

Curriculum Units by
Fellows of the
Yale National Initiative
Guide
2014

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Preface

In April 2014 the Yale National Initiative to strengthen teaching in public schools® accepted sixty-one public school teachers from seventeen school districts in nine states to participate in six national seminars held at Yale. The Initiative is a long-term endeavor to influence public policy on teacher professional development, in part by establishing exemplary Teachers Institutes for high-need schools in states around 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. Evaluations have shown that the Institute approach exemplifies the characteristics of high-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.

Thirty five of the Yale National Fellows came from school districts that are planning or exploring the establishment of a new Teachers Institute for the Bay Area, CA; Chicago, IL; the Diné Nation, AZ and NM; Pittsburgh, PA; Richmond, VA; San José, CA; and Tulsa, OK. Other National Fellows were from existing Teachers Institutes located in Charlotte, NC; New Castle County, DE; New Haven, CT; and Philadelphia, PA. Overall, more than half of the Yale National Fellows were participating for the first time.

The National Fellows attended an Organizational Session of the seminars held in New Haven on May 2-3. The seminars reconvened during a ten-day Intensive Session from July 7-18 and concluded in mid-August when the Fellows submitted their completed curriculum units. The six seminars were:

- "Understanding History and Society through Images, 1776-1914," led by Timothy J. Barringer, Professor of History of Art;
- "Playing with Poems: Rules, Tools, and Games," led by Langdon L. Hammer, Professor of English;
- "Immigration and Migration and the Making of a Modern American City," led by Mary T. Y. Lui, Professor of History and of American Studies;
- "Eloquence," led by Joseph R. Roach, Sterling Professor of Theater and Professor of English, of African American Studies, and of American Studies;
- "Place Value, Fractions, and Algebra: Improving Content Learning through the Practice Standards," led by Roger E. Howe, Professor of Mathematics; and
- "Microbes Rule!" led by Paul E. Turner, Professor of Ecology and Evolutionary Biology.

The twin purposes of the program are to provide public school teachers deeper knowledge of the subjects they teach and first-hand experience with the Teachers Institute approach. This increases their leadership in an existing Teachers Institute or prepares them to lead the development of a new Teachers Institute. Each participating teacher writes a curriculum unit to teach his or her students about the seminar subject and to share with other teachers in their school district and, over the Internet, with teachers anywhere. The curriculum units contain five elements: content objectives, teaching strategies, examples of 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 six 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.

James R. Vivian

New Haven

August 2014

I. Understanding History and Society through Images, 1776-1914

Introduction

The problem we set ourselves in this seminar was to examine the ways in which visual images can play a central role in teaching and understanding history. We live in a society dominated by the visual. Students of all ages have a multitude of imagery at their fingertips; internet sources have democratized access to fine art and documentary materials as never before. We are only beginning to deal with the problem of an excess of visual material, and one of the main challenges in the classroom is developing a sense of critical engagement with images and with works of art. As a professor of the History of Art, I learned a great deal from discussing this issue with a group of teachers whose students range from second to twelfth grades.

Fellows, then, set out to explore at methods for understanding culture and society through art. The seminar proceeded historically, and was focused on the 'long' nineteenth century, from the American Revolution to World War I, 1776-1914. A major focus lay in the development of verbal skills in the description and critical analysis of images – not through the use of art history jargon, but through close looking, visual and contextual analysis. We worked together to discover and refine ways in which the analysis of works of art can enable students, from kindergarten to twelfth grade, to understand history and make a more direct connection with the experience of historical individuals. Moving beyond the use of works of art as historical documents, we discussed the ways in which engagement with an image, as with a story or novel, can encourage empathy and access to the experience of people with different cultural, ethnic or economic backgrounds.

As important for the seminar as the development of critical skills for analysis digitally transmitted images was a return to direct, unmediated encounters with the historical object. The case studies were all drawn from Yale's rich collections, but each member of the seminar gave serious thought to the availability of historical materials in museums, collections or historic sites near their schools. It was exciting to see the ways in which local resources could be incorporated creatively into teaching, and many of the curriculum units make excellent use of visits to and the study of local museums, historic sites, landscapes and architecture as ways of bringing history alive. The works studied at Yale can also be included in classroom teaching as all the paintings and many of the works on paper owned by the Yale University Museums are now available free of charge in good quality digital images from the museum Web sites. The curriculum units presented here are largely illustrated with materials from Yale collections and could be adapted for use anywhere with access to the same corpus of images, with the addition of local materials where possible (see <http://britishart.yale.edu/collections/search> and <http://ecatalogue.art.yale.edu/search.htm>).

