The Yale-New Haven Teachers Institute® is an educational partnership between Yale University and the New Haven Public Schools designed to strengthen teaching and learning in local schools and, by example and district assistance, in schools across the country. Through the Institute, Yale faculty members and school teachers work together in a collegial relationship. The Institute is also an interschool and interdisciplinary forum for teachers to collaborate on new curricula. Each participating teacher becomes an Institute Fellow and prepares a curriculum unit to be taught the following year. Teachers have primary responsibility for identifying the subjects the Institute addresses.

Since its inception in 1978, the Institute has been recognized repeatedly as a pioneering and successful model of university-school collaboration; in 1990 it became the first program of its type to be permanently endowed as a function of a university. In 1998 the Institute launched a National Demonstration Project to show that the approach it had taken for twenty years in New Haven could be tailored to establish similar university-school partnerships under different circumstances in other cities. Based on the success of that Project, in 2004 it announced the Yale National Initiative to strengthen teaching in public schools, a long-term endeavor to establish exemplary Teachers Institutes in states throughout the country.

For information about the Institute model, the National Initiative, or opportunities to support the Institute’s Endowment, please contact:

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HIGHLIGHTS OF THE REPORT

Introduction

During 2008 the Yale-New Haven Teachers Institute continued its New Haven program for the thirty-first year and pursued for the fourth year the Yale National Initiative to strengthen teaching in public schools, a long-term endeavor to establish as many as 45 new Teachers Institutes throughout the United States.

From its beginning in 1978, the overall purpose of the Yale-New Haven Teachers Institute has been to strengthen teaching and learning in local schools and, by example, in schools across the country. The Institute places equal emphasis on teachers' increasing their knowledge of a subject and on their developing teaching strategies that will be effective with their students. New Haven represents a microcosm of urban public education in the United States. Eighty-six percent of the students in the New Haven Public Schools are African American or Hispanic. More than seventy percent of students are eligible for a free or reduced-price lunch.

At the core of the program is a series of seminars on subjects in the humanities and the sciences. Topics are suggested by the teachers based on
what they think could enrich their classroom instruction. In the seminars, Yale faculty contribute their knowledge of a subject, while the New Haven teachers contribute their expertise in elementary and secondary school pedagogy, their understanding of the students they teach, and their grasp of what works in the crucible of the classroom. Successful completion of a seminar requires that, with guidance from the Yale faculty member, the teachers each write a curriculum unit to be used in their own classroom and to be shared with others. The units are disseminated throughout New Haven schools and, in certain schools, through Institute Centers for Curriculum and Professional Development. Both print and electronic publication make the units available for use or adaptation by other teachers in New Haven, and by teachers, students, and the wider public throughout this nation and indeed the world.

Teachers are treated as colleagues throughout the seminar process. Unlike conventional university or professional development courses, Institute seminars involve at their very center an exchange of ideas among teachers and Yale faculty members. This is noteworthy since the teachers admitted to seminars are not a highly selective group, but rather a cross-section of teachers in the system, most of whom, like their urban counterparts across the country, did not major in one or more of the subjects they teach. The Institute's approach assumes that urban public school teachers can engage in serious study of the field and can devise appropriate and effective curricula based on this study.

Through 2008, the Yale-New Haven Teachers Institute has offered 187 different seminars to 657 individual teachers, many of whom have participated for more than one year. (Please see Appendix for a list of the Fellows.) The seminars, meeting over a five-month period, combine the reading and discussion of selected texts (and often the study of selected objects, images, or aspects of the local environment) with the writing of the curriculum units. Thus far, the teachers have created 1694 curriculum units. Over the years, a total of 99 Yale faculty members have participated in the Institute by giving one or more seminars. (Please see Appendix.) Of them, 70 have also given talks. Forty-eight other Yale faculty members have also given talks. About half of these 147 participants are current or recently retired members of the faculty.

The Institute's twentieth year, 1997, had brought to a climax a period of intensive development of the local program. That had included placing all Institute resources online, providing computer assistance to the Fellows, correlating Institute-developed curriculum units with new school-district academic standards, establishing Institute Centers for Curriculum and Professional Development in the schools, and establishing summer Academies for New Haven students. In that year, while continuing to deepen its work in New Haven, the Institute began a major effort to demonstrate the efficacy of its approach in other cities across the country.

This effort involved in 1998 the planning stage of a National Demonstration Project. In 1999 partnerships were established between col-
leges or universities and school districts at four sites that planned to tailor the Institute's approach to local needs and resources. Implementation grants were awarded to four new Teachers Institutes — including Pittsburgh (what is now Chatham University as well as Carnegie Mellon University) and Houston (University of Houston). These grants enabled them to work with the Yale-New Haven Teachers Institute for an initial period of three years, from 1999 through 2001.

In 2002-03 the Institute's work on the national level was notably assisted by an extension of support for the National Demonstration Project which enabled the two-year Preparation Phase of the Yale National Initiative to be brought to completion. The Preparation Phase included Research and Planning Grants for the Pittsburgh Teachers Institute and the Houston Teachers Institute, which have significantly contributed to the evaluation of the Teachers Institute approach. The Preparation Phase enabled the Yale-New Haven Teachers Institute to collate and analyze data from the questionnaires and surveys conducted during the National Demonstration Project, establish a Web site for the Yale National Initiative, and prepare the "Understandings" and "Necessary Procedures" that serve as the basis for membership in a new League of Teachers Institutes®. The Preparation Phase made possible a summary evaluation of the National Demonstration Project by Rogers M. Smith and other researchers at the University of Pennsylvania, and culminated in 2004 with the announcement of the Yale National Initiative to strengthen teaching in public schools® in states throughout the country.

In 2008 eleven cities in ten states participated in the National Initiative. These included four cities that already had Teachers Institutes — New Haven, Houston, Pittsburgh, and most recently, Philadelphia — and seven cities that the Initiative had targeted for their potential to establish a new Teachers Institute. In 2005 Superintendents of public schools in these cities had nominated the first teachers to become Yale National Fellows who would participate in national seminars, led by faculty members experienced in the Institute approach. In this way, teachers might learn first-hand about that approach and might become leaders in exploring the creation of a Teachers Institute for their home community. Although they meet on a compressed schedule, the national seminars have the same expectations as New Haven Institute seminars. The National Initiative conducts an annual series of activities: an Organizational Session of the seminars that National Fellows attend each May; an Intensive Session of seminars for two weeks each July, which Institute directors and college and university faculty members from participating cities also attend; and an Annual Conference each October where school officials learn more about the Institute approach from National Fellows, national seminar leaders, and other faculty.

The present report focuses on the activity undertaken by the Yale-New Haven Teachers Institute in 2008. Extensive material on the National Initiative is available on the Initiative Web site.
The Program in New Haven

This section of the report covers the offerings, organization, and operation of the Institute's 2008 program for the New Haven teachers who participated as Fellows. It draws extensively upon the evaluations written by Fellows and seminar leaders at the conclusion of their participation. Here the report documents teacher interest in Institute seminars, as well as the content of the seminars that have been offered, the application and admissions process, the participants' experience in the program, and the preparation for 2009 offerings. It outlines the process of local documentation and evaluation.

We hope that this section of the report will be of interest to all those who assist in supporting, maintaining, and expanding the program in New Haven. We hope that its account of our local procedures may continue to prove useful to those who have established new Teachers Institutes, and to those in other communities who are contemplating the establishment of such Institutes.

The New Haven and National Web Sites

The Web site of the Yale-New Haven Teachers Institute makes available electronic versions of the Institute's publications — including the volumes of curriculum units, reports and evaluations, essays and other materials concerning the Institute's work since 1978. (The address is yale.edu/ynhti.) The Web site is valuable for New Haven teachers; it played a key role during the National Demonstration Project; and that role has grown as the Yale National Initiative proceeds. The Web location has been advertised prominently in the periodical On Common Ground®, which contains articles regarding school-university partnerships and reaches a national audience. We estimate that from its inauguration in June 1998 through December 2008, this Web site has received some fifty-five million "hits." Of these, more than six million occurred during 2008, when almost one million different persons visited the site.

The Web site of the Yale National Initiative (the address for which is teachers.yale.edu) presents the curriculum units written by the Yale National Fellows who participated each year in national seminars; publications and video programs on the Teachers Institute approach; and news and other information about the Initiative and the League of Teachers Institutes®. From the national Web site, teachers and others may search and comment on the curriculum units written in national, as well as local Teachers Institute, seminars.

On Common Ground®

On Common Ground is published periodically by the Yale-New Haven Teachers Institute. It is concerned with the development of teachers and of their curricula through school-university partnerships. Its title, which derives from that of the first book on the Institute's work, Teaching in America: The Common Ground, is intended to suggest that university and school teachers across the
country have a strong mutual interest in the improvement of teaching and learning in schools. The periodical focuses on the issues that have arisen and continue to arise in university-school partnerships of many kinds throughout the United States. The circulation of the periodical is some 15,000 nationwide.

Each number of *On Common Ground* has a topical focus, developed in one or more lead essays, and also deals more briefly with other matters of current interest. Number 12, published in 2008, reported on "Teachers Institutes for the Nation." This number publicized the initiative with articles by faculty about seminars they have led and by Fellows about student response to curriculum units they have written, and also contained accounts of the progress being made in developing Teachers Institutes in certain cities. Senator Joseph Lieberman and Representatives Rosa DeLauro and Joseph Courtney wrote feature articles discussing their support for the Teacher Professional Development Institutes Act.

**Teachers Institutes Legislation**

In 2007 Senators Joseph Lieberman and Christopher Dodd and Representatives Rosa DeLauro and Joseph Courtney had introduced the Teachers Professional Development Institutes Act. A similar measure had previously been introduced with the unanimous, bipartisan support of the Connecticut delegation in the 109th Congress. These latest bills, S. 2212 and H.R. 3209, would authorize $30 million over five years, making Federal funding available for the establishment of as many as forty new Institutes. Passage of this legislation would provide a tremendous boost to the Yale National Initiative, which aspires to establish an exemplary Teachers Institute in most states. The $30 million the legislation would authorize to be expended over 5 years would provide for the establishment of as many as eight Teachers Institutes each year, so that by the fifth year there would be an exemplary Institute in as many as 40 states. These Institutes would enable state and local education agencies to learn from local experience about this tested approach as they reformulate their policies and practices for teacher professional development.

In introducing the legislation, Senator Lieberman said, "The Yale-New Haven Teachers Institute has already proven to be a successful model for teacher professional development as demonstrated by the high caliber curriculum unit plans that teacher participants have developed and placed on the Web, and by the evaluations that support the conclusion that virtually all the teacher participants felt substantially strengthened in their mastery of content knowledge and their teaching skills. Our proposal would open this opportunity to many more urban teachers throughout the nation."

According to Congresswoman DeLauro, "Expanding this wonderful program across the nation will allow even more teachers the opportunity to gain additional sophisticated content knowledge and a chance to develop a curriculum that can be directly applied in their classrooms. When we strengthen teacher training, student achievement wins."
THE PROGRAM IN NEW HAVEN

The Seminars and Curriculum Units

From its inception, a tenet of the Institute's approach has been to determine its offerings annually in response to the needs for further preparation and curriculum development that the teachers themselves identify. In 2008 this process, as described later in the report, resulted in the presentation of six seminars, four in the humanities and two in the sciences, technology and mathematics. Teachers' participation in these seminars was greatly assisted by the annual contribution from the New Haven Public Schools.

With support also from endowment income the Institute offered four seminars in the humanities:

"Controlling War by Law: Averting War, Adjudicating Conflicts between National Security and Civil Liberties during War, and Pursuing Accountability and/or Reconciliation after War," led by Robert A. Burt, Alexander M. Bickel Professor of Law

"Storytelling: Fictional Narratives, Imaginary People, and the Reader's Real Life," led by Jill Campbell, Professor of English

"Pride of Place: New Haven History through Its Art and Material Culture," led by Edward S. Cooke Jr., Charles F. Montgomery Professor of American Decorative Arts

"Representations of Democracy in Literature, History and Film," led by Annabel Patterson, Sterling Professor of English Emeritus

With support from a private foundation and from the Howard Hughes Medical Institute, the Institute offered two seminars in the sciences:


"Depicting and Analyzing Data: Enriching Science and Math Curricula through Graphical Displays and Mapping," led by William B. Stewart, Associate Professor of Anatomy

The following overview of the work in the seminars is based on the descriptions circulated in advance by the seminar leaders, the introductions they wrote to the volumes of curriculum units produced in their seminars, and the curriculum units themselves.
Controlling War by Law

Warfare, both in the United States and elsewhere, typically has two recurring features: the expansion of Executive power, unchecked by democratic processes in legislatures or courts; and the suppression of individual rights, including the infliction of terrible atrocities. This seminar and the curriculum units that emerged from it explored the way that legal institutions have responded, or failed to respond, to these distinctive features of warfare.

Participants began by considering the role of the United States Supreme Court during the nineteenth century in responding to the Civil War. The curriculum units by two high-school teachers of history address this issue: Robert Osborne, on "Lincoln and the Constitution"; and Ralph Russo, on "Law and the Civil War." The group then examined the role of American courts during twentieth-century warfare, including judicial responses

(1) to governmental restrictions on free speech (with criminal prosecution of wartime dissent during World War I, and the Executive branch attempt to suppress publication of the Pentagon papers during the Vietnam War, among the specific cases studied): the curriculum unit by high-school teacher of history James Brochin, "The Switchroom," considers this issue;

(2) to restrictions on individuals' rights against arbitrary detention (including the internment of Japanese Americans during World War II, and the current confinement of so-called "illegal enemy combatants" at Guantanamo): Matthew Dooley's curriculum unit, for middle-school students of history, concerns this matter;
(3) to infliction of atrocities in the My Lai Massacre during the Vietnam War and in Abu Ghraib prison during the current conflict in Iraq: Joseph Corsetti's curriculum unit, "The My Lai Massacre," explores parallels and lessons for his high-school students of history.

The seminar then turned to the role of tribunals in other jurisdictions (including international institutions) in attempting to provide retrospective justice after the conclusion of warfare. Participants considered (1) the trial of Adolph Eichmann in Jerusalem for his role in the Nazi Holocaust; (2) the trials of other Nazi officials, immediately following the war in the Allied War Crimes trials at Nuremberg and subsequently in German courts; (3) the reaction of international institutions to the 1994 genocide in Rwanda; and (4) the work of the South African Truth and Reconciliation Commission in its efforts to devise a novel form of retrospective justice to the human rights abuses committed during the apartheid regime. A middle-school teacher, Julia Biagiarelli, wrote a unit on "Accountability and Reconstruction after the U.S. Civil War." Melanie Laputka, a high-school teacher of Spanish, combines language instruction with lessons about retrospective justice in her unit, "Dictatorship and Transition in the Southern Cone."

**Storytelling: Fictional Narratives, Imaginary People, and the Reader's Real Life**

The term "storytelling," which provided the main theme for this seminar, encompasses what the seminar leader described as "a dauntingly vast area for exploration — much of human experience, in fact, might be said to fall within its bounds." The seminar probed the cognitive and emotional or even moral claims that "narrative" makes — as an account of sequential events, sometimes (but not always) linked as cause and effect. Along with consideration of the elements, functions, and enduring appeal of narrative, participants wondered about the effects of untrue events and unreal characters on listeners and readers of stories. They asked, in the seminar leader's words, "What do fictional narratives about imaginary people offer the reader in a world full of compelling stories of real suffering, real loss, and real survival?"

In discussing novels and short fiction, participants pondered the impact and implications of stories about characters who may never have existed but who still inhabit a narrative world that includes features of historical reality — such as chattel slavery, racial hatred, sexual and political violence, abject poverty, or the difficult advance of social change. In examining Mark Twain's classic novel, *Huckleberry Finn*, often taught in high-school and college classrooms, the seminar encountered versions of these questions in the controversies about the real-world force of Twain's treatment of the historical institution of slavery, and of his fictionalized characterizations of that race of people who were subject to it. The group struggled with related questions about readers' readiness to extract generalizations — to find fodder for "stereotypes" rather than imaginative experiences of other selves — within narratives about unfa-
miliar people, times, or places when studying Zora Neale Hurston's *Their Eyes Were Watching God* and the recent novel about Afghan characters, Khaled Hosseini's *The Kite Runner*.

One premise of the seminar was that large questions about narrative, about fictionality, and about literature's effects on readers may be brought to a wide spectrum of works — addressed to pre-school-age readers, to elementary- and middle-school-age readers, to adolescents, and to adults. Texts included Russell Hoban's *Bread and Jam for Frances*, Arnold Lobel's *Frog and Toad* stories, and Laura Numeroff's *If You Give a Mouse a Cookie*; E. B. White's *Charlotte's Web*; J. K. Rowling's *Harry Potter and the Prisoner of Azkaban*; short stories about African American adolescents by Sharon G. Flake and the fictionalized memoir-vignettes of Sandra Cisneros' *House on Mango Street*; stories by D. H. Lawrence, James Joyce, and Edward P. Jones; the novels by Twain, Hurston, and Hosseini; and selected non-fiction, including Richard Wright's *Black Boy*.

Participants might ask the same large questions of fictional narratives written for readers of different ages but sometimes found that these inquiries developed differently, and led to different conclusions, in relation to the particular developmental stages of different reader-audiences. Fellows in the seminar who teach younger students felt that the aims appropriate to their students were instruction in storytelling, narrative structure, and literary devices, and an initial introduction of the categorical distinction between fictional and non-fictional works. And yet, according to the seminar leader, "the collection of richly thoughtful and imaginative curriculum units that emerged from our seminar demonstrates . . . strong continuities in the functions of both narrative and fictional experience for students — for human beings — of all ages, as well as beautifully displaying a variety of facets within those complicated phenomena."

The group became quite interested in the questions about the function of fictionality raised by those works that violate the presumably clear boundary between fictional and non-fictional characters and events. The process of discerning "What is real? What is true? What is reliable?" within texts bordering fiction and non-fiction is central to Ruth Chaffee's unit, designed for tenth-grade special education students and encompassing both the traditional genres of novel and memoir and newer kinds of digital media texts. Katherine Massa's unit draws upon the oral origins of all storytelling, offering a carefully sequenced series of activities to develop second-graders' abilities both to tell and to listen to stories. Grace Malangone's unit for fifth-graders builds on students' previous study of personification, similes, and imagery to explore how those literary devices contribute to the larger text within which they appear. Mary Lou Narowski's and Deborah Boughton's units aim to develop the critical thinking skills of middle-school readers and of freshman and sophomore readers in high school. Narowski seeks to introduce middle-school readers to a sampling of what advanced students of literature term "critical approaches" — historical, biographical, feminist, and formalist. Boughton
uses coming-of-age stories as the literary material with which her students reflect on and practice their own coming-of-age as readers and thinkers, increasingly able to think abstractly, independently, and with the recognition of complexity and contradiction.

