert and R. M. Hauser (Eds.). Board on Testing and Assessment, Commission on Behavioral and Social Sciences and Education. Washington, DC: National Academy Press.
- National Writing Project and Nagin, C. (2003). *Because writing matters: Improving student writing in our schools*. San Francisco, CA: Jossey Bass.
- Naval War College. (2000, August). Writing guide. In *A handbook of the United States Naval War College*.
- New London Group. (1996). A pedagogy of multiliteracies: Designing social futures. *Harvard Educational Review*, 66 (1), 60-93.
- Nichols, L. (1996). Pen and paper vs. word processing: A comparative study of creative writing in the elementary school. *Journal of Research on Computing in Education*, 29, 159-66.
- Nielsen, J. (2000). Designing web usability. Indianapolis, IN: New Riders Publishing. Nippold, M. A., Ward-Lonergan, J. M., and Fanning, J. L. (2005). Persuasive writing in children, adolescents, and adults: A study of syntactic, semantic, and pragmatic development. *Language, Speech, and Hearing Services in Schools, 36*, 125-138.

- Norris, C., Sullivan, T., Poirot, J., et al. (2003). No access, no use, no impact: Snapshot surveys of educational technology in K–12. *Journal of Research on Technology in Education*, 36 (1), 15-27.
- Oakland T., and Lane, H.B. (2004). Language, reading, and readability formulas: Implications for developing and adapting tests. *International Journal of Testing*, 4 (3), 239-252.
- Ogilvie, R. W., Trusk, T. C., and Blue, A. V. (1999). Students' attitudes towards computer testing in a basic science course. *Medical Education*, 33 (11), 828.
- Olson, J. F., and Goldstein, A. A. (1997). The inclusion of students with disabilities and limited English proficient students in large-scale assessments: A summary of recent progress (NCES Publication No. 97-482). Washington, DC: National Center for Education Statistics.
- Padolsky, D. (2005). *Ask NCELA*, National Clearinghouse for English Language Acquisition (NCELA) and language instruction educational programs.
- Page, E. B., and Paulus, D. H. (1968). *The analysis of essays by computer. Final report.* Storrs, CT: University of Connecticut.
- Parjares, F., Miller, M. D., and Johnson, M. J. (1997). Gender differences in writing self-beliefs of elementary school students. *Journal of Educational Psychology*, *91*, 50-61.
- Perry, Debbie. (2005). Peer editing with technology: Using the computer to create interactive feedback. *English Journal*, 94 (6), 28-29.
- Perry, T., and Delpit, L. (Eds.). (1998). *The real Ebonics debate: Power, language, and the education of African American children*. Boston: Beacon Press.
- Peter D. Hart Research Associates/Public Opinion Strategies. (2005). Rising to the challenge: Are high school graduates prepared for college and work? A study of recent high school graduates, college instructors, and employers. (Document Number 5842). Washington, DC: Achieve, Inc. Retrieved January 14, 2006, from http://www.achieve.org/files/pollreport.pdf
- Peterson, S. (2000). Fourth, sixth, and eighth graders' preferred writing topics and identification of gender markers in stories. *The Elementary School Journal*, 101 (1), 79-100.
- Pew Research Center. (October 16, 1995). *Americans going online: explosive growth, uncertain destinations*. Survey Report. Washington DC: Pew Research Center for the People and the Press. Retrieved February 5, 2007, from http://people-press.org/reports/display.php3?ReportID=136
- Peterson, S. (2000). Gender meaning in grade eight students' talk about classroom writing. *Gender and Education*, 14 (4), 351-366.
- Piaget, J. (1955). *The language and thought of the child*. New York: World Publishing Company.
- Promoting teachers as researchers. (2004). Reading Today, 22 (2), 7.
- Public Agenda: Reality check 2002. (2002, March 6). Education Week, 21 (25), S1-S8.
- Rabinowitz, S., and Brandt, T. (2001). *Computer-based assessment: Can it deliver on its promises?* (Knowledge Brief Report). San Francisco: WestEd.
- Rainie, L., and Hitlin, P. (2005, August). Teen use of the Internet at school has grown 45% since 2000. (Data Memo.) Pew Internet and American Life Project.
- Revitalizing grammar (2003). [Special issue]. English Journal, 92 (3).