At the beginning of the seminar, Fellows were asked to consider the following questions when confronting an image, and to consider whether or how the same questions could be addressed in the classroom:

- What do you see?
- What do you think were the artist's intentions?
- Who was the image intended to appeal to/who were the audience or patrons?
- What does this image tell us about society at the time?
- Are there parallels with concerns in our contemporary world?
- How does the artist represent differences of gender/class/race?

Almost every meeting of the seminar included a session of 40 minutes discussing a small number of works – three or four paintings at most – hanging on the walls of the galleries. This intense exposure to works of art proved stimulating and every member of the group offered considered and often inspiring responses to the work of art. In many cases, the Fellows drew on their own expertise, in history, literature or studio art practice, to illuminate the work we were examining. Particularly important was the range of different experience the Fellows brought to our discussions. We had representatives from Richmond, Virginia, from Tulsa, Oklahoma, from Delaware, Pittsburgh and Philadelphia, and from the Bay Area in northern California.

Each of these regions has experienced U.S. history differently, and there was an emphasis in seminar discussions on the ways in which teaching could draw on local history, local buildings and collections, and on the oral histories that students may have encountered in their own families and communities.

Audrelia Dugi, from Monument Valley High School, shared the experiences of her students, who are almost all members of the Diné Nation (whom Audrelia also names with the familiar term Navajo), negotiating the long history of Native American peoples. She emphasized the persistence and power of Navajo traditions, and created a curriculum unit in which her own students, most of whom she describes as being of Navajo origin, engage with the material traces of earlier people, the Anasazi, who occupied the Monument Valley area centuries before the arrival of the Navajo in the nineteenth century. Cultural traces of the Anasazi in the local landscape include inscribed rock carvings whose sign systems, observed in site visits, form the basis for creative projects in the classroom.

Rodney Robinson's curriculum unit utilizes the rich material survival of nineteenth-century buildings in Richmond, Virginia, to engage with the history of slavery and its legacies in the community. Visiting sites within a few blocks of his school, Rodney is able to confront the physical remains of the system that condemned African Americans to

a state of "social death". There could be few more vivid uses of the historical fabric of a townscape.

Meg Deweese and Merry Ostheimer both crafted curriculum units around objects of local and national significance held in museums near their schools, which encourage group visits. Meg's course unit, designed for 8th graders, illuminates the complex and controversial histories of Westward expansion, using the peerless collection of paintings, sculpture and works on paper in the Gilcrease Museum, Tulsa. Students are encouraged, however, not merely to absorb the dominant nineteenth-century ideologies explicit in the paintings, which celebrate the achievements of the European-American expansion westwards; rather, they are encouraged to think about the period from multiple points of view, including that of displaced Native American people. Merry's course unit, for 2nd graders, uses the resources of the Delaware Art Museum to focus on archetypes of masculinity – pirates in the wonderfully colorful and vivid illustrations of Howard Pyle and N.C. Wyeth – and femininity – in the images of mothers and children produced by Pennsylvania-born Mary Cassatt. Classes will be based on the museum's spectacular collection of original artworks and a museum visit will be the centerpiece of the course unit.

Although we moved chronologically through the nineteenth century, beginning with American works from the Revolutionary period, the seminar also encouraged Fellows to engage with recent art-historical thinking, and to consider how these ideas could percolate into classroom teaching practice with students at various stages. We opened the seminar with a lively discussion of John Berger's provocative book *Ways of Seeing* (1972) with screening of part of one of the original TV programs on which the book was based. Berger, we agreed, still has the power to make us re-examine our assumptions and look at the work of art in a more vivid, sometimes political, fashion. Throughout the seminar, our thinking was structured around three main themes, which represent three major schools of thought in recent art-historical writing:

- A. Gender and Society (informed by feminist scholarship in art history)
- B. Class and Society (informed by the 'social history of art')
- C. Race and Society (informed by recent thinking in African American studies and post-colonial theory).