In her unit, Elizabeth Johnston aims to teach high-school students "to see themselves somewhere in other people's stories," linking their experiences as intent readers with a return to memories of their own pasts that may be reinterpreted, reimagined, perhaps fictionalized, and shared. In another high-school unit centered on very short stories, Sandra Friday asks students to "find" themselves "in the fiction," employing several stories that depict how powerfully characters' interactions with others are determined by specific aspects of their own identities. MarcAnthony Solli's unit on the "American Gangster" will serve as the second half of a course on mythology, moving the focus of that course from classical hero-figures to the American anti-heroes at the center of The Godfather, Scarface, American Gangster, and The Sopranos. Finally, Joan Z. Jacobson in calls on her adolescent art students to extend their depictions of themselves in visual and written journals beyond the present and into an imagined future.

**Pride of Place: New Haven History through Its Art and Material Culture**

This seminar's premise was that while local history remains the foundation of all historical inquiry, it is essential to connect the specifics of place to broader interpretive themes. To provide teachers from a wide variety of subjects, from social studies and literature to science and art, pertinent historical themes and issues, this seminar focused specifically upon New Haven's material culture and artistic practice. Close interpretative analysis of artifacts provided real, palpable insights into production and consumption, demonstrated how people construct and manage social relationships, and revealed the values or aspirations of a specific time period. The goal was not to illustrate New Haven history through objects but rather to analyze and interpret elements of the built environment in a contextual manner through the example of New Haven.

Divided into five different temporal periods — Colonial Town, Commercial Expansion, Industrialized Landscape, City Beautiful, and Mixed Modernisms — the seminar explored maps, buildings, gravestones, metalwares, clocks, furniture, sculpture, and painting. Readings provided general overviews of the period and offered models for interpretation, but the emphasis of the seminar was engaging directly with the primary artifactual sources. Participants handled maps, architectural drawings, gravestones, furniture, and metalwares, and met in front of photographs, paintings, and sculpture. New Haven became the classroom. Engaging resources from local museums, libraries, and art galleries, as well as the architecture and streets of our community itself, the seminar built up visual and material literacy to make the immediate New Haven built environment come alive with possible academic forays.
The variety of topics covered in the units produced for the seminar testifies to the Fellows' engagement. A first-grade teacher, Carol Boynton links mapping to the drawing of architectural elevations and plans and demonstrates that mapping is not neutral or objective but is a culturally inscribed activity. Zania Collier offers a unit for her fifth-graders that explores the town of New Haven in 1750 by concentrating on the topography, the role of the central common, and the buildings of that time period. Waltrina Kirkland-Mullins focuses upon a specific type of object, the fence, to chart changing socioeconomic trends in New Haven from the eighteenth to the early twentieth centuries for her young learners. Pedro Mendia-Landa emphasizes the linkage among objects and uses the room in charting the intersection of culture and technology for students learning the English language. An art teacher for older elementary-school students, Melissa Sands brings the perspective of an artist to public art and its messages to foster in students more critical visual literacy. In her high-school Spanish classes, Laura Tarpill probes deeper into Hispanic culture in New Haven by turning students' attention to their home environment and how the material world constructs identity; it is a participatory unit that relies on student fieldwork and comparative analysis.

Fieldwork also lies at the heart of Sara Thomas's high-school art class, which will be working with the New Haven Museum and Historical Society to revise the 1982 publication Inside New Haven's Neighborhoods through mapping exercises linking Sanborn fire insurance maps and Google Maps, an introduction to architectural photography and then exploration of the five neighborhoods for which she is responsible. Huwerl Thornton's unit for elementary-school students uses stones in Grove Street Cemetery and the names of important but often forgotten local figures in the names of streets to constructed a unit that encourages students to pay attention to names and history and to

"The work of the seminar emphatically underscores that material history is indeed the most powerful form of local history."
—Seminar Leader

The seminar on "Pride of Place: New Haven History through Its Art and Material Culture."
(Left to right: Fellows Laura M. Tarpill, Carol P. Boynton, Zania Collier, Sara E. Thomas, Huwerl Thornton, Jr., Melissa Sands, Kristin M. Wetmore, Pedro Mendia-Landa, and Waltrina Kirkland-Mullins; and seminar leader Edward S. Cooke, Jr.)
develop ideas and attitudes for the memorialization of the living. A high-school art teacher, Kristin Wetmore examines the Amistad case of 1839-40; her unit focuses upon the geography of the Amistad case, its representation in popular culture of the period, the lack of interest in the case for more than a century, and the recent reawakening of interest. Like the other units, it touches on issues such as place, memory, representation, and everyday life.

As the seminar leader concluded, "The work of the seminar emphatically underscores that material history is indeed the most powerful form of local history."

**Representations of Democracy in Literature, History and Film**

This seminar's thesis, to be proved or disproved, was that democracy is in fact unrepresentable, because "the people" are unrepresentable and the arts tend to require single protagonists. The seminar began with an introduction to political thought, from Aristotle's *Politics* through John Locke and Thomas Paine, leading to closer examination of Alexis de Tocqueville's *Democracy in America*. Two plays of Shakespeare, *Julius Caesar*, sometimes taught in high schools, and *Coriolanus*, followed. The seminar leader also sought to raise the question of what is capable of representation in the live theater (how many persons can fit on a stage?), as a prelude to American drama of social protest, in the form of Clifford Odets' *Waiting for Lefty* and Arthur Miller's *Death of a Salesman*. Participants considered what kind of language dramatists are limited to, given that they must work immediately, with no looking back.

Included were two representations of the signing of the Declaration of Independence, by John Trumbull (almost contemporary with the event) and Howard Chandler Christy, in order to see the limits of painting in representing not only democracy, but ideas in general. Participants looked at the election series by George Caleb Bingham after reading Tocqueville, since the two were close in time. The group used Bingham's paintings, partly based on Hogarth's satirical election series, to reflect on what paintings can show, how they control the tone and value of the event in question, and what democracy looked like when it excluded both women and blacks. Then came the Civil War era, including the language of Lincoln's Gettysburg Address and some poems and prose by Walt Whitman, including his *Democratic Vistas*, published when the Civil War was over and the strains on American democracy were beginning to show in their most familiar form, corruption.

Moving into the twentieth century, the seminar considered how democracy fared as an ideal when the Depression hit, along with the great Drought. The idea was to compare Walker and Agee's *Let Us Now Praise Famous Men* and John Steinbeck's *The Grapes of Wrath*. Participants compared Steinbeck's novel with the film featuring Henry Fonda, noticing how the film avoided the harshest aspects of Steinbeck's saga. This was the period in which ideas of democracy fastened on the idea of the common man. The seminar considered Roosevelt's New Deal and his speech on the Four Freedoms, piously illustrat-
ed by Norman Rockwell and scathingly represented by Ben Shahn. The same motif resurfaced in Capra's film, *Mr. Smith Goes to Washington*, and Miller's *Death of Salesman*, which was accompanied by the author's essay on the possibility of common man tragedy. Then, with George Orwell's *Animal Farm*, participants turned to how the theme of corruption faced by Whitman turned into wholesale satire of socialist ideas.

But, according to the seminar leader, "it would not have been good to end on such a sour note." The Fellows watched *Salt of the Earth*, a film about unionization, produced in defiance of the Hollywood blacklist by a blacklisted producer, and acted by blacklisted Hispanics and real miners. That the workers win eventually because the women take over the picket line was not only true to the facts, but pointed forward to female activism in the suffragette cause. Throughout the seminar, participants sought to keep in mind the historical context of these varied works. One of the Fellows intended to ask his students from time to time throughout his unit big question, "Is America a democracy today?" Another focused on Langston Hughes' poem, "Let America be America again," since she thought its broad canvas would be therapeutic in a classroom where the focus usually was on the hardships of African Americans.

The seminar leader declared herself "very happy with the results" of this seminar, including the curriculum units that Fellows wrote, all but one for students in high school. A Spanish teacher, Maria Cardalliaguet Gómez-Málag created a unit on democracy or its absence in Cuba. Justin Boucher, a history/politics teacher, developed a unit emphasizing political thought (he added Thomas Hobbes) and made use of the *Federalist Papers* and Whitman. The other Fellows were English teachers. One, Jonathan Aubin, focuses on dissent,
what is a democracy and what is a citizen, adding Thoreau's *Civil Disobedience*, the 1848 feminist manifesto, Martin Luther King's speech "I have a dream" and Barack Obama's address on racism. Another, Matthew Monahan, applies the plays of August Wilson, connecting him with Arthur Miller, by whom he was deeply influenced. Another, Shannon Ortiz, made the center of her unit *The Grapes of Wrath*, but framed in the issue of rights as raised by Paine's *The Rights of Man*. The final high-school English teacher, Marialuisa Sapienza, employs an eclectic syllabus similar to that of the seminar. The one Fellow who teaches middle school, Sean Griffin, crafted a unit on the Civil War combining Lincoln's speeches, Matthew Brady's photographs, and Walt Whitman.

**Forces of Nature: Using Earth and Planetary Science for Teaching Physical Science**

The aim of this seminar was to explore ways of teaching physical science concepts and real-world applications at the same time. The group considered examples — and demonstrations — as concepts were presented. Fellows' proposed curriculum units helped to shape the ultimate areas of focus in the seminar, which included some mathematics. Below is a list of major physical science fields, with physics themes to use and corresponding possible examples.

**Forces, movement, gravity**

Physics themes to use: movement, velocity, acceleration; forces including gravity, friction, elastic response (springs).

Examples: Falling meteorites, landslides (gravity and friction), earthquake mechanism (friction and elasticity), earthquake waves (elastic waves).

**Energy and power**

Physics themes to use: work, kinetic energy, potential (stored) energy, sensible heat, latent heat (changes in phase); nuclear energy.


**Fluid flow**

Physics themes to use: States of matter (gas, liquid, solid) vs. how things deform (fluid, elastic, plastic). Pressure and pressure differences (which makes fluids move). Viscosity. Buoyancy and convection.
Examples: Flow of rivers; floods. Slow, viscous flow such as glaciers. High pressure and low pressure zones and winds. Waves in the ocean; tsunami. Convection inside the Earth (mantle and core), in the atmosphere (winds) and oceans (gulf stream), and stars (solar granulation).

Effects of rotation

Physics themes to use: Rotating frames. Angular motion (angular velocity, momentum and the "ice skater" effect). Centrifugal and centripetal "forces." The Coriolis effect.

Examples: Orbits of planets. The Moon and Earth. Tides: ocean tides and solid tides of Jovian/Galilean satellites. The spin and shape of planets and stars. Coriolis effect and atmospheric circulation (prevailing winds) and giant storms (hurricanes, Nor'easters).

Electricity and magnetism

Physics themes to use: Electrical charges and electric fields. Magnetic substances and magnetization. Electrical currents and magnetic fields. Moving charges (or electrical conductors) in a magnetic field and electromotive force.

Examples: Thunderstorm electrification (charge build-up) and lightning. Earth's magnetic field. Electrical motors and generators ("dynamos") and the cause for the magnetic fields of Earth, some planets and the Sun. Solar wind, magnetic storms and aurora borealis and australis.

Each Fellow in the end chose from some section of these themes and applied it to his or her particular subject and class needs. The units range from subjects geared toward teaching math to upper-level high-school students, to teaching early elementary-school subjects or in dual-language settings. Two units, those by high-school math teachers Hermine Smikle and Kenneth Spinka, use either waves (sound and seismic waves in her case, or the many types of ocean waves in his) for teaching high-school algebra, geometry and calculus. A unit by another high-school math teacher, Sam Jones, discusses gravity and planetary motion and tides for teaching high-school geometry as well. Five of the units were geared toward elementary-school students. Two units, by Roberta Mazzucco and Erica Mentone, address properties of matter to explain how things break or move in nature; for example why failure of rocks leads to earthquakes or landslides, or changes in states of matter (such as gas to liquid) are important for powering hurricanes and storms. Christine Jones focuses on using the solar system and planets to teach students about length and time (e.g., the relative sizes and distances between planets, or the length of days and years on other planets), while in a dual-language (Spanish and English) environment. Barbara Natale uses volcanoes to teach students about the inside of the Earth, plate tectonics as well as geography and history. Finally, Stephanie Sheehan uses convection in the Earth's atmosphere to explain climate and food production in Ghana, of particular interest at her school, which features an international theme.

Together, said the seminar leader, "The units represent a full spectrum of applying natural science to teaching basic concepts."

**Depicting and Analyzing Data: Enriching Science and Math Curricula through Graphical Displays and Mapping**

This seminar underscored how graphic or pictorial display of data can reveal relationships not evident by the examination of numerical data. Graphs are an integral component of both the analysis and display of scientific data, but beyond this, daily reading of the newspaper shows that interpretation of graphs is a requirement of general literacy as well. The overall aim of this seminar was to encourage the Fellows to incorporate clear graphical displays into as much of the curriculum as possible and to lead their students both to appreciate graphical material as they encounter it and to use it to express themselves.

The seminar was intended for teachers of science, math, and social studies at all grade levels, as well as teachers of the graphic arts and technology. The sophistication of the math was geared to grade level. The approaches ranged from simple arithmetic to algebraic to statistical. Spatial mapping methods were also discussed. The work of Edward Tufte, including his book *The Visual Display of Quantitative Information*, was a main source of common readings. The first few sessions were more lecture-oriented, with discussion interspersed. A "hands on" session was devoted to Excel. The bulk of the sessions were centered on graphical displays of datasets given as home-
work assignments. In some sessions, pairs of Fellows performed graphing exercises using colored pencils and graph paper. At other sessions the Fellows presented parts of their units. After the first few sessions, the Fellows chose the weekly topics.

The variety in the units reflected the diversity of the background of the Fellows. Marisa Asarisi employs graphical displays to depict the health trends of her middle-school math and science students. Karen Beitler uses jellybeans and strips of colored paper to help her high-school biology students to build population pyramids. Jennifer Esty teaches her high-school anatomy students the principles of mechanical drawing to help them interpret two-dimensional drawings of three-dimensional objects. Heidi Everett-Cacopardo uses a graphing unit to illustrate the extent of the HIV/AIDS epidemic for a high-school biology class, including a mapping exercise to trace the spread of a fictional disease through the classrooms of her high school. Larissa Giordano uses graphing exercises to help her second-grade students understand the links among healthy behavior, mood and performance. Beth Klingher introduces middle-school students of math to the power of graphical displays to justify a point or mislead the reader. Jon Knickerbocker has his high-school math students use graphical displays to understand economic and environmental data. Sheila Martin-Corbin uses graphical analysis of heart and pulse rates in a high-school unit on the cardiovascular system. Nicholas Perrone involves elementary- and middle-school students in graphing activities that display the physical activity of the entire school. Nancy Schmitt uses the stock market to teach high-school math students about graphing, and the risks of predictions based on those graphs.
The Process of Determining the Seminar Topics

Between October and December 2007, the teachers who served as Institute Representatives and Contacts for their colleagues had canvassed other teachers throughout New Haven elementary, middle, and high schools to determine the topics they wanted Institute seminars to address in 2008. (Please see Appendix for lists of teacher leaders.) The Representatives met together twice monthly and communicated individually with the school Contacts with whom they were responsible for staying in close touch. The Director and Associate Director of the Institute then approached Yale faculty members who were qualified and willing to lead seminars that engaged the desired topics. The Representatives then considered and selected from among their seminar proposals.

In their evaluations, the 2008 Fellows indicated that the Institute Representative for their school had been helpful in many ways: by encouraging and assisting them to apply to the Institute, maintaining frequent contact with them, asking for their views on seminar subjects for the following year, and promoting the use of Institute-developed curriculum units. (Chart 1, reading from left to right, moves from the more helpful to the less helpful activities of the Representatives.) As a result, most Fellows (78 percent) said in the end that they had, while the program was being planned, sufficient opportunity to suggest possible topics for seminars. This is comparable to the rate of satisfaction indicated by the Fellows in 2005, 2006, and 2007 (71, 85, and 80 percent, respectively).

**Chart 1**
Institute Representatives’ Helpfulness to the 2008 Fellows
The Fellows' Application and Admissions Process

Having worked with teachers in their respective schools during the preceding months, the Institute Representatives met on January 8 to receive for distribution in all schools copies of the Institute application form, brochure, and descriptions of the seminars to be offered. At this meeting a general presentation of the subjects of the seminars ensured that all Representatives could explain to their colleagues the purpose of each seminar. On January 15 the Institute held an open house for prospective applicants where any teacher might learn more about the planned seminars from the Representatives and from the seminar leaders, who made brief presentations about the seminars they would lead and conducted discussions in small groups with teachers who might apply. On January 22 the Representatives met to discuss their progress in working with prospective applicants and to hand in their own completed applications. The final deadline for teachers applying to the Institute was January 29. This date was selected so that teachers would apply in advance of the February school vacation. The office would then have the vacation period to process application materials, and the review of applications could be completed during February to provide the earliest possible notification to teachers who were accepted.

There are four principal criteria for teachers to be eligible for consideration as Fellows:

School Representatives meeting, December 2007. (Clockwise from left: Associate Director Josiah H. Brown; and Representatives Sara E. Thomas, Maria Cardalliaqut Gómez-Málaga, Melissa Sands, Nicholas R. Perrone, Marisa A. Asarisi, Mary Lou L. Narowski, Barbara C. Natale, and Marialuisa Sapienza; Director James R. Vivian; and Fellows Sandra K. Friday, Jennifer B. Esty, Larissa Giordano, Kenneth W. Spinka, Sam H. Jones, Carol P. Boynton, Huwerl Thornton, Jr., and Zania Collier.)
• The applicant must be a current New Haven school teacher who will be teaching in New Haven also during the school year following Institute participation.

• The applicant must agree to participate fully in the program by attending and coming prepared to all scheduled meetings and by completing research and meeting due dates in the preparation of a curriculum unit.

• The teacher must demonstrate in the application that his or her specific interests are directly related to the seminar as described by the seminar leader.