- Riddlebarger, Col. S. E. (1987-88, Winter). Effective writing: A new millennium—an old challenge. *Airpower Journal*, 301-306.
- Rief, L. (1992). *Seeking diversity. Language arts with adolescents*. Portsmouth, NH: Heinemann.
- Robelen, E. W. (1999). *The promise and the pitfalls: Technology in schools*. (ACSD Infobrief 16).
- Rogers, H. D. (1997). A longitudinal study of elementary keyboarding computer skills. *Academy of Educational Leadership Journal, 1*, (2). Retrieved November 2, 2006, from http://facstaff.uww.edu/rogersh/keyresearch/DRstdyek.pdf#search=%22 longitudinal%20study%20of%20elementary%20key%22
- Rorschach, B. (1999). Understanding error. In George Otte (Ed.), *Looking both ways:* Studies in cross-institutional professional development (Vol. I) (pp. 63-70). New York: CUNY Office of Academic Affairs.
- Russell, M. (1999, June 8). Testing on computers: A follow-up study comparing performance on computer and on paper. *Education Policy Analysis Archives*, 7 Retrieved December 8, 2006, from http://epaa.asu.edu/epaa/v7n20/(20).
- Russell, M. (2006, February 6). Interview.
- Russell, M., Bebell, D., Cowan, J., et al. (2003). An AlphaSmart for each student: Do teaching and learning change with full access to word processors? *Computers and Composition*, 20 (1), 51-76.
- Russell, M., and Haney, W. (1997). Testing writing on computers: An experiment comparing student performance on tests conducted via computer and via paper and pencil. *Education Policy Analysis Archives*, 5 (3).
- Russell, M., Higgins, J., and Hoffman, T. (2004). *Examining the effect of text editor and robust word processor use on student writing test performance*. Boston: Technology and Assessment Study Collaborative, Boston College.
- Russell, M., and O'Connor, K. (2003). *Computer-based testing and validity: A look back and into the future*. Boston: Technology and Assessment Study Collaborative, Boston College.
- Russell, M., and Plati, T. (2000, May). Mode of administration effects on MCAS composition performance for grades four, eight, and ten. A report of findings submitted to the Massachusetts Department of Education. Retrieved December 8, 2006, from http://www.bc.edu/research/nbetpp/statements/ws052200.pdf
- Russell, M., and Plati, T. (2002, May 29). Does it matter with what I write? Comparing performance on paper, computer and portable writing devices. *Current Issues in Education*, *5* (4). Retrieved December 8, 2006, from http://cie.ed.asu.edu/volume5/number4/
- Sandene, B., Horkay, N., Bennett, R. E., et al. (2005, August). *Online assessment in mathematics and writing: Reports from the NAEP Technology-Based Assessment Project, research and development series.* Washington, DC: National Center for Education Statistics.
- Scott, T. (2006). Writing work, technology, and pedagogy in the era of late capitalism. *Computers and Composition*, 23 (2), 228-43.
- Shaughnessy, M. P. (1977). *Errors and expectations*. New York: Oxford University Press.