These themes emerged gradually and were interwoven with each other as we moved chronologically through the materials and through the readings assigned to the Fellows. The Fellows were encouraged to pursue research interests and develop curriculum unit proposals based on the works of art discussed during the seminars. Many of the topics emerged organically from conversations that began in front of a particular painting.

The nineteenth century is notable for the diversity of its visual productions; the period is characterized by work in many genres and media, of hugely differing sizes and costs to the purchaser. We began by looking at figures in the landscape in British art c.1770, in the work of Arthur Devis and Thomas Gainsborough, to form a notion of the world before the three revolutions – the industrial revolution, the American Revolution, and the French revolution – that shaped the last quarter of the eighteenth century.

Questions of race and representation are central issues in today's media environment, and an understanding of the history of these tropes and conventions is an important preparation for adult life. Children and teenagers are adept users of image technologies, and the history of photography offers immediate parallels with the kinds of image manipulation familiar to all today through digital software.

The American Revolutionary period provided the material for Alexandra Edwards's curriculum unit for middle school students, which juxtaposes historical artifacts from the period – paintings, prints, furniture, household wares and political cartoons – with recent fiction that dramatizes the experience of the Revolution from points of view different from those enshrined in standard histories. *Chains* and *Forge*, two novels by Laurie H. Anderson, for example, see the famous events of the period through the eyes of African American characters, principally the escaped slave, Curzon. Addressing the same period, Kristie Reid, whose students are also to read *Forge*, draws particular attention to gender and the role of women and Native Americans in the Revolutionary conflict. Based on exceptionally thorough and well-focused historical research, the course unit uses visual representations of the Revolution by John Trumbull and other artists, while offering students the critical vocabulary with which to critique these works. At issue is the evidential value of the "fictional" representation in understanding the past.

The combination of powerful racial politics and the visual politics of the camera underpinned our discussions of the Civil War, instantiated through the work of photographers such as Matthew Brady and Timothy O'Sullivan, as well as painters and engravers including Winslow Homer. Tara Ann Carter's enterprising curriculum unit challenges conventions of racial representation, using today's technology (notably Twitter feeds, banned in some classrooms, but welcomed in hers, under controlled conditions) to confront stereotypical forms of image such as nineteenth-century minstrelsy. By looking closely at a group of paintings representing African American men and women from around the time of the Civil War, her course unit motivates high school students to make an active engagement with the image.

The Industrial Revolution, perhaps the greatest transformative series of events in modern history, is a complex phenomenon not easily grasped by children who have never known a non-mechanized, non-computerized world. Miles Greene's curriculum unit notes that the Industrial Revolution "acted as a major transitional force that resulted in the advent of

cities, factories, urbanization, and new structuring around labor, class and power," and uses visual representations made in Britain and America, as well as textual primary sources, to dramatise these tremendous changes in social life, ecology and economic structures.

Questions of race, gender and the identity of the artist are uppermost in Kimberly Towne's innovative foregrounding of the African American female sculptor Edmonia Lewis. The curriculum unit explores the physical processes of making sculpture – including casting molten metal – and runs this against Victorian notions of "ladylike" behavior. Edmonia Lewis emerges as a pioneer across boundaries of gender and race, an inspiration, and the basis for creative experimentation in the classroom.

Jennifer Vermillion and Alveda Zahn made the exploration of works of art the basis for curriculum units that engaged with the great ethical issues of today, through consideration of historical examines. Alveda's curriculum unit opens with an acknowledgement of the terrible toll that gun violence and gang warfare claims in Chicago's Englewood neighborhood, where her school is situated. She uses strategies of close visual analysis of images of traumatic moments in the nation's past – the Battle of Bunker Hill, the slave market, and the Civil War for example – to focus students' attention on the dangers and repercussions of violence in society, and to provide language with which to process and reflect upon it. Jennifer Vermillion looks at traditions of civil disobedience as a "deliberate decision by an individual, who is representative of a group, to refuse to obey a law that conflicts with their conscience or a higher law." She adopts finely-honed strategies to provoke lively classroom discussion around such images as Paul Revere's engraving *The Bloody Massacre in King-Street, March 5, 1770* John Rogers sculpture *The Slave Auction*, 1859.