• The applicant must also show that the seminar and the curriculum unit that he or she proposes to write are directly related to school courses that he or she will teach in the coming school year.

For many years it has been the policy of the Institute to allow no more than twelve teachers to enroll in any seminar. The small size of the seminars is necessary both for the collegiality of the Institute experience and for the individual attention that each teacher's work in progress receives from the seminar leader and from other teachers in the seminar. The Institute has aimed each year to gauge the amount of teacher interest in order to offer enough seminars to accommodate almost all the teachers who wish to participate. During the planning process 117 teachers expressed definite interest in participating in one of the seminars to be offered. Of those teachers, 72 were from high schools, 8 from middle schools, and 37 from elementary and K-8 schools. By the application deadline, the Institute Representatives, assisted by the school Contacts, had obtained applications from 66 of these elementary, middle, K-8, and high school teachers in the humanities, social sciences, and sciences.

The Fellows application form calls for the interested teachers to specify the subjects and grade levels they teach, the course or courses in which they plan to introduce the material they study in the Institute, and their willingness to meet each of the Institute's requirements for full participation. The applicants also write a brief essay describing why they wish to participate in the seminar to which they are applying, and how the curriculum unit they plan to write will assist them in their own teaching. Writing this essay is, in effect, their first step in formulating a curriculum unit through which they will bring the material they study from the seminar into their own teaching.

A team application form requires interested teachers to demonstrate how the team envisions working together in inter-grade and/or interdisciplinary ways and to outline plans for a culminating activity in the school. Teams may receive preference during the admissions process, and are required to submit a final report on their work together during the following school year. If a team is not admitted as such, however, the members of the team may be admitted to
the program as individual Fellows. Also, the Institute encourages all Fellows to work as informal teams in their schools.

All applications were reviewed by three groups: seminar leaders, school principals, and seminar Coordinators. The seminar leaders examined the applications for their relationship to the seminar subject. This afforded each seminar leader the opportunity, as well, to tailor or enlarge the bibliography for the seminar so that it would address the specific interests of the teachers who would be accepted. At the same time, the applications were reviewed in the applicant's own school; the Institute's Representative for each school provided the school principal a copy of each teacher's application to examine. The intention is to increase awareness within each school of the projects that teachers wish to pursue in Institute seminars, to afford an opportunity for the principal and other educational leaders to examine the relationship between teachers' applications and school plans, and to increase the likelihood that the teachers will have a course assignment in which they can use their curriculum unit. In this review, principals answered the following questions:

- Is the applicant's proposal consistent with, and significant for, the curricula and academic plans for your school?
- List the courses and/or the grade levels where the proposed unit will be used; if there are none, state "none."
- Will the applicant be assigned next year one or more of these courses in which to teach the unit?
- Please indicate any special merits or problems you find with the applications.

When this procedure was introduced in 1998, Reginald Mayo, Superintendent of the New Haven Public Schools, had written to all principals: "We believe this is a highly promising way for ensuring that the assistance that the Institute provides to individual teachers and to teams of teachers has the best prospect for advancing each school's academic plans." This process informs the consideration of each application, provides each applicant pertinent guidance, and provides an opportunity for Institute Representatives to talk with their principals about the Institute.

The following examples of principals' comments on the Fellows' applications amply illustrate how they appreciate the significance and usefulness of the curriculum units that teachers in their school will be developing.

Directly related to 11th-grade humanities, right in line with our mission.

This unit will align with existing curricula goals in language arts, history, and social development.
This proposal connects with the NHPS history curriculum unit on the Constitution and on the Civil War.

Calculus is an important part of [our school's] business curriculum.

The unit covers topics from the third-grade science curriculum [and is] consistent with the goals of our school.

This unit has particular merit as it affords students the opportunity to use math and science concepts and technology to present data.

The proposal incorporates multiple elements from city curricula [including] logarithmic functions and probability.

The proposal supports the math curriculum in every aspect of its plan.

This unit fits in with the current biology curriculum and state/city/school standards.

This proposal excellently parallels curricula and academic plans for our school . . . [and] provides students a framework of rigorous cross-curricular engagement in science/mathematics with computer applications.

The proposal is perfectly in alignment with the NHPS language arts curriculum standards and aligns with a critical element of CAPT [Connecticut Academic Performance Test] preparation.

This will be utilized well in the grade 5 curriculum. Literacy is a central theme.

It offers cross-department integration and sharing of ideas from English and art, business and art, history and art. I find this a very exciting unit.

The proposal fits the school's academic plan and district curriculum for honors English [and] English.

We are a dual-language school and using story-telling increases [students'] awareness of language.

The proposal is consistent with the third-grade curriculum and is reflected in the social studies and language arts academic plan.

The proposed unit will enhance students' . . . expository writing while it exposes students to history. This master teacher can model effective teaching strategies and the importance of unit development to enhance teachers' craft.

It addresses the critical cultural awareness element of the world languages curriculum for Spanish and . . . bridges the social studies/history curricula.
The proposal is consistent with teaching our students to read non-fiction, which is part of our curriculum.

As in the past, the Institute formed a group of teachers who served as Coordinators to assist with the organization and smooth operation of the seminars. The Director, with the advice of teacher leaders, selects these Coordinators from the group of Representatives who become Fellows and who had earlier helped to select seminar subjects and identify interested teachers.

There is one Coordinator in each seminar. They act as liaisons between the seminars and a Coordinators committee to facilitate the exchange of information and to provide teacher leadership without diminishing the collegial rapport within each seminar. A seminar Coordinator must be, and must intend to continue as, a full-time teacher in one of New Haven's public schools. A Coordinator accepts the following responsibilities:

- To work with school Representatives at the conclusion of the application process, to serve on an admissions committee to consider proposals for curriculum development submitted by teachers applying to become Fellows, and to make recommendations to the Director about whom to accept as Fellows.

- To monitor the progress of a seminar through observation and conversation with participants, and to give progress reports at weekly seminar Coordinators committee meetings.

- To report to the seminar members any organizational information to be circulated, such as the schedule of any visitors and notice of Institute-wide activities.
• To act as a resource for members of the seminar, providing information about unit-writing deadlines, guidelines for writing curriculum units, computer assistance available to Fellows, copyright procedures, and University facilities Fellows may use.

• To be available to the seminar leader to provide information on Fellows’ perceptions of the seminar and on Institute policies generally, and to offer assistance as may be needed.

• To assist with the smooth operation of the seminar by keeping track of Fellows’ promptness and attendance and the timeliness of their written submissions, and by encouraging Fellows to make and keep appointments for individual meetings with the seminar leader.

• To attend and come prepared to weekly committee meetings with the Director or Associate Director and to take professional days as needed for the above purposes.

The Coordinators work together as an admissions committee for the Institute. They met after school on January 30 to conduct a first reading and discussion of the applications to their respective seminars. They then contacted all teachers whose applications needed to be clarified or amplified. On February 7 the Coordinators met for a full day, by taking professional leave, for their final consideration of most applications. They met again on February 12 to resolve issues remaining in a few applications.

During their review, the Coordinators considered the findings of the school administrators and seminar leaders and made recommendations to the Director about which teachers the Institute should accept. By these means, the Institute ensures that all Fellows participate in seminars that are consistent with their teaching assignments and applicable in the courses they teach. The Institute accepted as Fellows 61 New Haven teachers, 39 in the humanities and 22 in the sciences and mathematics. A joint meeting of seminar leaders and Coordinators was held February 26 to discuss the admissions process just completed, and to review the seminar and unit writing process and the policies and procedures of the Institute. In this way, the Coordinators began to provide the seminar leaders with information about the teachers who had been accepted and to discuss their role in assisting with the conduct of the seminars.

As additional preparation for the seminar leaders — three of whom were leading a Teachers Institute seminar for the first time — they met, too, with several other Yale faculty members who had led Institute seminars before. This informal orientation, begun in 2006, has become part of the annual program.

The Fellows Who Were Accepted

Fellows came from 24 of the district’s 44 schools, including nine of the eleven New Haven high schools, one of the two middle schools, two of the three transitional schools, and twelve of the 28 elementary and K-8 schools. The Institute
first admitted elementary school teachers in 1990; by 2008 most teachers in the elementary and middle grades were in K-8 schools as a result of the district's move toward such schools. Twenty five (41 percent) of the Fellows accepted in 2008 were elementary- or middle-grades teachers, and 36 (59 percent) were high school teachers. Overall, 17 Fellows taught kindergarten to grade five, 8 taught grades six to eight, and 36 taught grades nine to twelve. Four schools had four or more Fellows, and eleven schools had three or more.

Consistent with the Institute's aim to serve the largest possible proportion of all New Haven teachers, 24 (39 percent) of the teachers accepted in 2008 were participating in the Institute for the first time. Of these first-time Fellows, 17 were in the humanities and 7 were in the sciences. Six (10 percent) of the Fellows accepted were African American, most (50 of 61, or 82 percent) were non-Hispanic white, three (5 percent) were Hispanic, and two (3 percent) were of another background. The large proportion of teachers who are of non-Hispanic white backgrounds reflects a broader trend toward less diversity in the school district's teaching force. From 1995 to 2008 the proportion of non-Hispanic white teachers in the New Haven Public Schools grew from 67 percent to 75 percent, while the proportion of black and Hispanic teachers declined from 25 percent to 15 percent, and from 8 percent to 7 percent, respectively.

The participants included teachers from all stages of their careers, although the Fellows were younger on average than was the case in earlier years. Four first-year and seven second-year teachers were accepted; therefore one in six (11 of 61, or 18 percent) of all Fellows were in their first two years of teaching, indicating the Institute's potential to assist with induction of new teachers. Overall, one in three Fellows (33 percent) were age 30 or younger, and more than half (55 percent) were 40 or younger (compared with 30 percent as recently as 2001). Sixteen percent of Fellows were 41-50 years old; and 28 percent were older than 50. More striking is the decline in the proportion of Fellows ages 41-50. After having comprised one third to one half or more of Fellows during the 1990s, teachers of these ages made up less than 20 percent of Fellows in 2007 and 2008.

As Chart 2 shows, in 2008 one third of the Fellows (35 percent), had four or fewer years of experience in teaching. This is down from 2007 (when the figure was 44 percent) but above the proportion of Fellows with so little experience in the 1990s, when about 20 percent was common, and is consistent with a trend that began in 2002, when the Institute undertook to involve more new teachers in its seminars. In 2008 half (50 percent) had four or fewer years of experience teaching in New Haven. Still, in 2008 one third (33 percent) of the Fellows had 15 or more years of total experience in teaching. Seventeen percent had 15 or more years teaching experience in New Haven.

Indicative of the need for the professional development that the Institute provides, almost two thirds of Fellows (63 percent) had been in their present teaching position four or fewer years. This helps to explain why many teachers say they need to deepen their knowledge in subjects they have been recent-
Indicative of the need for professional development the Institute provides, almost two thirds of Fellows had been in their present teaching position four or fewer years.

Total Number of Respondents = 48
ly reassigned to teach, or curricular materials for students of a different age or background from those they have taught before.

As in past years, many of the 2008 Fellows did not major in college or graduate school in the subjects they currently teach. As Chart 3 shows, in no field other than special education and bilingual education did all Fellows teaching a subject have a graduate or undergraduate degree in that subject. In three fields — earth science, general science and physics — no Fellows had a graduate or undergraduate degree. Only three of eleven teachers of mathematics had a graduate or undergraduate degree in that area. Only three of eight teachers of history and one of ten teachers of social studies had a degree in the field. Six of sixteen teachers of English lacked a degree in the subject.

As in past years, many of the 2008 Fellows did not major in college or graduate school in the subjects they currently teach.

**Chart 3**
Number of Fellows with Degree in a Subject They Taught in 2007-2008

Chart 4 shows the subjects Fellows taught in the 2007-2008 year of their Institute participation. Overall, half (51 percent) of Fellows in the humanities and three quarters (76 percent) of Fellows in the sciences and mathematics had not majored either in college or in graduate school in one or more of the subjects they taught in that year.

Understandably, then, when the 2008 Fellows were asked about the incentives that attracted them to participate in the Institute, they responded (as Chart 5 shows, reading left to right from the most to the least important) that the most important incentives were the opportunities to develop materials to motivate their students (96 percent), to develop curricula to fit their needs (96 percent), to work with university faculty members (88 percent), to exercise intellectual inde-
pendence (88 percent), to increase their mastery of the subjects they teach (86 percent), and to work with teachers from other schools (78 percent). Incentives one might imagine to be important for teachers with access to Yale University — opportunity for credit in a degree program and access to Yale facilities and services — were much less important for Fellows in the Teachers Institute.

As past Institute studies have shown, Fellows are in most respects representative of all New Haven teachers, though there remain great disparities overall between the ethnicity of New Haven teachers and of their students. (See Table 1.) Similarly, the Yale faculty members who have led Institute seminars generally reflect the wider faculty at Yale.
Activities for Fellows

At the first organizational meeting of each seminar, held on March 4, the seminar leader distributed an annotated bibliography on the seminar subject and presented the syllabus of readings that he or she proposed the seminar would consider. The Fellows described the individual curriculum units that they planned to develop. This afforded the members of each seminar an overview of the work they were undertaking together and the projects they would pursue individually. The bibliographies both introduced the seminar subject and guided Fellows as they began research on their curriculum units. Several Fellows remarked on the value of their seminars' reading lists, which one called "of the highest quality . . . shed[ding] much-needed light on the respective time periods." Another said, "the readings were carefully chosen and the syllabus was perfect." Others said: "My seminar leader chose many authors I have never read and will now bring into my classroom"; "the choice of books gave [us] much to discuss and think about," "the readings really challenged me;" and the "syllabus was well developed and explicitly designed to ensure coverage of a broad spectrum of ideas and issues." In typical comments, the seminar leader was called "very flexible, adjusting our syllabus to reflect added time for discussion of certain texts and ideas when needed," and reviewing "with us regularly . . . reading selections, asking for input, and making changes by consensus."
One Yale faculty member characterized the interactive way in which seminar leaders often compose their reading lists: "I prepared reading assignments for each of our seminar meetings and interwove brief, preliminary presentations by the Fellows of their curriculum units where they were directly relevant."

Before the second seminar meeting all Fellows met individually with their seminar leader to discuss their projects. The Institute requires that Fellows schedule at least two such conferences as part of the unit writing process; many Fellows, however, meet more frequently with their seminar leader. At the end of the program, almost all Fellows (90 percent) said they had ample opportunity to discuss their choice of readings with the seminar leader. According to one Fellow, the seminar leader "went out of her way to provide each colleague with substantial advice and suggestions on how to clarify and present our units. She gave of her time freely."

A seminar leader said about the individual conferences, "We had useful discussions about their curriculum units, and they appeared quite responsive to my suggestions." Another seminar leader said,

I met with all of the Fellows two or three times about their written units; I met with several of them more . . . when they expressed a need for discussion or guidance via e-mail or in person. I also spent a great deal of time responding in writing, in marginal and overall comments, to each round of writing . . . . Almost all of them rose to the demands.

The availability and responsiveness of seminar leaders, including in these individual meetings, were characteristics many Fellows praised. One said the seminar leader "maintained a friendly and congenial atmosphere where everyone felt comfortable asking questions and receiving suggestions. . . . He gave us continual opportunities to meet with him."

During the period that preceded the regular weekly meetings, Fellows continued their reading, both preparing for the upcoming seminar discussions and working toward a brief prospectus of what their final units would contain. Regarding this early period, one Fellow, in a typical comment, appreciated "having some time to do preliminary reading and planning well in advance of having to submit my prospectus." At the second seminar meeting, on April 8, Fellows submitted the prospectus, presented their revised unit topics, and began to discuss common readings. The regular weekly seminar meetings began on May 6; thereafter Fellows continued to develop their units in stages, with a first draft submitted May 27. The weekly meetings of the seminars continued through July 15, with Fellows submitting the second draft of their units July 1 and completed units by July 31.

Fellows submit the prospectus, together with a revised unit topic and a list of appropriate readings, at the time of the second seminar meeting. This
allows them six weeks to write a first draft. The due date for the second draft is late enough to allow Fellows ample time to address the comments they received on the first draft from other Fellows and from the seminar leader. Most Fellows have been satisfied with this schedule and its deliberate series of deadlines during the spring and into the summer — a schedule that responds to the school Representatives' and other Fellows' suggestions each year. Overall, 88 percent of the Fellows (compared with 91 percent in 2007, 79 percent in 2006 and 75 percent in 2005) thought the unit writing deadlines occurred at the right time in relation to the school calendar. In contrast to a few who thought the program should conclude either earlier in the spring or later in the summer than it does, one Fellow said "Reading dates and deadlines were timed in a manner that enabled me to work efficiently without feeling overwhelmed by teaching responsibilities while completing the unit." According to another, "The Institute is well structured within the school year and sensitive-ly takes into account teacher schedules."

Fellows spoke of the benefits of an extended period for research, writing, and reflection. One said, "The work that has gone into creation of this curriculum unit will allow me to go into the kind of depth that is so important to education." According to another, "Time for curriculum writing is scarce during the school year. This experience really allowed me to think about my classroom, examine the needs of my students and my school as a whole." Another remarked, "It was really great to have time to discuss ideas with other motivated teachers." Others said,

Gathering information from a well-informed source lays the ground work for a unit that is balanced and well developed — the benefactors, the students! Having the opportunity to plan, review, revise, and amend . . . produces a unit that is exciting for me as well as my students.

Creating the unit encouraged me to think about the practical and philosophical choices that I make in the classroom every day and to reconnect with my overriding purpose: to help my students develop into independent and critical readers, writers, and thinkers.

Creating the curriculum gave me a chance to get very organized and prepare the best sequence for my lessons. Secondly, spending the time preparing, presenting, and consulting with other teachers gave me a chance to work out what lessons will work best to help my students learn the material and how to present the lessons. Perhaps most importantly, I have a much better understanding of the materi-al . . . after reading and consulting with [the seminar leader].

As these examples suggest, the Institute attaches great importance to the process through which Fellows develop their curriculum units. Many Fellows commented on the value of following this process — including not only guidance from the seminar leader but also advice from other Fellows. One said,
"The strict guidelines and procedures were helpful [in allowing] me to stay focused and on track." Others said,

There was a nice blend of unit presentation and text discussion. Each participant was able to seek the advice of other colleagues . . . . After the first draft, groups of three read the other units and time was allowed for small-group discussion.

