



YALE NATIONAL INITIATIVE

to strengthen teaching in public schools®

Curriculum Units by Fellows of the National Initiative
2011 Volume VI: Great Ideas of Primary Mathematics

Preface

In April 2011 the Yale National Initiative to strengthen teaching in public schools® accepted eighty-four public school teachers from twenty-two school districts in eleven states to participate in seven national seminars held at Yale. The Initiative is a long-term endeavor to influence public policy toward teacher professional development, in part by establishing exemplary Teachers Institutes in high-need school districts in states throughout the country. Following the approach developed in New Haven and implemented in other cities, Teachers Institutes are educational partnerships between universities and school districts designed to strengthen teaching and learning in a community's public schools. The League of Teachers Institutes® is an alliance that advances their work locally and nationally. Evaluations have shown that the Institute approach exemplifies the characteristics of the highest-quality teacher professional development, enhances teacher quality in the ways known to improve student achievement, and encourages participants to remain in teaching in their schools.

Forty of the teachers, named Yale National Fellows, were from school districts that have been exploring the establishment of a new Teachers Institute for Chicago, IL; DeKalb County, GA; Emeryville, CA; Richmond, VA and San Mateo County, CA. Superintendents of school districts that are participating in the Yale Initiative for the first time this year nominated teachers to become National Fellows from the Diné Nation; San José, CA; Tulsa, OK; and Washington, PA. Other National Fellows came from Teachers Institutes that are members of the League of Teachers Institutes® located in Charlotte, NC; New Castle County, DE; New Haven, CT; Philadelphia, PA; and Pittsburgh, PA.

The National Fellows attended an Organizational Session of the seminars held in New Haven on May 6-7. The seminars reconvened during a ten-day Intensive Session from July 11-22 and concluded in mid-August when the Fellows submitted their completed curriculum units. The seven seminars were on "Chemistry of Everyday Things," led by Gary W. Brudvig, Professor of Chemistry and of Molecular Biophysics and Biochemistry; "The Art of Reading People: Character, Expression, Interpretation," led by Jill Campbell, Professor of English; "Love and Politics in the Sonnet," led by Paul H. Fry, Professor of English; "The Idea of America," led by Bryan Garsten, Professor of Political Science; "Great Ideas of Primary Mathematics," led by Roger E. Howe, Professor of Mathematics, and assisted by Amanda Folsom, Assistant Professor of Mathematics; "The Big Easy: Literary New Orleans and Intangible Heritage," led by Joseph R. Roach, Professor of Theater, of English, of African American Studies, and of American Studies; and "Organs and Artificial Organs," led by W. Mark Saltzman, Professor of Chemical and Biomedical Engineering.

The twin purposes of the program were to acquaint public school teachers with the Teachers Institute approach to high-quality professional development, and to cultivate their leadership in either creating or sustaining such an Institute. Each participating teacher wrote a curriculum unit to teach his or her students what they had learned, to share with teachers in their school district, and to disseminate to other teachers

over the Internet. The units contain five elements: objectives, teaching strategies, sample lessons and classroom activities, lists of resources for teachers and students, and an appendix on the district academic standards the unit implements. The curriculum units National Fellows wrote are their own; they are presented in seven volumes, one for each seminar.

The Yale-New Haven Teachers Institute® is a permanently endowed unit of Yale University, which undertook the National Initiative in 2004. The material presented here does not necessarily reflect the views of its funding agencies.

James R. Vivian

New Haven

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