One of the most stimulating elements of the seminar was the discussion of teaching strategies: how to communicate in the classroom the ideas that were under discussion? I was consistently fascinated and impressed by the imagination displayed by all members of the seminar in formulating strategies for classroom teaching that could engage the students vividly. Particularly notable were ideas like: talking statues and costumed tableau vivant arrangements (proposed by Carol Boynton) and Fish Bowl discussions ("in which a small group of students engage in a discussion of the Essential Question while the remainder of the class observes and takes notes. Once the discussion is going well, discussion circle members may leave the circle and become observers and observers may come into the discussion") suggested as a follow-up to a Museum visit by Meg DeWeese. New modes of engaging with the visual image include a "silent gallery" of contemplation of works of art, proposed by Miles Greene, followed by writing "90 word descriptions" based on the museum label.

Altogether the seminar left me as leader convinced that the use of digital technologies in the classroom, and the careful incorporation of trips to visit local resources such as monuments, museums and historic districts, can greatly enhance the teaching of history in schools. While the proliferation of images in the contemporary world offers a challenge, threatening to create an environment of insistent contemporaneity that resists thoughtfulness or historical consciousness, the same digital ecology can provide a fertile space for developing an understanding of history through images. The use of art to teach history can operate simultaneously in the world of Google, Facebook and Twitter, and in the halls of museums, where historical objects, their aura intact in an age of mechanical reproduction, can still fascinate and inform young people from kindergarten to college.

Tim Barringer

Synopses of the Curriculum Units

2014.01.01

[Dramatizing Art: Tableaux Vivants](#), by Carol Boynton

Tableaux vivant is a playful pastime which has served significant educational and recreational purposes in the cultural history of the United States. Translated from French, tableaux vivant means 'living pictures'. This eight-week history unit for primary-level students uses tableaux vivants to integrate art, social studies, writing and theater through trips to local art museums, stories from history, journals for writing and sketching, and opportunities for dramatic representation.

Students will enjoy the opportunity to view authentic pieces of artwork in museums, gain an appreciation of art through exposure to several paintings, expand their art vocabulary, and develop critical thinking skills through discussion, questioning and the creation of their own art. As a culminating experience, the students will write a narrative, inspired by an authentic painting viewed at the Yale Center for British Arts and bring that art to life through tableaux and play-writing.

(Developed for Reading and Writing, grade 2; recommended for Reading and Writing, grades K-5)

2014.01.02

[American Genre Painting: Visual Representations of Slavery and Emancipation, 1850-1870](#), by Tara Ann Carter

This unit seeks to investigate the lives of African-Americans directly before and after the Civil War. Specifically, the genre paintings selected span the decades of 1850 to 1870, thereby representing a tumultuous period of American History, from which students can glean a strong visual understanding of what life looked like for black people, while simultaneously unpacking the idealized historical perspectives on antebellum and postbellum perceptions of slave and freedman life. By looking at a selection of twenty-five images created between the specified years, students can also find a thematic and visual vocabulary for understanding the structures of power in the United States. This curriculum unit is a project of fostering narrative visualization throughout the history of African-Americans. This unit will apply new techniques and strategies to integrate these images into the classroom in an authentic way, such as close analysis of artwork and connections between visual representation and written historical texts.

(Developed for African American History, grade 9; recommended for African American History and American History, grades 9-12)

2014.01.03**"Whose Destiny? Viewing America's Westward Expansion through Artful Eyes",**
by Margaret Deweese

"Whose Destiny? Viewing America's Westward Expansion through Artful Eyes" is a curriculum unit of lesson plans designed for teachers of students in grade 8 or above who want to provide a variety of instructional strategies through which their students can learn about manifest destiny and American westward expansion. By focusing on the art and artists of the nineteenth century who portrayed the west, students will gain significant critical analysis strategies in order to examine and derive historical meaning from these important and still relevant works. From analysis, collaboration, discussion models, and several writing activities, students will be able to thoughtfully determine the various motivations and rationales of this massive movement west and the ultimate displacement of the indigenous Native Americans. Structured around a culminating visit to a local art museum, where students will view the actual paintings studied, this unit includes an exhaustive list of art works for any classroom as well as numerous other resources that will help make this event come to life for students, enabling them to decide for themselves what role manifest destiny, and the art works portrayed during this time, had on Native Americans and the American nation itself.