The seminar included a cohesive and supportive group of Fellows with a strong and guiding seminar leader. With this type of support, I was encouraged to create a curriculum unit quite different than my original prospectus. Because of this change . . . I developed a stronger unit. . . . I credit our seminar leader with terrific guidance and patience.

Discussion in seminar of Fellows' work-in-progress contributes both to unit development and to the seminar experience. As one Fellow put it, "I greatly appreciated the feedback from [the seminar leader] in our meetings as well as the feedback from him and the Fellows in my group about my unit in progress. I found that input very valuable." Another said, "Fellows provided sample exercises, which were tested on peers, and they gained insight from the feedback."

At the conclusion of the seminars, most Fellows indicated that the program schedule (93 percent) and the guidelines for writing a unit (96 percent) had been useful to them to a great or moderate extent. This year three fifths (60 percent) of the Fellows said they tried out the subject matter and even more (78 percent) said they tried out the strategies of their units in their classroom. Of those who did, nearly all (98 percent) said students' responses influenced what they included in the final units. One said, "I decided to 'try out' some of my unit [already and] the lessons . . . went extremely well."

During the first two months of the program, which serve as a reading period, all Fellows also met together on Tuesday afternoons for a series of talks by current or prospective seminar leaders. These talks are designed either to acquaint Fellows with the work of seminars other than their own, or with subjects of possible future seminars. Current seminar leaders gave three of the talks: Robert A. Burt on "The Role of Courts in Averting Race War in America in the 19th, 20th and 21st Centuries"; Edward S. Cooke Jr. on "Pride of Place: New Haven History through Its Art and Material Culture"; and Annabel Patterson on "Representations of Democracy in Literature, History and Film." Two prospective seminar leaders, both in the sciences, also gave talks: Gary L. Haller on "Little Big Science: The Nanotechnology of Pure Carbon Molecules" and Edward H. Kaplan on "Adventures in Policy Modeling."

The talks were popular. One Fellow "really appreciated learning about the other seminars" through the talks. Another called them "useful this year in their
own right [not only] as a means of introducing the other seminars." Another "truly enjoy[ed] the initial lectures and wish[ed] there were more opportunities to hear other speakers." Even a Fellow who thought some of the topics could have been more "accessible to the general audience" concluded that "most were very stimulating." Another Fellow praised "the eclectic nature [of the] interesting lectures presented in a diverse, interdisciplinary fashion." Another regarded the talks as "very educational and informative."

Most Fellows saw in the talks the purposes for which they were organized. Virtually all (96 percent) Fellows said that to a great or moderate extent the talks provided intellectual stimulation, while most (82 percent) said they provided a sense of collegiality and common purpose among Fellows. Most (82 percent) said, too, that the talks were successful to a great or moderate extent in providing an overview of Fellows' work in the seminars. Almost all (91 percent) said the Institute scheduled the right number of talks. Many Fellows reported that the talks prompted them, to a great or moderate extent, to read about the talk topics (56 percent), discuss the topics with their students (54 percent), and discuss the talks with other teachers (86 percent). These numbers were comparable to those of prior years.

As in other years, the Institute scheduled an early workshop on curriculum unit writing. As part of their admissions folder, all Fellows had received Institute guidelines and mechanical specifications for preparing curriculum units, which outline the Institute writing process and steps for Fellows' formulating, reformulating, and expanding their individual units. On March 18, the teachers serving as seminar Coordinators led a panel discussion on curriculum unit development.
The Coordinators spoke from their own experiences as Institute Fellows in researching and writing curriculum units. They selected for emphasis areas they thought especially important for all Fellows to understand: "Narrowing Your Topic and Considering Your Audience"; "Following the Institute Process for Unit Development"; "Aligning Your Unit with School Plans and District Goals"; "Using the Institute’s Reference Tools and Technologies for Research and Writing"; and "Collegiality and Professional Development: The BEST Portfolio and Beyond." After questions, the Fellows broke into seminar groups, where each Coordinator led a discussion of purposes and practices in writing Institute curriculum units. This offered an opportunity for the first-time Fellows to learn about the guidelines and other aspects of curriculum unit writing from experienced Fellows. It encouraged veteran Fellows to share their experience and allowed all to discuss how the completed volume of units might display a range of teaching strategies and contain a standard form of annotation. By leading these discussions, the Coordinators also identified themselves as being knowledgeable about the process of writing curriculum units, so that other Fellows might later seek their advice.

In some recent years the seminar Coordinators organized an additional discussion to recognize and encourage the beginning teachers who were participating as Fellows. This provided an opportunity for experienced Fellows to congratulate new colleagues for participating during their first or second year of teaching, to invite them to seek support from Fellows who had faced similar challenges, and to reflect together on teaching in New Haven. While Fellows did not believe such a meeting necessary in 2008, new and more experienced teachers did again work together informally.

At weekly meetings with the Director and Associate Director, held the day after seminar meetings, Coordinators discussed the progress of each seminar and gained an overview of the program. Both seminar leaders and Fellows acknowledged in their evaluations the essential role of the Coordinators. Almost every Fellow agreed (67 percent "strongly") that the Coordinators provided teacher leadership without diminishing the collegial relationship within the seminar. Fellows found the Coordinators to be helpful either a lot (87 percent) or a little (13 percent) in providing information about unit writing deadlines; helpful either a lot (75 percent) or a little (25 percent) in providing information about guidelines for unit writing; helpful either a lot (73 percent) or a little (25 percent) in monitoring the process of the seminar through observation and conversations with seminar members; helpful either a lot (69 percent) or a little (25 percent) in providing information about the use of University facilities; and helpful either a lot (71 percent) or a little (25 percent) in facilitating discussion of Fellows’ work in progress. Few Fellows found the Coordinators unhelpful in any respect. Overall they received considerable praise not only from Fellows, but also from seminar leaders, one of whom remarked that the Coordinator "provided excellent support at every phase of the process." One Fellow called a Coordinator "very conscientious and helpful." Another was described as "professional and understanding . . . very helpful in conveying
due dates and expectations for units." A third Coordinator was praised as "a
tremendous, positive source of information and encouragement." Of a fourth
Coordinator, a Fellow said she

worked well . . . in making sure deadlines and information about
the Institute was clearly given. The Coordinator called me through-
out the unit's creation to make sure things were going okay and to
answer any questions that I had.

To maintain current information on the program and to address any prob-
lems that arose, the Institute Director and Associate Director met monthly with
the seminar leaders as a group. This also gave the seminar leaders, three of
whom were conducting an Institute seminar for the first time, an opportunity
to talk with one another about their approaches and experiences.

Rewards for Fellows

The seminars are the core collaborative experience of the Institute. In 2008, as
in past years, most Fellows' responses to the seminar experience were strongly
positive, even enthusiastic. One returning Fellow found it "fantastic"; "the
people in the seminar . . . always did their required readings, which really made
the seminar . . . go by very quickly." Another who "had a wonderful experience"
called the seminar leader "very engaging. He really pushed me intellec-
tually." Another "gained a far deeper understanding of my subject matter."

A first-time Fellow similarly "liked my seminar very much," both despite
and because of its significant demands:

The seminar reading and discussion were stimulating. The biggest
adjustment was slowing down and methodically developing my
own curriculum . . . finding a satisfactory balance between the
intellectual rigor of the seminar and the construction of my cur-
riculum unit. I enjoyed the seminar and the curriculum challenges
and I look forward to taking another YNHTI seminar in the future.

Another described the Institute as "exciting and memorable": "We were
able to . . . listen to each other's thoughts and ideas and gain a tremendous
amount of knowledge." Further,

My positive experience is also a result of my seminar leader and
Coordinator. They both showed a genuine interest and concern for
each member of the seminar. My seminar leader took the time to
visit my classroom, meet my students and get to know myself. Her
seminar talks were well-organized and thought-out, always result-
ing in an intriguing discussion. The seminar Coordinator was
always on top of deadlines, sending friendly reminders and avail-
able to help at any time.
Other Fellows said:

My experience . . . [was] very enriching. I was educated on the art of writing and how to distinguish between good and great writing. The seminar also taught me how to convey great writing techniques to my students. . . . I appreciated how the seminar leader allowed all the seminar participants to voice their thoughts.

We read a mix of classic and contemporary pieces and [the seminar leader] always kept in mind that as teachers we were looking for new ways to make literature accessible to our students. Instead of making assumptions about my students, she came to visit two of my classes and participated in our lessons. The students felt honored . . . [and] impressed by how genuinely interested [the seminar leader] was in them and their work. [She] also visited the classrooms of some of my colleagues. Her first-hand experience seemed to help her target some of the challenges we faced in the classroom. During the seminar, we problem-solved about everything from how to promote listening skills among members of the "text-messaging generation" to dealing with controversial subjects like internalized racism in the classroom.

YNHTI was very fulfilling. . . . Not only were the readings perfect vehicles for my unit, but the unit took on a greater intensity and meaning through the integration of art and literature. Also, there was a great synergy and chemistry. . . . [The seminar leader] was particularly effective in directing the group discussions. Exciting ideas abounded because readings were related and contrasted with one another, once again creating a better learning experience.

The seminar . . . was outstanding. [The seminar leader] did an excellent job of making sure we experienced what we read about. . . . We visited locations that were relevant to our readings. . . . With all of this field experience [the seminar leader] also made sure to schedule class time and his own time to discuss the progress on our units. He also included helpful comments on our drafts.

I am so thrilled. . . . [The seminar leader] made the seminar particularly enjoyable, informative, and stimulating. . . . [My school Representative and seminar Coordinator] could not have been more helpful, from the essay and application, to reminding us about deadlines and just checking from time to time. . . . One of the most important aspects of the Institute is being a part of the Yale community and having access to materials and resources. Rather than just create a superficial lesson, I was able to write an in-depth unit.

I learned so much. . . . I value the lessons taught by the seminar leader as well as those taught by my colleagues. The new ideas and
skills taught were applied to my unit and will be used in my classroom. . . . [Our seminar leader] is truly a wonderful teacher who was prepared to learn. . . . I felt right at home in this group and will utilize the skills, techniques and advice of all involved. I . . . wish I could have this opportunity all year long.

I thoroughly enjoyed my seminar. Each week demanded that I read and be prepared to discuss the various concepts of data graphics and analysis. . . . We enjoyed the networking and interactions. . . . This was a great experience.

Illustrating the Institute's demanding process of unit development and the interchange among seminar leaders and Fellows in this process, one Fellow wrote:

My experience was extraordinary. I was able to immerse myself. . . . The seminar leader made the meetings come alive. He was extremely knowledgeable, readily available and willing to assist at all times. I was treated with respect and understanding. . . . My seminar leader met with me on several occasions and provided assistance, which helped me find a clear and concise direction for my unit. Resources and research materials were given and suggested. The seminars were balanced with information on unit writing as well as subject material. The seminar exposed me to the many resources at Yale. . . . Having the chance to present my ideas and unit to my colleagues . . . allowed me to discern what material I would include in my final unit. I have grown professionally and intellectually and will be able to take this . . . back to my classroom.

Another wrote,

I had the opportunity to share ideas and learn from each participant about his/her topic. Many participants shared scientific activities developed in their units . . . and we were able to give constructive feedback regarding adjustments to the lessons. Also, we worked collaboratively in small groups graphing, analyzing, and presenting data. . . . We definitely learned from each other.

One seminar leader wrote that Fellows' "helpful presentations provided clarity to their own work because they were forced to grapple with their subject, and the discussion allowed them to benefit from others' perspectives."

"Fellows' helpful presentations provided clarity to their own work because they were forced to grapple with their subject, and the discussion allowed them to benefit from others' perspectives."
—Seminar Leader

The Yale faculty members who led seminars commented also on the benefits they derived. One gained "a renewed sense of humility, given the conditions against which these teachers struggle." Moreover, "Since I had to create my seminar . . . I learned a lot, and may get a short book out of this new material." Several other examples follow:
The basic benefit that I have received is my own sense of making some contribution to the education of public school students in New Haven, and supporting the work of incredibly dedicated teachers. The University often feels remote from the New Haven community, but my involvement in this enterprise is an important and satisfying corrective to that remoteness.

My visits to the classrooms of several of the Fellows . . . were absolutely invaluable — to me personally, but also to my ability to work with these Fellows individually and to incorporate more specific knowledge of their classroom work into our seminar discussions. I would urge seminar leaders to try to find time for some selective classroom visits.

It is a great way to feel connected to the city, but it is also a good forum to test some ideas for regular Yale seminars in the future. I viewed it as a rough draft for a seminar I will be teaching this coming year. I also like the opportunity to get perspective on my field from educators of different levels. Finally I found the experience energizing; it feels good to work with a group of eager local teachers.

[It is instructive] to see what real teachers have to deal with in the real world. It does help my own teaching in terms of learning more about pedagogical and hands-on approaches.

Fellows welcomed the opportunity to cross the artificial boundaries often separating schools, disciplines, and grade levels. Several cited characteristics of what is known in education literature as a "professional learning community." One said, "I had a wonderful group of teachers who came to every seminar meeting prepared, on time, and willing to offer helpful suggestions about how to apply the content in the classroom." According to others,

My experience . . . was wonderful. I had the opportunity to meet and work with other teachers from the district. This allowed me to network and learn from others in all levels of school. Being in elementary, I was able to get a good insight into what middle school and high school is like.

The seminar participants were from two distinct teaching backgrounds: a group of high school math teachers and a group of elementary teachers. The combination proved to be interesting and engaging. Each of us had a different perspective to bring. Among the elementary teachers there was a teacher from a dual-language program, and a few from one of the magnet schools. We got a chance to learn about some new initiatives within New Haven and to share strategies. It was amazing to learn how many misconceptions the high school teachers had about our students and the prob-
lems elementary teachers encounter. It was interesting hearing about the math units and resurrecting some old math knowledge.

It was . . . a pleasure to work with other New Haven school teachers outside of my own school. We taught different aspects of our unit and were able to give and receive advice and suggestions on how to make the lesson even better. It was great to be able to bounce ideas off each other and use or adapt what other teachers do in their classes with your own.

I very much enjoyed working with my colleagues — especially since it is rare to work with teachers who teach other age groups or disciplines. [This] interaction was one of the most worthwhile parts of the process.

Several teachers described this joint inspiration — and their belief that their camaraderie contributes to induction and retention of teachers in New Haven.

I enjoyed the mix of teachers, none of whom I had ever met before. New to the district, it was beneficial for me to get a sense of the different schools in the city and have other teachers as a sounding board.

I thoroughly enjoyed being a part of the Institute and having opportunities for discussion with other teachers within the district. Because we share so many of the same struggles, challenges, and accomplishments, it was enlightening being able to discuss these

"It was great to be able to bounce ideas off each other and use or adapt what other teachers do in their classes with your own."
—Institute Fellow
experiences and share strategies. . . I was able to form meaningful relationships with colleagues that I never would have [met].

One of the main reasons I wish to remain in New Haven is specifically because of the Institute. I would like to think that my students and my school benefit. . . My students have benefited from specific tasks used in the teaching of my unit. The tasks generally engage the students to a greater degree than other, more standard lessons. The applications of theory deepen their understanding.

I also learned a great deal from my colleagues. . . I was grateful to have that time during these seminars. Our talks were intellectually stimulating and it was very refreshing to be in such a peaceful and beautiful environment for awhile. . . YNHTI is a program that truly nurtures teachers. I don't believe that our society values teachers, but I do believe Yale does.

The Institute's participants and staff have been asked over the years whether the co-professionalism among Yale faculty members and New Haven school teachers, for which the program is widely known, is authentic. The mutual respect between Fellows and seminar leaders characteristic of the seminars attests to the collegiality on which the Institute is founded. One seminar leader described Fellows who "were engaged in the subject matter," with "our seminar discussions . . . lively throughout" — an "especially strong group." Another "was impressed . . . with our mutual abilities to engage in lively, substantive, challenging discussion about questions of common interest." Describing Fellows as "dedicated teachers," this seminar leader "was very pleased with the development of both the content and the presentation in the units as they moved through their several stages." Another seminar leader said Fellows were "eager and engaged," a "good mix because each had different experiences to contribute." Discussions "were always lively, and everyone contributed." Another said Fellows "wrote rigorously about the science" in the seminar and characterized their units as "impressively sound."

Fellows, in turn, expressed admiration for their Yale colleagues and appreciation for this joint enterprise of teaching and learning. In typical reflections Fellows said their seminar leader was "always respectful" of their "prior knowledge or lack thereof"; that "she took great pains to raise questions in such a way that made me feel she was taking my unit very seriously"; that "our seminar leader was wonderful and presented the information in a clear and concise manner. [He] was truly outstanding!" and that a seminar leader's "subtle intellect and excellent leadership skills guided all of us and allowed for a genuine communal, academic experience despite the vast differences in our teaching levels and assignments." Other Fellows said:

Each seminar session was well planned and relevant to classroom instruction. [He] served as an adept seminar leader, bringing in
resources that proved useful across grade levels. He incorporated an interactive component . . . equipping us with strategies . . . from a never-dreamed-of perspective!

Each meeting was like an adventure. . . . [The seminar leader] was able to supply me with great brain food for my unit. He also had a great manner when remarking on the progress of my unit. I was assisted just enough to get going.

[The seminar leader] was always available to meet during the week if we had individual questions about our unit we wanted to address privately. . . . Having someone to actually see and hold a conversation with was very accommodating.

My seminar leader was knowledgeable and helpful in guiding me to complete my unit. . . . The seminar leader was very flexible and available. . . . He made helpful recommendations and even coordinated a field trip.

[My seminar leader] never ceases to amaze me. [Seminar sessions] were very interesting, creative, and applicable to what we were learning. He provided time for the Fellows to share, ask questions on how to improve units and try out lessons in a comfortable environment. He provided constant encouragement for us to be great teachers and develop a quality unit. Ideas and questions were encouraged, and he believed in a "there is more than one answer" approach.

**Relating Seminar Topics to Curriculum Units**

Each Institute seminar must balance the complementary and inseparable but sometimes competing demands for studying the seminar topic and developing applications of that knowledge for school classrooms. The Fellows, from elementary, middle, and high schools, are obligated to develop curriculum units that have some demonstrable relation to the seminar topic. Yet they are free to devise curricula that enter territory not covered in detail by the seminar. The curriculum units, therefore, have a diversity of subject and method that one would not expect in a regular university course. As a result, discussions in the seminar, while doing justice to the common reading, can also range widely over substantive and pedagogical issues relating to the curriculum units. Some comments by seminar leaders and Fellows quoted earlier have indicated that each seminar approaches these demands differently as seminar leaders strive for an appropriate balance.