- Shell, D. F., Colvin, C., and Bruning, R. H. (1995). Self-efficacy, attributions and outcome expectancy mechanisms in reading and writing achievement: Grade level achievement level differences. *Journal of Educational Psychology*, 81, 386-398.
- Shellard, E. (2004). Writing across the curriculum to increase student learning in middle and high school. Arlington, Virginia: Educational Research Service.
- Shuller, S. (1989, August). Keyboarding in elementary schools: Curricular issues. Unpublished manuscript.
- Solomon, C., Lutkus, A. D., Kaplan, B., et al. (April 2004). Writing in the nation's classrooms: teacher interviews and student work collected from participants in the 1998 NAEP Writing Assessment. ETS NAEP Technical and Research Report. Princeton, NJ: ETS
- Sperling, M., and Freedman, S. W. (2001). Review of writing research. In V. Richardson (Ed.), *Handbook of research on teaching* (4th ed.) (pp. 370-389). New York: American Educational Research Association.
- Squire, J. (1988). Critical issues in writing and reading today. In J. Davis and J. Marshall (Eds.), *Ways of knowing Research and practice in the teaching of writing*. Iowa City, Iowa: ICTE.
- Strickland, K., and Strickland, L. (1993). *Uncovering the curriculum: Whole language in secondary and post-secondary classrooms*. Portsmouth, NH: Heinemann.
- Technology counts 2003 Pencils down: Technology's answer to testing. (2003). *Education Week*, 22 (35), 63.
- Technology counts 2006 The information edge: Using data to accelerate achievement. (2006). *Education Week*, 25 (35), 52.
- Thomas, P. L. (2005). Grading student writing: high-stakes testing, computers, and the human touch. *English Journal*, 94 (3), 28-30.
- Thompson, S., Johnstone, C. J., and Thurlow, M. L. (2002). Universal design applied to large scale assessments (Synthesis Report 44). Minneapolis, MN: University of Minnesota, National Center on Educational Outcomes. Retrieved July 17, 2007 from http://www.education.umn.edu/NCEO/OnlinePubs/Synthesis44.html
- Thompson, S., Thurlow, M., and Moore, M. (2003). Using computer-based tests with students with disabilities (Policy Directions No. 15). Minneapolis, MN: University of Minnesota, National Center on Educational Outcomes. Retrieved April 10, 2007 from http://www.education.umn.edu/NCEO/OnlinePubs/Policy15.htm
- Tindal, G., and Crawford, L. (2003). *Technology applications for students with disabilities: Using learning assessments to design effective programs.* Eugene, OR: Behavioral Research and Testing.
- Tompkins, G. E. (2004). *Teaching writing: Balancing process and product*. Upper Saddle River, NJ: Pearson.
- Tongue and quill. (2004, August 1). U.S. Air Force. (AFH 33-337). Retrieved January 14, 2006, from http://www.e-publishing.af.mil/pubfiles/af/33/afh33-337/afh33-337.pdf
- Totten, S. (2003). *The neglected 'R': The need for a writing revolution*. New York: College Entrance Examination Board.
- Urquhart, V. (2005). What principals can do. *Principal Leadership*, 5 (6), 45-48.

- U.S. Department of Commerce. (2002). *A nation online: How Americans are expanding their use of the Internet*. Washington, DC: Author. Retrieved January 14, 2006, from http://www.ntia.doc.gov/ntiahome/dn/nationonline_020502.htm
- U.S. Department of Education, National Center for Education Statistics. (2005, March). Computer technology in the public school classroom: Teacher perspectives. (Issue Brief NCES 2005-083). Washington, DC: Author.
- U.S. Department of Labor, Bureau of Labor Statistics. (2004). *Occupational outlook handbook: Writers and editors*. Washington, DC: Author.
- U.S. Department of Labor, Bureau of Labor Statistics. (August 2, 2005). *Computer and Internet use at work in 2003*. (News release).
- Valencia, S. W., and Wixon, K. K. (2001). Inside English/language arts standards: What's in a grade? *Reading Research Quarterly*, *36*, 202-217.
- Vantage Technologies. (1998). *How robust is IntelliMetric* [™]? *A subsample cross validation study*. (Research Brief RB-301). Yardley, PA: Author.
- Vygotsky, L. (1962). *Thought and language*. Cambridge, MA: MIT Press.
- Waner, K. K., Behymer, J., and McCrary, S. (1992). Two points of view on elementary school keyboarding. *Business Education Forum*, 47, 27-29.
- Wells, G. (1986). The meaning makers. Portsmouth, NH: Heinemann.
- Whithaus, C. (2005). *Teaching and evaluating writing in the age of computers and high-stakes testing*. Mahweh, NJ: Lawrence Erlbaum Associates.
- White, E. (1985). Teaching and assessing writing. San Francisco: Josey Bass.
- White, E. (1993). Holistic scoring: past triumphs, future challenges. In M. Williamson and B. Huot (Eds.), *Validating holistic scoring for writing assessment: Theoretical and empirical foundations.* (pp.79-108). Cresskill, NJ: Hampton Press, Inc.
- Williams, J. M. and McEnerney, L. (1995). Writing in college: A short guide to college writing. Chicago: University of Chicago Writing Program.
- Wolcott, W., with Legg, S. M. (1998). *An overview of writing assessment: Theory, research, and practice*. Urbana, IL: National Council of Teachers of English.
- Wolfe, E. W., et al. (1996). The influence of student experience with word processors on the quality of essays written for a direct writing assessment. *Assessing Writing*, 3, (1), 123-47
- Wollman-Bonilla, J. (2004). Principled teaching to(wards) the test: Persuasive writing in two classrooms. *Language Arts*, 81 (6), 502-11.
- Wren, S. (2003). Ten myths about learning to read. *Balanced Reading.com*. Retrieved January 14, 2006, from http://www.balancedreading.com/myths.html.
- Writing: The neglected R returns. (2003). *District Administration, The Magazine for K–12 Education Leaders*. Retrieved January 14, 2006, from http://www.districtadministration.com/page.cfm?p=974.
- Yancey, K. B. (2004). Using multiple technologies to teach writing. *Educational Leadership*, 62 (2), 38-40.
- Zimmerman, B. J., and Martinez-Pons, M. (1990). Student differences in self-regulated learning: Relating grade, sex, and giftedness to self-efficacy and strategy use. *Journal of Educational Psychology*, 82, 51-59.