(Developed for U. S. History 1754-1870, grade 8; recommended for U. S. History, grades 6-12)

2014.01.04**Anasazi Images on Navajo Land,** by Audrelia Dugi

This unit will study the petroglyphs left by the Anasazi people on Navajo Land from the time period AD 300 to AD 1300. Students will learn new terminology: Hieroglyphs, Petroglyphs, and Pictographs. Students will take a short field trip to Monument Valley to view petroglyphs left by the Anasazi. Each student will collaborate and discuss the intentions of the art work. Students will need to sketch down three drawings in their notepad. We will ask, "Does this represent a story line or a specific event?" Secondly, students will view an image made by a nineteenth century artist and traveler, George Catlin and complete a compare and contrast worksheet using Native Americans from his paintings to the Natives now. Thirdly, students will bring a "Show and Tell" art work from home. They will have 5 styles of art to choose from: beadwork, weaving, silver smith, pottery making, or drawing. They will be asked to explain the meaning and significance of the objects. Primary focus on how Society has been modified. The end product of the unit will be students making their own pictograph of their personal interest.

(Developed for English for struggling readers and writers, grades 9-12; recommended for Language Arts/English, grades 9-12. This is for struggling readers and writers. It's

adapted to meet student needs that have an IEP [Special Education], ILLP [English Language Learners], or for students that need a refresher in basic English.)

2014.01.05

[Experiencing the Revolutionary War Era through Visual Images](#), by Alexandra Edwards

We are subjected to a greater amount of information today and from so many more sources than ever before. The need to navigate through all these sources is imperative for my students. The goal of my curriculum unit is to allow me to be the facilitator while they journey on to discover the role of the Revolutionary War in US History. I believe a visual image can bring about more student-driven discussion. My goal is to sell them, as though it were a product, the images I have discovered at the Yale University Art Gallery and British Art Center. The paintings, political cartoons, drawings, and other artifacts will serve as primary sources and be combined with secondary sources to provide a more complete portrayal of life during the American Revolutionary era. The artwork serves as a valuable visual record and provides greater depth in their understanding of the various viewpoints of Patriots, Loyalists, slaves, and the English population in Britain. The technology used in the unit will also offer my students new ways to further their interest in art.

(Developed for U. S./N. C. History; recommended for U. S. History Middle School/High School, grades 8 and 11)

2014.01.06

[Power and the Machine: A Visual Examination of Class and Gender through the Industrial Revolution](#), by William Greene

Power and the Machine: a Visual Examination of Class and Gender through the Industrial Revolution aims to help students gain a deeper understanding of the social ramifications surrounding the Industrial Revolution by examining the experience of the worker through a lens that focuses on class and gender. As participants in the 21st century it is more important than ever that students develop the critical thinking skills to effectively interpret text and image in conjunction with one another. This unit will utilize paintings, prints and photographs as well as primary documents in an effort to help students realize how the Industrial Revolution dramatically changed the social landscape of Great Britain and the United States during the 19th century. Using the Socratic Thinking Method along with the Four-Reads approach to tackling primary text, students will develop the skills to become stronger visual interpreters, critical thinkers and ultimately more effective communicators through a variety of modalities. Lastly, students will gain an appreciation for art as a vehicle for communicating, criticizing and reflecting history.

(Developed for World History, grade 10; recommended for World History, grade 10, American History, grade 11, and Western Civilization II, grades 10-11)

2014.01.07

Taking a Close Look at Pirates and Mothers, by Meredith Ostheimer

This 12 day, 45 minute English Language Arts unit for 2nd grade focuses on using artwork from Howard Pyle and Mary Cassatt to build critical thinking skills. This unit will be taught during the daily ELA block in an integrated setting. Students will look at art and think critically by asking questions, researching facts, discussing related topics, connecting learning with life experiences, promoting empathy, and writing opinion reflections. Students will examine and compare masculine images of pirates and feminine images of mothers and participate in collaborative conversations describing key details of the images to deepen their understanding of gender differences.