The Institute encourages Fellows to incorporate in their curriculum units both subject matter and skills that are specified in the local curriculum framework — including an emphasis upon literacy — and assessed by the statewide Connecticut Mastery (CMT) and Academic Performance (CAPT) Tests,
administered during 2008 in grades three through eight, and ten, respectively. Some Fellows commented on ways Institute-developed curriculum units help implement aspects of the district curriculum framework and create engaging material for students. One said, "My curriculum complements the district curriculum very nicely by adding depth to an area that is only generally addressed." Another said, "My unit will be incorporating real-world transition skills into the English curriculum." Regarding reading and writing instruction, one elementary school teacher wrote,

> Through the discussions in seminar, advice from Fellow colleagues and the help of the seminar leader, this unit will prove to be meaningful for the students and at the same time address a serious educational deficiency that my students share.

Other Fellows said:

> I planned my curriculum to be presented in two parts corresponding to the district curriculum. The first part will be presented during study of the Constitution and then linked with the second and more thorough study of the Civil War.

> The unit can assist teachers in moving students toward more independent thinking and more student-centered discourse. Because the unit is aligned with district standards the strategies and activities are portable and are suitable for use with many different texts.

> My unit will promote curiosity among students as well as staff. The school curriculum will be enhanced by the unit because the unit will address district, state, and national standards.

> As a (primarily) ninth-grade literature teacher, a ninth-grade team leader, and one of the ninth-grade curriculum writers, I can say with confidence that my participation in the seminar will be quite influential on my students, teaching, and curricula. I will also use the knowledge I've gained about my own writing process and my renewed sense of excitement toward the teaching of literature.

> This unit will free up my ability to teach creatively while meeting district curriculum mandates. My school as a whole will incorporate the unit into our Comprehensive School Plan.

> The high schools in New Haven have an emphasis of study on the CAPT. I think I have created lessons supporting the school's efforts to reinforce the reading for information portion of the test.

> This unit will put mathematics in the content area. Students will see its application across content areas or consider the uses of mathe-
matics in other content areas. This curriculum unit will also respond to the call of the mathematics standards to think about uses and the significance to students.

The Institute helps teachers to think outside the box and the creation of units allows teachers to expand and look more deeply at elements that are presented through the school curriculum.

Part of the New Haven mathematics curriculum has been dedicated to encouraging students to complete significant tasks. My unit has included some significant tasks, which will likely be shared with colleagues.

The flow of the lessons I planned in my unit lead the students through a series of steps to . . . the embedded task that is required by the state mandates in preparation for the CAPT. I am sure that any teacher could utilize this unit in sophomore biology and the students will be well prepared.

My seminar directly correlates with district standards. . . . I am now more knowledgeable [about] organizing data collection and utilizing the appropriate graphical display. . . . Analyzing data sets . . . is a critical skill for not only preparing for CAPT testing but [considering] epidemics like HIV/AIDS.

The unit I wrote is integrated such that I can teach math and science while teaching the directed literacy concepts at the same time.

"The lessons I planned in my unit lead the students through a series of steps to . . . the embedded task that is required by the state mandates in preparation for the CAPT."
—Institute Fellow
time! It is my hope that [the students] retain the standards being taught which can eventually help them in the CMT for math, literacy, and science.

Most Fellows (82 percent) said there had been a successful balance between general study of the seminar subject and Fellows' units in progress. Many Fellows emphasized, as one put it, that they "learned so much . . . not only on my topic for my unit but also about the content [of] other Fellows' units." Further, "Our individual meetings were informative and educational," as were "weekly seminar meetings" that "were very well organized and . . . excellent." Another described "a good balance of discussion of work in progress and content. The readings were pertinent." This seminar also formed affinity groups, where we shared our units with [colleagues] who were working on units fairly similar to our own. I found this extremely helpful. Overall the seminar was a wonderful experience, and I learned a lot!

Seminar leaders also addressed this balance. One "used individual conferences, two different [seminar] periods, and [small] groups to provide the appropriate support for the units. This allowed me to make maximum use of class time to explore the general field." According to another, "Since the teachers chose many of the session topics, the seminar was able to support individual unit development."

After the units were completed in July, they were compiled in a volume for each seminar. In October the volumes were deposited in the libraries of all public schools in the district, so that all New Haven teachers might use them in their teaching. As in the past, the Institute prepared a Guide to the new units, based on authors' synopses and recommendations of the grade levels and school courses to which their units apply.

The Institute updated the Index of all 1694 units contained in the 187 volumes published since the program's inception in 1978. The Index and Guide were deposited in school libraries and distributed to the teachers serving as Institute Representatives for the schools. The new curricular resources were provided to district administrators responsible for curricula system-wide. And the Institute continued to replace volumes missing from school library sets, based on its annual survey of Institute resources located in all schools. As described below, the Institute has also published electronic versions of the units, Guide, and Index to make its curricular resources even more widely available.

Results for the Participants

Fellows in 2008, as in prior years, often spoke of the results of their Institute participation in terms of intellectual growth and renewal. Just as the opportunity to increase mastery of the subject one teaches was an important incentive for most
Fellows (86 percent) at the outset, nearly everyone agreed (96 percent, 63 percent "strongly") that they had gained knowledge of their subject and confidence to teach it by participating in their seminar. Almost every Fellow (98 percent) agreed with the statement that the seminar helped with intellectual and professional growth; most (70 percent) strongly agreed. One termed the experience "extremely rewarding professionally." Another called it "rigorous professional development." Another said "The Institute . . . provided a degree of academic rigor that I found both stimulating and professionally rejuvenating." Another observed, "I learned a lot about my topic . . . as well as about my own strengths and weaknesses as a teacher and continuing learner. . . . It was a delight." According to another,

While we spend our days in the classroom exploring and challenging students' minds, there is very little time to spend on our own mental stimulation. . . . The seminar piqued my interest overall in learning and investigating in depth. . . . Continuous learning is one of the most rewarding things about teaching.

Many Fellows described the Institute experience — including the research for and writing of curriculum units — as having increased their professional confidence, subject mastery and morale. They spoke also of nourishing not only their own but also their students' curiosity, and of effects on student motivation and expectations. One Fellow said, "I know more than I knew before. . . . and I am now more confident with my knowledge." According to another, "The most direct impact of my unit will be the enthusiasm I bring." Others said,

The Institute was really a honing of my skills . . . a forum where I could interact with my peers and spend some quality, in-depth time developing a unit to teach. I feel very confident and prepared going into my fourth year of teaching. . . . That confidence will show through as dynamism in the classroom.

I am very excited about using my new curriculum unit. . . . Participating in the Institute has given me a focus that I didn't have before. . . . I will be able to not only improve my ability to confidently present the material, but to also include the students in a way I have not before.

I feel confident to teach my class and know that I have resources. . . . This seminar has helped me become familiar with a topic that I know will interest my students. My unit will help me incorporate social studies into the curriculum that is taken up mostly with literacy. . . . This unit will reawaken the natural curiosity that resides in all students . . . [and] will also bring my students' parents into their education [through] homework assignments.

I feel motivated and excited to teach the unit I have developed. Participation has raised my standards for my own students as well
as for myself when creating lesson plans. I also found it exciting to learn new information that I was then able to pass on to my students. My students also thought it was "neat" that their teacher also had to go to school to learn new things. I look forward to teaching this unit and feel confident that my students will enjoy the hands-on activities. . . . By integrating such professional work and setting the standards high, I can assure my students will achieve more while having fun.

One returning Fellow who found the Institute "very rewarding" in 2008 was "amazed" that "just when I thought my experience [in previous years] could not be improved, I am proven wrong." Others said,

This year my experience . . . was really fulfilling and challenging. . . . Because of this challenge, I was able to write one of the best units that I have been able to produce over my several years of participation. . . . I also feel that I got more out of writing this unit than I have in the past. I was able to make connections within my unit that I feel will help my students to learn more.

Having participated in the Institute . . . I am better prepared to begin my courses this year with a very good unit. . . . Viewing and understanding democracy as a concept will translate into my classroom in a number of ways. . . . This will serve as an introduction to a concept that will be with us throughout the year.

My participation in the Institute and the curriculum unit, in particular, will serve as a vehicle to motivate my students. . . . I think my teaching improves every year because of the Teachers Institute. The program inspires me to keep looking for new ways to build skills for my students, not only for the unit, but also for all of my classes.

According to one first-time Fellow, colleagues had

hounded me for several years to apply to the program. They described it as the most valuable professional development I’d ever get. . . . They were absolutely right. . . . I anticipated every Tuesday seminar with excitement. [The seminar leader] was great, the readings were fantastic, the discussions challenging, and the entire experience was rejuvenating.

Fellows spoke, too, of their access to Yale facilities. From the Institute's inception, all Fellows have been full members of the University community, listed in the directory of faculty and staff, and granted use of facilities and services similar to that of their Yale faculty colleagues. They receive a University identification card, computer account, and library borrowing privileges. For most Fellows (80 percent) access to Yale's academic facilities such as the
library was an incentive to participate; 82 percent reported that membership in the Yale community had been greatly or moderately useful to them.

To acquaint Fellows with the facilities available to them the Institute has offered special tours and orientations to the Sterling Memorial and Bass Library, Beinecke Rare Book and Manuscript Library, University Art Gallery, and Center for British Art. These were in addition to the program talks and seminars themselves and were available from professional staff of each facility.

One Fellow said, "That Yale allows New Haven teachers access to its seemingly endless resources — its libraries, people, and the campus itself — lends itself a distinction no other program of this type could hope to create." Another said, "I am more aware and comfortable using Yale's facilities to enhance my teaching and the experiences of my students." According to another,

I appreciated the chance to feel integrated into the Yale community. . . . The Yale facilities are amazing and offer resources I never knew existed. I've enjoyed having the ID to access them and the knowledge to share with my students.

Fellows see the results of the Institute as extending beyond their own classrooms, and beyond the teachers who have themselves personally participated in the seminars. Almost all Fellows said that they plan to encourage or assist other teachers in using the unit they prepared. Two thirds planned to do so with two or more other teachers. In all, Fellows planned to encourage or assist a total of 159 other teachers. Two said,

I am always happy to share material and strategies with other colleagues in my department. This unit will give me the opportunity to team-teach with other teachers in my school.

I will recommend the Institute to other teachers at my school and many others throughout the district. I am very fortunate and grateful to have been able to participate in this endeavor. . . . The process was enlightening and demanding. It helped me to become a better teacher because it provided me with exciting and innovative methods to help motivate my students in learning their history.

Fellows discussed the more extended influence the Institute has had, and will have, for them and their schools. One said, "My teaching, my students, and the depth of my school curricula have all benefited from my participation in the Institute." Another specified, "I will use the curriculum for the latter part of my U.S. history course or will use it within my civics class. In addition, it may be useful for teaching journalism." Another said, "My unit will . . . be a great asset to New Haven's world language curriculum [adding] cultural and historical content." Others said,
This unit will have a huge impact on my students because their final photographs will be published in a book. Their final maps will be published online. Everything they are creating will be shared with the public. This unit will also reach other students at my school because history classes will be creating other parts of the book and we will need to work together.

I was pleased to be able to teach my unit last year . . . and have a positive result. I am going to use it again this year. . . . My principal is quite excited to see the enrichment that the curriculum units bring to the classroom.

My previous units have been utilized for the last four years by not only myself but also for other teachers in my building [who] are very appreciative when they are provided with curriculum. [There is] also interaction with other teachers about what worked and what adjustments were made.

The Institute has helped me become a better teacher and I feel fortunate to have been a part of the Institute. I feel that the volume of participation in my school has helped to make my school one of the best in New Haven. The professionalism that comes from the Institute and other programs trickles down to the students and many benefit.

Every year we review separately the responses of first-time and of veteran participants because we want a high proportion of New Haven teachers to become Fellows and for the Institute to become a regular part of Fellows' professional lives. Both groups cite their own rewards, including increased expectations for themselves and for their students. According to one first-time participant, "My students will benefit," with the unit "offer[ing] students a 'tool kit' of strategies [for] critical readers. The unit I developed was based on current research in the field of literacy" and provides "some practical strategies for moving students towards higher order thinking." Another said, "Students will be able to increase and strengthen their map, research, and comprehension skills." Further, "I am exercising ways to help improve my knowledge and skills to be a better teacher which in turn will . . . reinforce critical thinking and writing skills."

A first-time Fellow (teaching math) in a science seminar reflected, "My curriculum unit made me focus more closely on ways in which my students could dig deeper," continuing "Teaching students to question conventional wisdom and what they see or what they are told is an important part of learning." Another Fellow in a science seminar observed, "Participating in the Institute has given me the time to write a more comprehensive, cohesive, and developed unit." Other first-time Fellows said,
My participation will have a profound effect on my students . . . and will enhance the school's curriculum by broadening the choice of electives which students of literature can enjoy.

As a Black Hispanic myself, it is very refreshing to teach a unit about the struggle of whites. It is something that is not taught enough to our students, who could quite possibly leave high school and never know a struggle faced by whites.

Teachers are given time to focus on and create one well-developed unit. They are also given time to collaborate with colleagues. It was very valuable to be able to discuss issues about teaching and students with peers.

Experiences of First- and Second-Year Teachers

We also continue to pay particular attention to the results of the Institute for beginning teachers. Several of the 2008 Fellows who were first- or second-year teachers were among the most avid participants. They spoke of informal opportunities to receive mentoring as well as gains in their subject knowledge and pedagogical skills. Others looked back on their initial years of teaching and how the Institute had offered support, including with the portfolio required of teachers in their second year. One first-year teacher, in a science seminar, observed:

I was exposed to other ways of handling hands-on activities for the students. It is always helpful to see how other teachers do things. We talked a lot about engaging the kids, thereby getting them interested enough in the topic to learn it. My curriculum unit will be the basis for my BEST portfolio, so I spent a lot of time thinking about how the students will be learning. . . . The Institute has given me a jumpstart on what I need to do this school year. I believe I will be a better teacher for having attended the Institute.

One Fellow — now with several years of experience — reflected back to a few years before, when "I used the unit as the basis for my BEST portfolio, and used it in its entirety in class. My students did a lot of writing, discussing, and reading on the subject. It left a real impression." Similarly, another said "The unit I wrote previously was instrumental in helping me pass my BEST portfolio." A third reported,

The unit I developed last year I used for my BEST portfolio with my general level biology class taught to sophomores. The unit was incredibly helpful in that it was already developed far in advance of when I taught my BEST unit. . . . The unit was a success. . . . Students enjoyed their investigation of infectious diseases and their understanding of viruses. This unit paired nicely with many other subjects covered in the general biology course and I enjoyed teaching it.
The Institute's teacher leaders — both school Representatives and seminar Coordinators — have been attentive to, and have begun to include, beginning teachers. In fall 2008 more than one third of the Representatives (seven of nineteen) were individuals who initially had participated in the Institute during their first or second year of teaching in New Haven. A number of the Representatives volunteered to mentor new teachers in the New Haven Public Schools. In this role, they support other teachers both in the classroom and in the creation of their portfolios. In these ways the Institute has assisted with the induction and retention of new teachers and, in doing so, has strengthened and renewed its own leadership. It also has provided new teachers an opportunity to assume leadership in their own and their colleagues' professional development.

For returning Fellows, the rewards of participation do not diminish over time. The experience becomes cumulative, rather than repetitive or redundant. Many teachers report that the benefits increase as one gains experience as a Fellow. One returning Fellow said simply, "Once again, I am all fired up." Another said, "I need to be recharged and that is what the Institute does so well." Another said, "This experience has enriched my academic life and can only benefit my students. I am very grateful for the opportunities the Institute provided." Others commented,

The Institute program will improve my classroom teaching. The ongoing improvement and polishing of each draft is a way of insuring a slow and steady familiarity with the material. . . . Reworking one's unit makes the unit more cohesive, more effective, and more user-friendly. The more comfortable I become with the material, the more flexibly I can restructure it.

The Institute continues to exceed my expectations. This year I worked closely with colleagues and the seminar leader throughout the creation of my unit, which helped me learn more about myself as both a teacher and a student.

This was my seventh consecutive year as a Fellow. My students have benefited from my increased knowledge and preparedness. . . . They have also benefited from my enthusiasm to share what I have prepared.

I felt more at ease this year after having completed a unit before. I enjoyed both seminars [and] especially liked learning from the other Fellows in my group as they practiced their unit lesson plans. . . . I feel much fulfilled.

Working with the Institute every year makes me a better teacher. Every year that I participate I learn a great deal, become a better writer and think of more interesting ways to teach my students. . . . My students are given more opportunities to expand their learning.
Every year since 1990, when they became a regular part of the Institute, elementary-grades teachers have noted the particular advantages of the Institute for themselves and their curricula. Three 2008 Fellows in the elementary grades remarked,

The unit I wrote last year and taught this year was successful. I integrated art, technology, and science with literacy, which made learning the new concepts fun. I shared my unit with other colleagues in my school. . . . I was also able to encourage other teachers to participate and direct them where to look for a wealth of knowledgeable units that have become a staple in my planning. . . . I was also able to integrate some CMT preparation.

The Institute allows teachers to take staff development into their own hands. . . . That is the Institute's greatest strength. It allows a teacher to delve into a subject. [Often] elementary teachers just know surface knowledge about many subjects.

This seminar gave me the background knowledge that will empower me to teach my students accurate and current lessons in the area of earth science and physical science. This content really interests and motivates my students.

As already described, Fellows value the Institute's including teachers across grade levels and remark on resulting dividends to their classroom practice as well as their morale. One elementary-school teacher appreciated having "teachers of different grades get a chance to meet and work on curriculum of use and interest to them. Working with the Yale faculty is also a big plus." Another teacher in the elementary grades characterized a seminar leader as "a gem" and the seminar as "an absolute joy."

Seminar leaders, too, speak of what they gain from participation. They not only recognize their growing involvement in public education and the University's home community; some also perceive benefits to their own scholarship and teaching. Earlier in this report, we documented the mutual respect between Fellows and seminar leaders and quoted from a number of each. Beyond those accounts, three seminar leaders said:

The Institute experience has provided deeper insights into the lessons of my field. I am always interested in how to express or explain complex ideas . . . more clearly or without jargon."