APPENDIX F

ORGANIZATIONS CONTACTED TO REVIEW INITIAL NAEP WRITING FRAMEWORK RECOMMENDATIONS

Organization	Conference or Focus Group Session	Listserv, Web Posting or Mass E-mail
Achieve, Inc.	Session	Yes
ACT Item Writers—Educators from all subjects		Yes
Alliance for Excellent Education		Multiple advisory boards and AEE newsletter
American Federation of Teachers (AFT)		Yes
Assembly of State Coordinators of ELA (ASCELA)		Yes
Association for Supervision and Curriculum Directors (ASCD)	Yes	Yes
Business Coalition for Educational Excellence (BCEE)	Yes	
Business Round Table		Yes
California Association of Teachers of English (CATE)		Yes
Chicago Area Reading Coaches	Yes	
The Coca-Cola Company		Yes
Conference on College Composition and Communication (CCCC)	Yes	Yes
Conference on English Leadership (CEL)	Yes	
Council for American Private Education (CAPE)		Yes
Council of Chief State School Officers (CCSSO)	Yes	
Council of Great City Schools (CGCS)	Yes	
Eastern Community College Social Science Association		Yes
Education Information Management Advisory Consortium (EIMAC)		Yes
Education Service Agency		Yes
Houston ESL Supervisors and Lead Teachers		Yes
International Reading Association (IRA)	Yes	Yes
Iowa Guidance Counselors		Yes
Los Angeles Unified School District		Yes
Midcontinent Regional Education Lab (McREL)		Yes
Minnesota District Assessment Coordinators		Yes
National Council of Teachers of English (NCTE)		Yes
National Association of Elementary School Principals (NAESP)	Yes	Yes
National Association of Secondary School Principals (NASSP)		Yes

Organization	Conference or Focus Group Session	Listserv, Web Posting or Mass E-mail
National Association of State Boards of Education (NASBE)		Yes
National Association of State Directors of Special Education (NASDSE)		Yes
National Association of Workforce Development Professionals (NAWDP)	Yes	Yes
National Catholic Education Association and Diocese Connections	Yes	Yes
National Conference on Research in Language and Literacy (NCRLL)		Yes
National Council of Teachers of English (NCTE)	Yes	
National Middle School Association		Yes
National Parent Teacher Association (PTA)		Yes
National Reading Conference		Yes
National School Board Association (NSBA)		Yes
National Science Teachers Association (NSTA)		Yes
National Writing Project (NWP)—directors and teacher- consultants, technology experts, urban directors and teacher consultants, English language learner experts	Yes (x 5)	
Northern Virginia Community College System		Yes
Recent high school graduates		Yes
Richland College of the Dallas County		Yes
Society for Human Resources Management (SHRM)	Yes (x 4)	
South Dakota State Department of Education		Yes
Teachers of English to Speakers of Other Languages (TESOL)	Yes	Yes
Various technology and writing listservs		Yes
Washington State Writing Assessment Leaders		Yes

Additional Organizations Contacted:

Air Force Academy

Air Force ROTC

Army ROTC

Center for Applied Linguistics (CAL)

The Citadel

Education Trust

Marines ROTC

National Rural Education Association (NREA)

United States Naval Academy

Navy ROTC

United States Military Academy at West Point

Virginia Military Institute