(Developed for English Language Arts, grades 2; recommended for Social Studies and English Language Arts, grades 2-4)

2014.01.08

Perspectives on Life during the Revolutionary War through the Lens of Art and Literature, by Kristie Reid

This unit was designed for eighth grade reading and language arts students in the Pittsburgh Public schools. The unit is designed to be taught as a four week instructional period in ninety minute block periods.

This unit focuses on using art as a primary source along with historical fiction depicting the Revolutionary War period. The art and literature will serve as a catalyst for discussion about race, class, and gender during the war. Students will examine works of art and compare them with the historical fiction novel *Forge* by Laurie Halse Anderson. The objective is to judge the validity of the information and determine the historical accuracy by comparing art and literature. Students will also develop significant insights to write from the perspectives of figures of different races, classes and genders depicted in works of art. Culminating this unit students will write an argument essay about whether those ideals are still relevant today and whether or not they have served as a basis for today's society.

Students will engage in rich meaningful discussions, higher level questioning, and the writing process. Inquiry Based Learning is incorporated throughout the unit. Students will be challenged to analyze, interpret, make inferences and draw conclusions. The unit is also designed to be cross curricular for reading, language arts, social studies and art history.

(Developed for Communications 8/English Language Arts, grade 8; recommended for Reading, Social Studies, Art History, and Language Arts, grade 8)

2014.01.09

[Pain to Pride: A Visual Journey of African American Life in 19th Century Richmond, VA](#), by Rodney Robinson

The story of African-Americans in the city of Richmond is one of strength, perseverance, independence and pride. This unit is designed to develop pride in my students by teaching them their personal history using imagery, art, and architecture. They will learn to tell the stories of people who have the last name, lived on the same block, and attended the same school as them. The unit will focus on Richmond as the economic foundation of the slave trade during the 18th and 19th century in America. It will also tell the story of how blacks rose from those horrible beginnings to become the center of black economic pride and power in the south during the late 19th and early 20th century. The students must analyze visual images to tell the story of blacks in Richmond by creating a photo journal. Students will use historical pictures and photos as well as their own artistic interpretations and digital photos to tell the story in their journal. I want my students to finish this unit inspired by what they produce and what they can accomplish as black residents of the city.

(Developed for AP U. S. History and U. S. History, grade 11; recommended for U. S. History and AP U. S. History, Secondary grades)

2014.01.10

[Making Art Against the Odds: The Triumph of Edmonia Lewis](#), by Kimberly Towne

In this unit, geared for middle school art students, I will be able to explore how an artist's identity shapes their work and how their cultural and historical context also shapes an artist's work. I will do this by focusing on the work of one artist. Edmonia Lewis was biracial; her father was African American and her mother was of Native American descent. Born circa 1844, she was a free woman of color during the Civil War. She was able to become America's first African American sculptor of note. She was attracted to subjects that reflected her identity, both Native American subjects and African American, and yet she worked within the popular Neoclassical style. While she gained recognition during her life, she ultimately was forgotten and only recently has begun to gain her rightful place as an important American artist. She will be a good role model for students because she overcame several substantial societal limitations. She pursued her dream of being an artist despite being Native American and African American, at a time in history that made being either was extremely challenging. Students will learn different strategies for looking in depth at artwork and will create pewter casting reflective of their own personal identity and their contemporary life in America.

(Developed for Art, grade 8; recommended for Art and Art History, Secondary and Upper Elementary grades)

2014.01.11

Civil Disobedience in Words and Images, by Jennifer Vermillion

The unit is designed to be utilized in a high school English Language Arts classroom to promote empathy, political engagement and art appreciation in students. The practice of civil disobedience, non-violent resistance to an unjust law or practice with the goal of drawing public awareness to the issue and effecting change, is evident in a number of texts. The terminology for discussing literature and art can be similar and appropriate academic language skills will be developed. Progressing along the course of a semester, students will explore the theme of civil disobedience with a focus on moments such as the American Revolution, Slavery, Suffrage, the Vietnam War, Segregation, Civil Rights, Integration and the Occupy Wall Street Protests. Readings on each topic will be paired with at least one piece of artwork (sculpture, photograph or painting) and an activity designed to create a deep understanding of the art and the narrative it depicts. The goal of this unit is to promote visual literacy in conjunction with verbal and written literacy utilizing close analysis and critical thinking skills. Students are encouraged to look at works of art with a careful eye and develop an ability to use language to engage critically with the art.