—Seminar Leader

"The Institute experience has provided deeper insights into the lessons of my field. I am always interested in how to express or explain complex ideas . . . more clearly or without jargon."

—Seminar Leader

The Institute requires presenting material at a different level. . . . Since different kinds of explanation are required, I am gaining
insight about reaching my own students. . . . I have been exposed to new modes . . . that will help me in presenting my own work.

I am confident that the Institute experience will have contributed to my scholarship and to my teaching in Yale College and Graduate School courses — in ways so manifold that they will only become fully clear over time.

Benefits for Students

The ultimate purpose of the Institute is to strengthen teaching in New Haven's public schools and in this way to improve student learning throughout the schools. Contrary to what some would expect of a partnership involving Yale University, the Teachers Institute intends to serve teachers of students at all achievement and performance levels. Fellows typically, in fact, write their units for students at more than one level. While most of the Fellows (82 percent) reported that their new curriculum units were designed for their "average" students, two thirds (68 percent) reported that they were designed for their "advanced" students and almost as many (60 percent) reported that they were designed for their "least advanced" students. Fellows commented on these multiple audiences. As one observed, the unit "addresses a key concern I have as a middle school teacher, namely, getting my students to consider more than just the plot line of a story." Therefore, "it is designed to go from their known abilities to their unknown ideas using an interdisciplinary, differentiated" approach. Another said the unit "has required me to reflect and study the population I was going to address thoroughly," so "all the modifications I have planned will allow me to adapt it to the most diverse needs inside any class" to "reinforce their skills both in reading and writing." Another wrote,

I will be able to accommodate the needs of my students, the visual learners, provide a variety of assessments and provide opportunities for students to express their talents . . . and improve their academic performance. . . . Students will be able to see the relationship between other disciplines and explore scientific concepts in a challenging and meaningful way.

One returning elementary-school Fellow said,

Administrators are realizing what teachers already know — that students respond when topics are interesting and content-centered. My students have always reacted positively and enthusiastically whenever I teach part of the units I have written. . . . By engaging them in something they want to learn about they will hopefully improve their skills and be more motivated to learn.

The plans of other Fellows illustrate the wide range of unit use anticipated in the schools. Many units highlight reading, writing, thinking, and speak-
ing skills. One said the unit will help students learn not only "the literature in my unit," but "other literature they read, and in crafting and exploring their creative writing as well." Another's "unit on critical literacy will also highly impact students." Another will integrate "the social studies frameworks along with language arts." Others wrote,

By linking this unit to the slavery unit I hope to create a seamless transition that will keep students connected to the subject matter and come away from eighth grade with a solid base of knowledge of the Civil War period in U.S. history.

I have a well-developed unit that is applicable to my specific teaching needs according to the district-wide standards. The students will benefit because it is well thought-out, organized, and student based.

Other examples, in the sciences and math, follow.

My unit will provide my students with an excellent hands-on science curriculum. My students will benefit from the research, projects and activities. My students enjoy interactive and inquisitive lessons. . . . I will adjust and adapt the unit and my teaching style to meet the educational needs of all the students.

The students will enjoy this unit more than the traditional mathematics unit that covers graphing and data. It represents a breakaway from only using the textbook for a concept that should be taught by doing rather than simply by reading. The rest of the school will also be affected by this unit since the students will be including other classes in their research.

To attempt to gauge the impact of this year's units in New Haven classrooms, we asked Fellows about the number of students to whom they planned to teach their new unit, and on how many days. Nearly all of the Fellows planned to teach their unit to twenty or more students; twenty-one said that they would teach their unit to fifty or more students. The total number of students to be taught a unit by this year's Fellows is more than 2300. Chart 6 indicates the lengths of time the Fellows planned to teach their units. For almost all Fellows, the unit is a significant part of their teaching plans.

As in past years Fellows were optimistic about the responses they anticipate receiving from their students to the material they had studied and developed in the Institute. Nearly all (92 percent) of the Fellows agreed that, as a result of Institute participation, they have a higher expectation of their students' ability to learn about the seminar subject. We have already quoted Fellows who spoke about what they gained, how their own enthusiasm for a subject would motivate students, and how they planned to involve students more actively in classroom learning. Others said:
Our school is advancing to seventh grade this coming school year. My experiences and research have allowed me time to plan for this new group of learners. . . . I am excited to take my . . . class further in their investigation.

My teaching, as a direct result of this seminar, will be better informed. The seminar has also provided examples which I may use in the classroom. I will be more enthusiastic in my teaching, as well. The students are the direct beneficiaries of my increased enthusiasm. My deeper understanding of the subject matter will also be a benefit to my students.

The unit I have developed will get my students interested in and proactive about the future of their country. . . . I am hoping to turn my students away from the cynicism of the day and allow them to take a broader view of our nation's history.

The newly drafted district eleventh grade English significant task asks students to ponder what it means to be an American. My unit promotes the development of critical thinking skills along similar themes. Institute participation has raised my level of content area knowledge and in turn will impact the high standards and expectations I hold for my students.

"Institute participation has raised my level of content area knowledge and in turn will impact the high standards and expectations I hold for my students."

—Institute Fellow
Fellows commented on ways their experience will help students learning science:

My students will definitely benefit from the improved understanding I've gained and the organized format of the curriculum. They will also benefit from some of the fun ideas that I was able to brainstorm with other teachers.

This should affect the students by better maintaining their interest. . . . The curriculum for the subject area will be made more specific, and means of assessment will be more specific and better reflect the content area.

We also asked Fellows who had participated in prior years to report on student responses they had actually observed when teaching units developed in the Institute. Their retrospective comments often served to justify their optimism about new units. One unit "was very successful with my students. They loved it, and I think benefited from the information, especially before taking the CAPT." Other Fellows said:

I developed a unit on war photography. I have used it for every journalism class I have taught. Students are fully engaged, and some have taken photojournalism seriously as a result.

[They] have all been extremely successful. . . . The most visible aspect of my participation in the Institute is the joy and sense of accomplishment my students feel as they display their projects that are the direct result of my units."

—Institute Fellow

"The most visible aspect of my participation in the Institute is the joy and sense of accomplishment my students feel as they display their projects that are the direct result of my units."

Students in a Fellow's biology class working on a project from her Institute unit at Hill Regional Career High School.
are the direct result of completion of one of my units. . . . Word is out that my classes are meaningful and fun!

I bring creativity, enthusiasm, and excitement into the classroom environment and learning experience. As a result, my students have no option but to give their best in all their social and academic pursuits. The implementation of YNHTI curriculum units past and present is that 'seasoning,' a framework from which to enhance required courses of study.

It would be fair to say that my enthusiasm comes across and that students look at the learning based on these units' implementation as something extraordinary. I certainly feel that way!

Last year I wrote a unit for my graphic design course about body image and smoking. Students compared different print and video ads, and also did some research about how both of these things affect your body. They then created their own print ads. I set up the unit as though the students were given a client. . . . It was extremely effective. It has prompted me to continue creating units in the same format. Because students were creating artwork, which had to be persuasive, they were much more invested in it. It has changed my curriculum.

My prior participation was very beneficial. . . . providing me with an in-depth background knowledge into a subject that most teachers don't have. . . . My enthusiasm for the subject became infectious to my students and they also developed a love for the subject.

The Teachers Institute has changed some of my teaching habits. I had always before thought in terms of strategies and new ways to get the material to the students, but it now comes naturally. I am faster at knowing what the students would and would not like. . . . I believe I am stronger as a teacher. All this affects students directly and, therefore, their learning. They get really excited and motivated about the units in particular and about the subject in general.

I wrote a unit that was mainly geared toward . . . one of the most focused skills the school district required. . . . My principal wanted all teachers in all subject matters to prepare and teach a unit in reading for information. I used the texts and strategies I planned more than once and I noticed a consistent improvement in my students' understanding and writing. At the end of the school year, my students knew how to write a concise summary according to the strategy.

This is my second year participating in the Institute, and I am already benefiting — and so are my students. I have better understanding of

"My enthusiasm for the subject became infectious to my students and they also developed a love for the subject."

—Institute Fellow
what children at my grade level understand and misunderstand in science. I also have a better content understanding for myself.

The curriculum units displayed showcase the fact that teachers have taken responsibility for their teaching and have become authors, thus making a contribution to their field.

Fellows recognize in the Institute characteristics of high-quality professional development cited in education literature, including active teacher learning and extended duration. As one Fellow wrote:

"This makes me a very active learner at the same time that I am a teacher. The Institute seminars are the very best professional development in which I have participated in my over twenty years of teaching. It is ongoing over a period of months with the same leader and a very committed group of professional educators."

—Institute Fellow

When I participate in the Institute seminars and craft my unit, that always generates a great deal of excitement for me when I teach it. I often use applications from my unit in other lessons. When I am fired up about my unit and convey that to my students, invariably they pick up on it and invest in the activities and skills. . . . This makes me a very active learner at the same time that I am a teacher. The combination of being a student (Fellow) [and] a teacher is invaluable. The Institute seminars are the very best professional development in which I have participated in my over twenty years of teaching. It isn't a few hours every so few months; it isn't a one-day affair. It is ongoing over a period of months with the same leader and a very committed group of professional educators who teach elementary, middle and high school. We have the student's whole educational experience in the room!

Fellows spoke also, among the benefits to their students, of ways the Institute experience helped them to implement state standards and prepare students for state tests. Other Fellows said:

I have learned to focus more on what the student will be doing. . . . I always come up with the labs, activities, and lesson plans first and then do the background for the teacher. . . . I have also found writing units that are helpful to other teachers (in line with state required tasks) is not only helpful to me, but also a good place to send new teachers. . . . I hope to continue using state mandated tasks as the basis for my units to provide myself with more depth . . . and provide good resources for teachers in the state. I think this is how I can contribute to educating more students than just those I am fortunate to have in my classroom.

Students learned from the activities implemented and it also offered opportunities for students to be engaged in scientific inquiry and exploration. Students were successful in doing research and science fair projects due to their experiences with the scientific process included in the activities of the unit. The state and district performance standards were also met.
This past year's unit was well received. . . . Next year, I will teach it sooner rather than later so that it will help their general science knowledge on the CMT. The time and effort that went into my unit was well worth it as I watched my students present their projects to the school.

Many students do come visit me after they move on to a different school and when they talk about what they like in my class, most times it is the Yale-New Haven units I wrote and taught to them. They all say they loved the hands-on activities and research. . . . I teach the unit with enthusiasm and commitment because it is a topic that I feel I have great background knowledge on.

Because of the extensive planning I did, I was able to teach much more of the social studies . . . and expose the students to much broader and richer literature from many cultures. My students were much more enthusiastic about the curriculum than students in other classes because of the varied and rich literature they were using in my class.

Last year's seminar helped maintain student interest by relating the subject area topics with the seminar topics. This was particularly evident in the results of classroom exercises, as well as general student enthusiasm. The curriculum was enriched through inclusion of some of the student exercises when pacing allowed, and also by discussions relevant to the seminar topic and content area.

My previous results . . . were very successful for my students because I was able to incorporate the substance of those curriculum units in my classroom. Each student was also able to access curriculum units from the computers.

My units have been a big success. . . . Students enjoyed the creativity and became very knowledgeable about the subjects. As the teacher, it was rewarding to see the unit so successful. Without the Institute, these achievements would probably not have been possible.

Several Fellows expressed appreciation for the lasting value of curriculum units — not only their own, but also those their colleagues had written earlier.

I ended up resurrecting one of my earliest units this year. . . . I managed to resurrect parts of the unit because they seemed to fit in a new way and adapt them to new technology. It worked wonderfully well and the students learned the material far more thoroughly than they would have otherwise. It was amazing and joyous to see how well it worked.
When I have been able to teach parts of the curriculums I have developed they have been very popular with my students. . . . The promise for this year has been that our school will be more project-oriented. . . . The units I have done and those of my colleagues will be extremely useful to me. I think it will also encourage more teachers to get involved with using the units already developed.

Those previous units are among the extensive resources available on the Institute's Web sites, which are described later in this report.

Participants' Conclusions Overall

We asked Fellows about the extent to which several features of the Institute had been useful to them. As shown in Chart 7 below (reading again left to right from the most useful to the least useful), very few Fellows said that any aspect of the Institute had not been useful. In fact, except for computer assistance — which many did not use — well over half of the Fellows regarded each aspect of the Institute as useful to a great or moderate extent. Nearly all responded that favorably about the knowledge gained about their subject (94 percent), about the guidelines for writing a unit (96 percent), about their seminar leaders (96 percent) and interaction with other Fellows (92 percent), and almost as many about the seminar bibliographies (80 percent). Ninety-six percent of Fellows rated the program overall as useful at least to a moderate extent; most (73 percent) called it useful to a great extent.

*Circular chart*

Nearly all responded that favorably about the knowledge gained about their subject, guidelines for writing a unit, seminar leaders, and interaction with other Fellows.

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**Well over half of the Fellows regarded each aspect of the Institute as useful to a great or moderate extent.**

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Annual Report: The Program in New Haven
We asked the Yale faculty who led seminars to comment on the Institute's strengths and weaknesses. Overall, the leaders were highly favorable. One mentioned "the opportunity to give something to the community in which we work, to bridge Yale and New Haven, to engage with educators who possess experience with different educational levels and who bring energy and enthusiasm." This seminar leader also cited the chance "to explore a new subject or a familiar subject in new ways" and felt "energized by the experience." Another said simply, "The Institute is a gem." Others said:

The Institute is an extraordinarily important enterprise in its connection between Yale and New Haven. . . . The vast majority of the Fellows I've had contact with find the seminars stimulating and take considerable academic and personal advantages from them. . . . Overall, this is a wonderful program.

The Institute provides a vital means for New Haven teachers to exercise their curiosity and enrich the curriculum. The Institute also provides a significant mechanism for Yale to fulfill some of its obligation to the community.

It is greatly affirming to find that university faculty's work, our questions, our concerns, our aims, are profoundly and intricately connected with the work of teachers of young people in the public schools. Not just affirming, though — also, for me, highly intellectually stimulating to bring teaching endeavors from different institutional contexts, and with audiences of different ages and talents and levels of privilege, together, and to think about their connections and disjunctions. More concretely, as a citizen of New Haven, it is very meaningful for me to know more about the inside of the schools of my city. It's important that I have some knowledge of those schools . . . for my private role as a citizen and for my work at the city's major employer and institution of higher education.

We also asked Fellows about the strengths and weaknesses of the Institute, and found their responses nearly all positive and often enthusiastic. One cited teacher leadership and the program's responsiveness to teachers: "The Representatives' process of polling teachers for interest really is a strength." Another said, "The Institute's choice of seminar leaders and Coordinators was very strong. Each year the seminar leaders challenge the participants to learn, think and grow as scholars and teachers." Another described "individual meetings" with the seminar leader as "very effective . . . . One was given specific directions as to how to complete, re-think, make additions or subtractions to the unit." Another, who called the Institute "great this year," thought "the range of topics and seminars offered was fantastic." Another "gained a deeper understanding of the subject matter" and "enjoyed meeting with colleagues from my school as well as from other New Haven schools" while taking "advantage of Yale facilities and computer assistance."
stressed the development and sharing of curriculum units: "A major strength was allowing participants to present on their unit each week to get feedback from other members" of the seminar. Any weaknesses cited tended to concern the balance of time devoted to talks as compared to seminar meetings and, in a few cases, to the attention given to individuals' own units as opposed to broader seminar material. Still, the Fellows' comments were overwhelmingly favorable.

One emphasized "the intellectual depth of discussion in seminar, and the powerful presentation and guidance afforded by the seminar leader," as well as "the opportunity to truly investigate an area of academic interest" while "designing a unit to implement my interests in the classroom in a . . . challenging way." Another called the Institute "a bastion of intellectual stimulation" that is "worth all of the aggravation and stress of writing the unit." This Fellow further observed, "I really notice the difference when the Institute is not in session. I find that I invent little projects just to keep my brain going between [seminars]. For that stimulation I am grateful." Another said, "The Institute provides a rare opportunity for the teachers in New Haven to work together to discuss ideas that will ultimately benefit all stakeholders. . . . It is a well-oiled process." The Institute's "very good job of communicating with its participants" was recognized by another Fellow who "thought that everything was very well explained." According to another, "The Institute gets stronger every year. Probably the most effective changes are those that have to do with the use of technology." Other Fellows said:

There are many advantages of the Institute, including forming relationships with both the seminar leader and Fellow colleagues, valuable discussions regarding our experiences and challenges, knowledge from our talks and seminars, and time to design a unit . . . to meet the needs of your own classroom.

I cannot think of any weaknesses the Institute has had this year. We could probably think about how to get more schools in the district to participate. The program is outstanding and rigorously run. I see no flaws.

The Institute has many strengths, among them are a helpful and knowledgeable staff, professors who care about the Fellows' success and try, whenever possible, to make personal connections to us.

The quality of seminar leaders [is] one of the greatest strengths of the Institute. The knowledge and professionalism of the Yale professors have made the program successful. The availability of the seminar leaders, along with the accessibility to Yale's facilities, provided great help and comfort. . . . The Institute has provided the opportunity to increase my knowledge [and] develop material which will motivate my students to learn. . . . The Institute has
helped me to improve my confidence in class and the ability to present new learned knowledge to my students.

I have come away with a very positive opinion of the program and would highly recommend it to my co-workers. While the program has many strengths, I think one of the most important is the collegial atmosphere. . . . My seminar leader was also very interested in learning new teaching strategies herself. This made the space very positive and non-intimidating. . . . The Institute places a lot of trust into the hands of the participants, which for me was inspirational.

If there were any "kinks" in the program, they had been worked out. Communication was excellent and the orientation information provided to Fellows was clear and comprehensive. . . . The Yale staff involved in the project seemed highly invested in the Institute. They were exceptionally gracious and were not only experts in their field, but eager to learn about life in the New Haven Public Schools. I was also impressed with my colleagues. It was wonderful to meet other teachers. . . . Through the Institute Yale makes the statement that it values public school teachers. I found that extremely comforting and love the premise that school improvement needs to start with the classroom teacher.

The professor was able to respond to the various needs expressed by all teachers. I also appreciated the friendly atmosphere . . . and the positive attitude. . . . I enjoyed having an active role as Representative of my school because I could better understand what teachers need as professional development.