(Developed for English II, grade 10; recommended for English and History/Social Studies/Civics, grades 8-10)

2014.01.12

Reading Art in Language Arts: Characterizing Human Atrocities from the Slave Trade to the Second World War, by Alveda Zahn

In this unit, students will explore the implied and subtle inhumanities of humans by analyzing paintings, photos, caricatures, and propaganda to learn how others were treated in other eras. They will see babies taken from mothers, families ripped apart by slavery, slaves disguised as soldiers, and soldiers who thought they were doing right by their country only to be exploited during American atrocities of the 18th and 19th centuries—The American Revolution to World War II. They will also discover and evaluate the life these atrocities left behind.

With a focus on reading skills, students will analyze paintings and photographs to understand the main idea of a piece. Their analyses will include the collection of evidence based on what they see in a painting or photograph to support their understanding of the main idea. They will create narratives of their perception of the gist of the piece. Moving through the unit, students will turn their focus to art that

persuades—propaganda. They will study the effects this type of art has on the targeted populations. This will lead them to the culminating project to create their own propaganda in an attempt to end the violence that plagues their own neighborhood.

(Developed for Reading in Language Arts, grade 9; recommended for Reading, grades 7-12, and English, grades 9-12)

II. Playing with Poems: Rules, Tools, and Games

Introduction

Why should students in our schools, from the elementary grades to high school, study poetry? It's a fair question. Our seminar grappled with it in discussion, and all of these curriculum units address it within the context of their particular topics and classroom settings. I'll present my own answer here.

Poetry: an enthusiasm for it is hard to measure by national or local assessment standards. Now, this may itself be a reason to teach it, rather than the opposite: what is poetry if it isn't about resisting the reduction of communication to utility, to information delivery? For that matter, reading and writing poetry is always a test, a test of our verbal, imaginative, and emotional capacities, of what we can say, imagine, and feel, and there is no reason it should be easy to test. Even so, however, I think there is a lot in it that's useful for teachers and students – which may even be available for assessment purposes, if indirectly.

To get at what poetry has to teach, we have to get over the fear of poetry. Students feel it; teachers feel it. Why? It has to do with the fact that poetry is usually treated as something profound and serious. It isn't! Well, no, it certainly is. But just saying so is not a good way to show anyone what is profound or serious about it. Most approaches to poetry, starting in the primary grades and going all the way to college, focus on meaning. The danger in this approach is in turning poetry into something that's kept under lock and key, and that is therefore alien and resistant, a language for initiates, that has one right answer, and that is not something students might produce, respond to, or remember and care about once they leave your class. And even for students who get good at finding meaning, the approach loses what is specific about poetry.

By the specificity of poetry, I mean in particular its material, formal dimensions – the fact, for instance, that poetry is typically organized in lines, often according to rhythmic patterns, and almost always structured by some element of verbal repetition. Poetry uses the sound of language (and the look of it too) to organize statements on a page or screen or stage. This sensory dimension of poetry promotes a formal consciousness in writers and readers that distinguishes poetry from other modes of communication and in so doing calls attention to some of the basic elements of *all* communication. It reminds us that, whatever is being said, we speak and listen with our senses and therefore with our bodies, even when we are silent, even when our eyes are closed.

And that's important. The formal patterning of poetry makes it uniquely well positioned to sensitize students, to *attune* them, to the material dimensions of language on which all communication always depends. It's a route, in other words, to fluency, to the love of

words, and to an appreciation of their potential power. Poetry invites you (and because it's friendly, it also teaches you how) to grasp language whole: that is, how to put intellect and sense perception, thought and feeling together. That's essential to both basic literacy and advanced interpretative skills. Or to put this another way: the formal dimension of language that poetry foregrounds is fundamental to meaning, rather than an adjunct to it. Meaning doesn't mean very much without it.