My seminar leader understands the process and purpose of the Institute and leads a superb seminar. The Institute Fellows provided me with a group of peers to interact with socially and professionally. The stipend was icing on the cake, by providing me with financial assistance that was necessary for me to devote the time necessary to complete the Institute.

It is the best teacher development I have had. It allows teachers to participate in seminars which interest them, and to tailor the content in those seminars to their specific learners. It also allows teachers to interact with fellow New Haven teachers.

Teachers have many stresses put on them every year; many of us do much more than our required job. This year's seminar was all teachers who go out of their way to help their students learn. They were a group of caring educators who gave to the group and [the seminar leader] fostered and facilitated our sharing and learning from each other as well as from him. . . . While science, math, and nature
are my true loves, I have learned to appreciate more of what others find exciting and have enjoyed the process. . . . I am thankful to YNHTI.

In evaluations, almost all the Fellows said they would participate (64 percent) or might participate (24 percent) in the Institute in one or more future years. These proportions are comparable to responses in prior years. Only four individuals said they would not participate in the future; one was "moving into a coaching position." Among those who said they might participate, few suggested any changes to the program, with this Fellow's response common — that it "depends on my teaching schedule."

Electronic Resources and Assistance

For a number of years the Institute has explored ways computing can assist with its work. In earlier years the Institute provided teachers computers to use in schools where none were otherwise available to them. It encouraged Fellows to learn about and use e-mail. And the Institute put the New Haven Public Schools' curriculum framework online before the district was able to do so. It placed Fellows' curriculum units online on a gopher server before the Internet existed in its present form.

More recently, as computers have become nearly ubiquitous; as teachers' use of e-mail has become routine; and as Fellows' knowledge of computing has increased, the Institute mainly has assisted Fellows in formatting curriculum units in a manner consistent with its mechanical specifications so that units can readily be put on the Institute's Web site. Because of the benefits of having units online, the Representatives had decided that, beginning in 1999, Fellows must submit curriculum units and Guide entries in electronic as well as printed form. Still, in 2008 some Fellows sought help with applications from getting started with computing, e-mail, and the Internet, to using the Internet in research and teaching, and using Institute resources online.

The Institute employs graduate and undergraduate students to offer this assistance by phone, by e-mail, or in person. In addition, Fellows may use computing facilities available to members of the University community across the campus. The electronic resources and services include opportunities to learn about and use computing. Each Fellow receives a University network ID and password for use of databases available only to members of the Yale community.

The Institute arranged for staff from the University Library to conduct a workshop for Fellows on March 19. This session featured an overview of search engines; exploration of curricular resources through the Institute's Web site; and guidance on how to use online research tools of the Yale libraries, including databases and journals. One Fellow said, "I visited the Yale library and received tremendous help finding resources for my unit." According to another,
I did use the computer assistance this year to access the Internet in Sterling [Library]. The assistance I received my first year was critical in enabling me to proxy my home or school computer to access Yale's Orbis system. I have been very pleased with the access I have to the Yale library through proxy. I prefer to work from home, then go to the library! Last year's information also gave me tips on how to use their search engines and how to log in to the computers.

The Fellows also sought computer assistance individually with word-processing, formatting and file handling for the preparation of curriculum units. A few asked about incorporating tables and images into what would become the printed version of their units. One third of the Fellows (33 percent) made use of assistance in person, one quarter (26 percent) by phone, and three quarters (73 percent) by e-mail. For half (56 percent) of the Fellows availability of computer services was an incentive to their participation. Most who did not use computer assistance said they did not need it because they had previously acquired sufficient computer skills or had other resources at home or school. A few said they did not do so because of time constraints. Returning participants described how they had gained proficiency and confidence in computing over time. One said, "I have grown in the Institute and do not need their [computer assistants'] assistance as much."

Nearly all who did take advantage of the assistance commented favorably. One found it "to be indispensable." Another said "the support was terrific. I felt very comfortable asking questions and answers were always quick! Others wrote,

Several of the teachers in my seminar used the services extensively. I did use them to help me get connected wirelessly to Yale's server. ... It was helpful knowing the assistance was available should I have any questions.

They were efficient and very helpful. I had questions about images in my unit and they were beneficial. Their comments about my unit after submitting the various drafts were also very useful. ... I only have glowing praise.

For the fifth year the Institute provided each seminar with its own e-mail group to facilitate communication. Some seminar leaders chose also to use Yale's classes server for posting and viewing documents, while another leader established a special Web site designated for that seminar's use.

Of those using the additional computer assistance the Institute provided, eleven found the assistants helpful in getting started with computing; fifteen found them helpful in setting up e-mail and Internet access; twelve found them helpful in using the Institute's curricular resources online; sixteen found them helpful in using the Internet in research and teaching; and twenty two found
them helpful in word processing and file handling for the preparation of a curriculum unit. (See Chart 8.)

**Preparation for the Program in 2009**

From June through August the Institute identified and enlisted the 43 teachers who would serve during the 2008-2009 school year as the 18 Representatives and 25 Contacts for their schools. During 2007-2008, 49 teachers had served in these ways, 20 as Representatives and 29 as Contacts. Representatives were selected according to recommendations of the teachers who served as seminar Coordinators and conversations they had with teachers who had served as Representatives in the past, with other Institute Fellows, and with some school principals. Because as a group the Coordinators had become acquainted with the Fellows in their seminars, they could consider all current Fellows for leadership positions, as they sought to ensure continuity while also extending leadership opportunities to teachers who had not before served in these positions.

The number of Representatives and Contacts is roughly proportionate to the number of schools at each level. In 2007-08, 31 of the Representatives and Contacts (63 percent) were from elementary or K-8 schools, one (2 percent) was from a middle school (of which there were only two), three (6 percent) represented transitional schools, and 14 (29 percent) represented high schools. In 2008-09, 23 (53 percent) were from elementary or K-8 schools, three (7 percent) were from middle schools, three (7 percent) were from transitional schools, and 14 (33 percent) were from high schools. Every school had at least one Contact or Representative to serve as a conduit for information to and from the Institute throughout the school year; many of the Representatives assumed...
responsibility for multiple schools. Of the Representatives and Contacts, about 16 percent were black non-Hispanic, 83 percent were white non-Hispanic, and 2 percent were Hispanic — percentages that approximate the demographic composition of teachers in the district at large, though Hispanic teachers were underrepresented when compared with previous years. (See Table 1.)

Representatives meet twice monthly from September through December and weekly in January and February. They receive honoraria for this work and agree in advance to participate in the program they are planning; Contacts perform many of the same functions but are not required to participate in meetings or commit to applying to be Fellows. Through the Representatives and Contacts, the Institute ensures that all teachers throughout the school district may have an effective voice in shaping a program of curricular and staff development in which they will then have the opportunity to take part.

The Representatives' first meeting for the new school year was on September 9. On September 16, a reception for Representatives and Contacts was held. Between meetings, the Representatives communicate by phone and through school visits with the Contacts for whom they serve as liaison to the committee of Representatives. In these ways, teacher leaders compile information from, and distribute information to, colleagues throughout the New Haven schools.

During the fall, as many as 97 teachers expressed interest in the seminars being planned for 2009. By December the Representatives had decided to offer five seminars: "Writing, Knowing, Seeing," to be led by Janice Carlisle, Professor of English; "The Modern World in Literature and the Arts," to be led by Pericles Lewis, Professor of English and of Comparative Literature; "Science and Engineering in the Kitchen," to be led by Eric R. Dufresne, Assistant Professor of Mechanical Engineering, of Chemical Engineering, and of Physics; "How We Learn about the Brain," to be led by William B. Stewart, Associate Professor of Anatomy (Surgery); and "Evolutionary Medicine," to be led by Paul E. Turner, Associate Professor of Ecology and Evolutionary Biology.

**Documentation and Evaluation**

Annual evaluations of the Teachers Institute indicate that it assists teachers and schools in specific ways, and that the results are cumulative. (See in particular *A Progress Report on Surveys Administered to New Haven Teachers, 1982-1990* [New Haven: Yale-New Haven Teachers Institute, 1992].) In the fall of 2008, the Institute updated its continuing study of New Haven teachers who have been Fellows. This study reveals the proportion of eligible teachers from each New Haven school and department who have participated, the number of times Fellows have completed the program, and whether Fellows have remained in teaching in New Haven.
Of the 657 New Haven teachers who have completed the program successfully at least once between 1978 and 2008, one hundred ninety five (195), or 30 percent, were teaching in New Haven in October 2008. (Please see the Appendix for a list of all Fellows from 1978 through 2008.) An additional 23 (4 percent) held full-time administrative posts in the school system, most (15) as Principal or Assistant Principal; nearly all (22) of these 23 individuals were teachers when they first participated as Fellows. There were 34 other former or current Fellows (5 percent) serving in capacities including Instructional Coach (10); Counselor (11); Library Media Specialist (12); and President of the New Haven Federation of Teachers (1). Most (25) of these 34 individuals, including 9 of the 10 instructional coaches, were classroom teachers when they first became Fellows; two have continued as Fellows by team-teaching their curriculum units with full-time classroom teachers. Overall, 252 (38 percent) of all Fellows since 1978 were still working in the New Haven Public Schools.

In terms of amount of participation, a number of teachers have participated for two to sixteen years. Of the 195 Fellows still teaching in New Haven, about half (48 percent) have participated in the Institute once, one third (31 percent) either two or three times, 13 percent four to six times, and 7 percent between seven and sixteen times. Of the 34 Fellows in the other roles of Instructional Coach, Counselor, Library Media Specialist, or president of the teachers' union, half (50 percent) have participated in the Institute once, one quarter (26 percent) either two or three times, 15 percent four to six times, and 9 percent between seven and fourteen times.

Of the 23 New Haven Public Schools administrators who have participated as Institute Fellows, three quarters (74 percent) participated once or twice; six (26 percent) participated three to five times; and two (9 percent) participated nine and twenty-three times, respectively. Having former Fellows in positions ranging from Assistant Principal and Principal at the school level, to Assistant Superintendent, Director of Magnet Schools, and Curriculum Supervisor at the district level, has made the Institute more visible, and has encouraged teachers to participate. In fall 2008, six of the district's forty-five schools had former Institute Fellows as principals; an additional five schools had assistant principals who were former Fellows. Overall, about one quarter of New Haven schools had former Institute Fellows in these administrative roles. One example is Wilbur Cross High School, whose principal and an assistant principal had been Fellows. At Cooperative Arts and Humanities High School, both assistant principals were former Fellows.

In 1996 members of the National Advisory Committee had suggested that the Institute engage in fuller documentation of its work beyond the seminars themselves, and of the wider effects of its program in the school system. They believed they were hearing from teachers and staff about many valuable results of the Institute's work that should be documented in forms that could be made more widely available. The Institute is therefore now documenting its various activities more extensively. This Annual Report itself is a massive compilation
of information and statistics drawn from a variety of sources, including the questionnaires completed by Fellows and seminar leaders; reporting by school Representatives and Institute Center leaders; the tracking of all previous Fellows; statistics from the New Haven Public Schools; demographic analyses; minutes of meetings; project reports; reports to funders; and entries in the Institute's Web site guest book. The work that provides material for this Report extends over the entire year, and the Report is available online.
THE INSTITUTE AND INITIATIVE WEB SITES

Electronic versions of the Institute's curriculum units and other publications are available at the Yale-New Haven Teachers Institute and Yale National Initiative Web sites (yale.edu/ynhti and teachers.yale.edu). The New Haven Web site played an important role during the National Demonstration Project, as a link in its network of information and a model for the Web sites of other Teachers Institutes, and it remains essential as the Yale National Initiative proceeds. The full texts of almost all the curriculum units written in New Haven between 1978 and 2008, plus an Index and Guide to these units, are available online to teachers in New Haven and elsewhere. Information about the New Haven Institute (its brochures and most recent Annual Reports) is also available, as is the text of its periodical On Common Ground, which contains articles regarding school-university partnerships and is intended for a national audience.

The Initiative inaugurated in February 2004 a new Web site, which includes links to the New Haven Web site and to those of the other League Teachers Institutes. Many of the publications on the New Haven Web site, including PDF and HTML versions of the periodical, are available on the national Web site. That site — which registered some 2 million "hits" in 2008 — also features extensive information on the Teachers Institute approach, activity of the National Initiative, news from the League of Teachers Institutes®, and an interactive area for Initiative participants to submit and track applications.

A guest book on both Web sites invites comments and suggestions. The national Web site also invites comments on specific curriculum units and provides other online forms to solicit information from teachers, schools, colleges and universities interested in the Initiative. In recent years the New Haven site has been used by more and more people in many parts of this country and around the world — teachers from both public and private schools (including Fellows from other Teachers Institutes) school and university administrators, parents, volunteers, university professors, high school students, graduate students, librarians, military personnel, home-schoolers, local policy-makers, and others researching or having an interest in education. We estimate that from its inauguration in June 1998 through December 2008,
this Web site has received approximately 56 million "hits" (approximately 6.4 million during 2008) from millions of unique visitors.

In 2008 we continued to hear from individuals in many countries. A partial list would include elementary and secondary school teachers, university professors, college students and researchers from Argentina, Australia, Canada, China, Germany, India, Iraq, Italy, Lebanon, Malaysia, Mexico, the Netherlands, Nigeria, Pakistan, the Philippines, Portugal, Qatar, Somalia, South Africa, Swaziland and Venezuela. In 2007 we had heard also from Belize, Ghana, Kenya, Liberia, New Zealand, Switzerland, Trinidad and Tobago, the United Kingdom, Uruguay, and Zambia. In 2008 as in earlier years, the comments that these online visitors submitted were nearly all complimentary, and a reminder of one way the Institute is participating in Yale's globalization.

A "secondary school teacher" from Ontario, Canada praised "Great lessons on social justice and equity in the curriculum and classroom!" and planned to draw upon them for "an anti-racism/equity resource for teachers." From Alberta, Canada, an "officer with the Distributed Learning Resources Branch of Alberta Education, a non-profit department," sought to use an Institute unit "in one of the courses we are developing." To the south, an author from Mexico City said "Thank you for your commitment to the boys and girls... Poetry is a fantastic introduction to enjoy words." An English teacher from Mendoza, Argentina who is also a graduate student at La Universad Nacional de Cuyo wrote with enthusiasm about a unit on the work of Maya Angelou. A faculty member at La Universidad de los Andes commented from Merida, Venezuela: "I found your Web site to be excellent: very comprehensive, informative and extremely useful. I found out about it through one of my students... and I am glad he bumped into it!"

"I found your Web site to be excellent: very comprehensive, informative and extremely useful."
—Faculty Member from Venezuela
An instructor at the Karbala Medical College in Iraq thanked us for an "excellent site." Also writing from Karbala, "a career Foreign Service Officer (U.S. diplomat) currently serving in Iraq" wrote, "I am interested in becoming a teacher after I retire in order to share what I have learned working and living overseas." A teacher at the American Community School in Beirut said, "I just started using this site and it seems to be very informative." From Doha, Qatar came an inquiry from a college student using an Institute curriculum unit "for a class essay." A teacher in Turin, Italy recognized "the incredible amount of material published" online.

From the Nigerian city of Abeokuta, a faculty member at an agricultural university said, "The materials have helped in developing my lecture notes and updating such whenever necessary." Also from Nigeria, a student at Obafemi Awolowo University in Lagos called the Web site, "quite interesting." A teacher in South Africa sought resources for a student "on the Industrial Revolution, which is why I accessed your Web site." A teacher in Tasmania, Australia was pursuing Institute work for her "online gifted students." A physics student at Mareeba State High School in Queensland, Australia sought information "on the physical principles behind ultrasound." After reviewing the site, a teacher in Muntinlupa, Philippines concluded, "I learned a lot!"

A teacher in Guangzhou, China wrote, "I believe in what I have read about this Institute and realize the importance of your work. Thank you for providing your materials to many. I believe in searching for new effective ways of teaching the children of our future." Also from China, a faculty member at Shaoyang University observed, "Very useful information, when I am trying to prepare for a practical English writing course. Google search leads me to this Web site." A faculty member at the College of Aeronautical Engineering in Risalpur, Pakistan said, "Very useful. Keep it up."

India, too, continued to be a source of multiple comments. From Andhra Pradesh, a school administrator in Visakhapatnam exclaimed, "This is a wonderful and useful site! Please help me out further. Cheers!" A call-center worker "studying for my M.A. in English distance education" contacted us from Mysore, Karnataka. And a faculty member at Pondicherry Central University wrote, "It's really amazing and useful that the university has such a good and well-developed Web site. I hope it will benefit a lot of students throughout the world."

From around the U.S. came similar statements concerning a wide range of disciplines. Nearby, a teacher at Connecticut's Plainfield High School "discovered this site by accident, searching via Google for info on CT geology. Downloaded a couple of units on that subject, then discovered Integrated Science (Grade 9) units on energy, greenhouse gases, and various physics and astronomy topics." This teacher intended to "continue to use this site as a resource for both my Freshman Integrated Science and my Physics/AP Physics courses. Thanks for making this material available!" He continued, "It is par-
particularly helpful when the unit includes reference to the current CT state curriculum framework Content Standards and Expected Performances (as in [this] unit). Thanks again!" A New Haven teacher, new to the profession and to the district, called the site "incredible!" Similarly, a "retired high school/college instructor" in Bridgeport wrote, "Simply excellent! Scope of your program is incredible."

A "GED literacy teacher" in Brooklyn, New York "had to sign this guest book to thank you for the Web site! It is a tremendous resource for thoughtful curriculums and lessons." A teacher at Far Rockaway High School in Queens appreciated "wonderful lessons . . . applicable to everyday use." A teacher in the Schalmont school district in Rotterdam, New York said, "Your lessons and the list will be a great resource in my teaching of poetry. The Yale Teachers Institute is an amazing source of information for teachers everywhere." A faculty member at Northeastern University in Boston wrote, "I love your Web site and articles" which she planned to use for a course on "Empowering Struggling Readers and Writers." Elsewhere in Massachusetts, a Newburyport High School teacher "found the site while in grad school and have since used it to spark new lesson plans," while a Mohawk Trail Regional School teacher in Shelburne Falls similarly found "your Web site a great source of inspirational curriculum ideas. I am surprised at how often I follow links on various subjects that lead me to your valuable site. Thanks."

A teacher-preparation student at William Paterson University wrote from West Caldwell, New Jersey: "The lesson plans and curriculum units are wonderful resources. They are insightful, creative and very well presented. Thank you for sharing them with the educational community." A teacher in Newark, New Jersey said, "I'm very happy to see what you all have been doing!" A teacher at New Jersey's Passaic High School praised "wonderful units of study with loads of information and ideas." From Franklin High School in Somerset, New Jersey, a teacher "found the ideas and references very useful. I look forward to referring to this site as a resource in the future." From Pennsylvania's Harrisburg High School, a teacher said, "The Web site is invaluable to my teaching as very useful resource of information." An elementary school teacher in Munhall, Pennsylvania "stumbled on the Web site and have found many valuable lessons for my gifted students."

A public school teacher in Norfolk, Virginia who is also a graduate student at the College of William and Mary consulted units "to create a picture in the minds of my students about how life was in early America — something that they could compare to their lives." A teacher of math and research methods at Mountain Vista Governor's School in Middletown, Virginia consulted "excellent units on aerodynamics, paper airplanes, and airplane mathematics." A graduate education student at Old Dominion University said, "The Yale-New Haven Teachers Institute is an outstanding site for educators." Citing specifically a "lesson to educate 4th or 5th grade students on the Civil War through children's literature," she added that the site is "a great benefit for educators.
and future educators like myself." A teacher at Musselman High School in Inwood, West Virginia "happened upon" the site in the process of "always trying to find interested reading for my 10th graders." In Memphis, Tennessee, an instructor at LeMoyne-Owen College wrote, "Thank you for existing with research information available to access." A member of the African American Cultural Center at the Asheville Housing Authority in Asheville, North Carolina was "extremely impressed with the Institute and its work."

A faculty member at the University of Georgia in Athens called one unit "superb" and recommended it to a family member beginning her teaching career at Virginia Union University. A teacher in Georgia's Bulloch County School System described the site as "very user-friendly and helpful." A preservice teacher at Kennesaw State University in Georgia wrote, "I found your Web site full of inspiration for the emerging teacher. The information is thorough and relevant to many cross-curriculum elements" as well as "in my subject content specialty area. I am sure this will be a site that I refer to often. Thank you!" A teacher of gifted students in Alabama's Lauderdale County consulted a unit for work on "building and design." A Terry, Mississippi teacher of high school appreciated "great help on lesson plans."

Many interesting comments came from Florida. A teacher at Orange Park Junior High mentioned a "great Web site with valuable resources." A teacher at Edgewood Junior/Senior High in Viera specifically "found several of the ideas listed in the Greek mythology lessons very insightful." A Choctawhatchee High School teacher in Gulf Breeze "was very impressed! I teach aeronautical science." In Fort Myers, a "music school proprietor and high school drama teacher" said, "2008-2009 will be my first year as a drama teacher, and I have received so many ideas." A "retired editor, freelance journalist" in Naples was researching child labor in the U.S. and reported "Your curriculum told me more than I needed to know. . . . I was totally awed by its completeness and clarity and felt I should convey my thanks and admiration."

At San Antonio College in Texas, a faculty member said, "This is a wonderful site and truly a tribute to the enthusiasm of real teaching." A teacher at the Public Academy for Performing Arts in Albuquerque, New Mexico wrote, "I love this Web site because it gives me the opportunity to see what other teachers are doing in their classrooms. I get a lot of great help from this site." A middle-school teacher is Ellisville, Missouri cited "very valuable, in-depth lessons." Another, in Coffeyville, Kansas, wrote with "an interest in using this unit with my 8th-graders." A student at the University of Colorado at Colorado Springs discovered information for her senior thesis about the history of race riots in the U.S. A teacher at Buena Vista University in Storm Lake, Iowa found the Web site "to be a deep resource of ideas and models."

A teacher at Wisconsin's Stevens Point Area Senior High wrote of the site, "I just discovered it and it's a gold mine of great ideas. . . . I teach writing and literature and am always looking for new ways to engage the students, espe-
cially since fewer and fewer come to us as enthusiastic readers." A teacher in Madison, Wisconsin who called one unit "inspiring and helpful" continued, "I plan to visit your site and see what else is being written and shared because I liked this one." From Bloomfield Hills, Michigan, a teacher "particularly liked the energy efficient architectural design and model building unit." Also from Michigan, an educator at the Lorenzo Cultural Center at Macomb Community College thanked us for permission to use an immigration history unit "as a tool for other teachers to use to supplement the content they will encounter when they visit our exhibit." From the Vincennes University campus in Jasper, Indiana, a faculty member observed, "The Institute offers the most insightful, educational plans available online."

At Chicago's Kenwood Academy, a teacher sought assistance in "trying to develop an algebra unit around biomedical engineering, specifically medical imaging. This unit seems to have successfully implemented one already. It's extremely useful. Thank you!" An instructor of a "class on urban art and architecture in Chicago with a focus on diversity" also was appreciative: "I can't believe I came across this resource. I am so grateful." And another Chicago teacher wrote, "Your Web site is a treasure trove of well thought out, beautiful lessons that reflect deep thinking and an interdisciplinary approach to teaching. I feel excited to be a part of your community via the Web site."

Responses came from across California and the Pacific Northwest. At San Francisco's Abraham Lincoln High, a teacher "love[d] your film-related lessons." A faculty member at La Jolla's National University said, "Your site possess a significant number of academic materials that can be adapted by teachers and integrated into their own lesson planing and design." A community outreach services librarian at the University of California, Irvine, wrote: "A public high school librarian in the Bronx suggested reading your Web site. I am looking forward to using your materials in preparing my own programing." An instructor at Foothill Community College in Los Altos "found this site by chance. A very helpful resource, thank you." A teacher at Kaplan College in Bakersfield commented, "Wonderful content matter for curriculum and formats." In Hillsboro, Oregon, a teacher at Glencoe High School cited "Great ideas and useful information." And an elementary-school "teacher-librarian" in Silverdale, Washington reported, "This Web site is awesome. I discovered it today through the Education World weekly newsletter. . . Wow!"

The Institute's Web site elicited other intriguing comments. A graduate student at Goddard College wrote from Blue Hill, Maine: "I have found the Yale-New Haven Teachers Institute lessons helpful in the past — when I was working in the library for the Casablanca American School in Casablanca, Morocco — and would like to see what they have regarding poetry." A U.S. Air Force officer in Arlington, Virginia, "did a Google search on Puerto Rican ethnicity and clicked on your site. It was very informative and I think we may be able to use it in our diversity training." A "retired home school instructor" in Muncy, Pennsylvania sought information on "the folktales of Puerto Rico to
share with my children and grandchildren" and "about the arrival of Nigerians in Puerto Rico and their Yoruban language." An architect in Boulder, Colorado consulted a unit from a seminar on math and architecture: "I'm going to make a gingerbread bridge and wanted to take a guess at the efficiency of it and use the strengths to help me design it."

The author of a play that a Fellow had cited "so skillfully and perceptively" in a curriculum unit herself wrote in about the unit: "Her piece, amazingly, was recommended to me by a friend in India, who had encountered it on the Internet. [The play] has been performed all over the world, translated into many languages, and won many awards." Yet, said the play's author, "it has never been more thoughtfully described than in [the Teachers Institute Fellow's curriculum unit]."

Clearly the curriculum units prepared by Fellows of the Yale-New Haven Teachers Institute continue to demonstrate their usefulness in many different ways for teachers and others who are engaged within a wide range of subjects and who have received many kinds of preparation.
UNIVERSITY ADVISORY COUNCIL

Yale faculty members advise and assist the Institute through the University Advisory Council and its Executive Committee, both appointed by the Yale President. (For members of these bodies, see Appendix.) The Advisory Council guides the general direction of the program and acts as a course-of-study committee so that the Institute can certify Fellows' work to institutions where they may be pursuing advanced degrees. The Council also advises the Yale President on the Institute and, more generally, on matters concerning the University's involvement with the schools locally and with public elementary and secondary education nationally.

The University Advisory Council meets once each year, the Executive Committee at least once each semester. The Co-Chairs of the Council communicate frequently with the Director between meetings. Members of the Executive Committee and the Steering Committee meet jointly from time to time to share information about their respective activities and to explore appropriate ways of working together.

In 2008 the Executive Committee met on March 4, October 7, and December 3. On March 4 the Committee met to review the Institute's local and national offerings for 2008, to hear a report on the Co-Chairs' and Director's December 13, 2007 meeting with President Levin and to explore the direction in which the National Initiative has been, and should be, evolving. Acting in its capacity as the Institute's course-of-study committee, the Executive Committee reviewed and approved the thirteen local and national seminars to be offered in 2008. On October 7 the Committee met to consider long-range planning for the National Initiative, among other matters.

With regard to membership on the Council and the Committee, the Executive Committee agreed to recommend to President Levin that he invite Gary Brudvig and W. Mark Saltzman to join the Executive Committee. The Committee also recommended that the following individuals, whose terms would be expiring, be recommended for additional terms of three, four, or five years: Daniel E. Prober; C. Megan Urry; John P. Wargo; Robert J. Wyman; Michael E. Zeller; and Kurt W. Zilm. The Committee recommended that Gary L. Haller be asked to serve an additional five years as a member of both the full Council and its Executive Committee. The Committee also decided to recommend that the President invite the following faculty members to serve on the University Advisory Council: Jill Campbell, Marvin M. Chun, and Jonathan Holloway.

On December 3 the Committee met to discuss the results of a meeting that Paul Fry, Gary Haller, Stephen Pitti, and James Vivian had earlier that day with the Provost and Deputy Provost about financial and other matters.
ON COMMON GROUND

On Common Ground is published periodically by the Yale-New Haven Teachers Institute. It is concerned with the development of teachers and of their curricula through school-university partnerships. Its title, which derives from that of the first book on the Institute's work, Teaching in America: The Common Ground, is intended to suggest that university and school teachers across the country have a strong mutual interest in the improvement of teaching and learning in schools. The periodical focuses on the issues that have arisen and continue to arise in university-school partnerships of many kinds throughout the United States.

The circulation of the periodical is over 15,000 nationwide and includes the following, in addition to numerous teachers and administrators at Yale University and in the New Haven Public Schools: the Chief State School Officers; superintendents of school districts enrolling 5,000 or more students; all college and university presidents and chancellors and chief academic officers; deans and directors of education, continuing education, and graduate programs at four-year institutions; directors of community services and governmental relations at four-year institutions; heads of many corporations, foundations, and professional organizations involved in education reform; education policy makers at both the federal and state levels; members of the print and broadcast media who cover education; and a growing list of individuals who have asked to receive it. The periodical is mailed also to individuals in schools and colleges across the country with whom the Institute has worked since the inception of its dissemination activities in the early 1980s.

Each number of On Common Ground has a topical focus, developed in one or more lead essays, and also deals more briefly with other matters of current interest. Number 1 featured an essay by Secretary of Education Richard Riley on "The Emerging Role of Professional Development in Education Reform." Number 2 featured an essay by Vito Perrone on the historical context of school-university collaboration. Number 3 featured an essay by Robert Reich, Secretary of Labor, on the role of partnerships in "Creating New Paths to the Middle Annual Report: On Common Ground Page 78

Number 12, published in spring 2008, addressed "Teachers Institutes for the Nation," with cover articles by Senator Joseph Lieberman and by Representatives Rosa L. DeLauro and Joseph Courtney about the Teachers Institutes legislation they had introduced, which is described elsewhere in this report. This number also contained articles by faculty members about national seminars they have led and by National Fellows about student response to curriculum units they have written, as well as accounts of the progress being made in developing Teachers Institutes in certain cities. Articles by school superintendents Steven H. Godowsky and Leslie Carpenter described the promise of Institutes for their districts in New Castle County, Delaware and Santa Fe, respectively.

In the fall of 2008 the Institute began to prepare issue Number 13, to be published in 2009.
TEACHERS INSTITUTE LEGISLATION

In 2007 Senators Joseph Lieberman and Christopher Dodd and Representatives Rosa DeLauro and Joseph Courtney had introduced the Teachers Professional Development Institutes Act, a similar version of which had been introduced with the unanimous, bipartisan support of the Connecticut delegation in the prior, 109th Congress. These latest bills, S. 2212 and H.R. 3209, would authorize $30 million over five years, making Federal funding available for the establishment of as many as forty new Institutes. Passage of this legislation would provide a tremendous boost to the Yale National Initiative, which aspires to establish an exemplary Teachers Institute in most states. It is timely: It complements the provisions of the No Child Left Behind Act that call for a highly qualified teacher in all core subject classrooms. It provides an innovative way for colleges and universities to help strengthen teaching of subjects in the sciences and the humanities in the nation's schools. These Institutes would enable state and local education agencies to learn from local experience about this tested approach as they reformulate their policies and practices for teacher professional development.

In introducing the Senate legislation, Lieberman had said,

Many agree that teacher quality is the single most important school-related factor in determining student achievement. . . . It is imperative to invest in methods to strengthen our present teaching workforce. . . . Positive educational achievements occur when coursework in a teacher's specific content area is combined with pedagogy techniques. This is what the Teachers Professional Development Institutes Act strives to accomplish. The Yale-New Haven Teachers Institute has already proven to be a successful model for teacher professional development as demonstrated by the high caliber curriculum unit plans that teacher participants have developed and placed on the Web, and by the evaluations that support the conclusion that virtually all the teacher participants felt substantially strengthened in their mastery of content knowledge and their teaching skills. Our proposal would open this opportunity to many more urban teachers throughout the nation.

According to DeLauro, "Expanding this wonderful program across the nation will allow even more teachers the opportunity to gain additional sophisticated content knowledge and a chance to develop a curriculum that can be directly applied in their classrooms. When we strengthen teacher training, student achievement wins."
CONCLUSION

In 2008 the Yale-New Haven Teachers Institute continued its New Haven program with renewed teacher leadership and participated in the Yale National Initiative to strengthen teaching in public schools, which is based on the efficacy of the New Haven program and the success of its National Demonstration Project. In 2007, legislation had been introduced in Congress to build upon this record by making possible the establishment of as many as 40 additional Teachers Institutes in states throughout the country.

Operating in New Haven for the 31st consecutive year, the Teachers Institute conducted a program of six seminars, four in the humanities and two in the sciences and mathematics. Its National Initiative also conducted seven national seminars through an Organizational Session in May and an Intensive Session in July, and held its Annual Conference in October. The Institute continued to involve and support beginning teachers in New Haven. It published and circulated nationally a new issue of the periodical *On Common Ground*. Its New Haven Web site remained a primary means of dissemination; its newer, national Web site gained visitors and "hits," as well. In these ways, the Institute assisted the New Haven school district's efforts to prepare and retain well-qualified teachers locally, while disseminating the Teachers Institute approach nationally.

The Institute looks ahead to maintaining its local program as the best possible example of its approach to high-quality professional development for teachers.
APPENDIX

Committees and Councils of the Institute

National Advisory Committee
Gordon M. Ambach
Leon Botstein
Richard H. Ekman
Norman C. Francis
Bonnie B. Himmelman
Owen M. Lopez
Ilene Mack
Robert Schwartz
Theodore R. Sizer
David L. Warren
Glegg L. Watson

University Advisory Council
Honorary Chairman
Howard R. Lamar
Co-Chairmen
Mary E. Miller
Sabatino Sofia
Executive Committee
Dudley Andrew
Paul H. Fry
Gary L. Haller
Stephen J. Pitti
Jules D. Prown
Cynthia E. Russett
Thomas R. Whitaker

Members
Bruce D. Alexander
Sarbani Basu
David Bercovici
Murray J. Biggs
James A. Bundy
Jon H. Butler
Edward S. Cooke, Jr.
Donald M. Engelman
Margot Fassler
Martin D. Gehner
Langdon L. Hammer
Roger E. Howe
Richard C. Levin
Linda K. Lorimer
Amy Meyers
Alexander Nemerov
Daniel E. Prober
Alice Prochaska
Jock M. Reynolds, III
John Rogers
Bruce M. Russett
Peter Salovey
W. Mark Saltzman
Margrettia R. Seashore
Ian Shapiro
Jonathan D. Spence
William B. Stewart
Deborah G. Thomas
C. Megan Urry
John P. Wargo
Robert J. Wyman
Karen Wynn
Michael E. Zeller
Kurt W. Zilm

School Representatives and Contacts for 2007-2008
Trudy A. Anderson
Marisa A. Asarisi
Ekaterina Barkhatova
Michelle K. Bauman
Michelle Bonanno
Carol P. Boynton
Heidi A. Everett-Cacopardo
Maria Cardallia gut Gómez-Málaga
Zania Collier
Joseph A. Corsetti
Cortney R. Costa
Melissa A. Dailey
Mia P. Edmonds-Duff
Jennifer B. Esty
Sandra K. Friday
Larissa Giordano
Judith S. Goodrich
Jason Goubourn
Diane M. Huot
Kacey L. Jackson
Sam H. Jones
Beth Ellen Klingher
Waltrina D. Kirkland-Mullins
Joel LaChance
Susan L. LaForest
Carlos A. Lawrence
Delci C. Lev
Alyssa Lockwood
Roberta A. Mazzucco
Jaimee Mendillo
Erica M. Mentone
Jimmy Lee Moore
Mary Lou L. Narowski
Barbara C. Natale
Shannon E. Oneto
Nicholas R. Perrone
Ralph E. Russo
Chris Sagnella
Melissa Sands
Maria Luisa Sapienza
Dina K. Secchiarioli
Lisa Marie Simeone
David Simpson
Kenneth W. Spinka
Sara E. Thomas
Hawerl Thornton, Jr.
Donna A. Wade
Mnikesa F. Whitaker
Chris J. Willems

Seminar Coordinators
Carol Boynton
Maria Cardallia gut Gómez-Málaga
Joseph A. Corsetti
Jennifer B. Esty
Sam H. Jones
Mary Lou L. Narowski
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* years of participation
### Seminar Leaders of the Yale-New Haven Teachers Institute, 1978-2008

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SELECTED BIBLIOGRAPHY

Institute Publications

"Who We Are, Where We're Going." On Common Ground. Number 1, Fall 1993.
Yale National Initiative to Strengthen Teaching in Public Schools. New Haven: 2004

Articles


Videotape Programs

ACKNOWLEDGEMENTS

Numerous individuals and foundations have made gifts and grants to the Endowment Fund for the Yale-New Haven Teachers Institute. The 2008 Institute programs were supported in part also by grants from the Howard Hughes Medical Institute and the National Science Foundation. The New Haven Public Schools, Yale’s partner in the Institute, has supported the Institute’s program in New Haven continuously since its inception.