But this makes poetry sound more profound and serious and therefore more intimidating than ever. That's where games come in. It's an advantage in this respect that poetry has no immediately verifiable, testable utility. Writing poetry is almost as pointless as making art – or music! From one perspective, writing poetry (or reading it) is only play time. And that's exactly what poetry is, a refined, ancient form of play. It involves a great deal of work of course, whether you are writing or reading it, but it's a kind of work that's more like play than work. And play is nothing to be afraid of, is it?

In essence, our seminar was a crash course in poetic form. We began by looking at a piece of prose by Walter Pater that W. B. Yeats broke into lines to make a poem (he called it "Mona Lisa" – the passage came from Pater writing on Leonardo Da Vinci in *The Renaissance*) and placed it first in Yeats's *Oxford Anthology of Modern Poetry*. I gave the Fellows a poem by Elizabeth Bishop – a free verse poem that I formatted as a block of prose – and asked them to insert the line breaks, and then compare their choices with Bishop's. We considered the several patterns structuring William Carlos Williams's famous and seemingly casual, informal poem, "so much depends" (also known as "The Red Wheelbarrow").

And that was just our first seminar. The next day we went on to explore Anglo-Saxon alliterative meter in "The Seafarer" by Ezra Pound; blank verse – and more generally, accentual-syllabic meter – in Robert Frost's "Birches"; and the several, shifting metrical patterns in Langston Hughes's "The Weary Blues." We read and discussed syllabic poems – haiku in particular; also, rhyming poems from Alexander Pope's "Essay on Criticism" to Thom Gunn's AIDS-elegy "Lament", from Eric B. and Rakim's "Microphone Fiend" to the antic, provocative, more-outrageous-than-most-rappers Frederick Seidel and the clever, winning, eccentric miniaturist, Kay Ryan. We asked what happens when Robert Frost ends "Stopping by Woods on a Snowy Eve" by saying the same thing twice, and what is the effect when W. C. Handy begins each verse of a blues song by saying the same thing twice?

We studied many other kinds of poem – sestinas, found poems, shape poems, ghazals; riddles, dramatic monologues; poems that are made out of lists and others that involve sustained metaphorical thinking. All of these we approached as types of game, involving certain rules and making use of certain tools. Our style of discussion was patient,

exploratory, and collaborative. The point was to feel our way and to help each other along by comparing reactions, associations, observations.

We also spent time in seminar hearing about the units that fellows were working on, and sharing ideas and source materials. The stirring results follow. These curriculum units offer an exciting array of inventive classroom activities. But they are worth reading start to finish, because their authors have all taken time to reflect on the rationale for teaching poetry; in some cases, they've marshaled impressive research to deepen their arguments. They all also include important personal statements about their authors' work in the classroom as well as their experience of reading (and sometimes writing) poetry. Finally, all the units describe and share responses to specific poems. So the pleasures in poetry that they speak of are not abstract or merely theoretical but concrete and demonstrated.

Particularly satisfying to me is the wide range of grades and ages and classroom challenges addressed in these units. Working in the elementary school classroom, Joyce Jacobson has designed a unit focused on Langston Hughes; it culminates in a convivial, communal "Poetry Café" – a miniature, age-appropriate version of the Harlem Renaissance soirées and rent parties that nurtured Hughes's poetry. Karin Foss's unit is designed to help young children apprehend and gain appreciation for the formal, embodied features of language by focusing on animal poems – animals being creatures who have no language at all and yet who communicate with us on profound levels.

Kristen Leida and Teresa Strohl, both art teachers, have also written units for elementary school children. Teresa builds her unit around a bright, vigorous painting by Stuart Davis, which incorporates letters in its composition, while Kristen works with the comical, illustrated poetry of Shel Silverstein, among other authors. Both of these units demonstrate how poetry can teach young children about art, and vice versa. They activate and develop the visual dimension of poetry, while using poetry to get children closer to art.

Jen Giarrusso and Brandon Barr both teach ninth grade, and they have designed units that use poetry to assist their students as they make the big transition – academically and socially – from middle school to high school. Brandon's unit helps students gain a sense of their (and recognize and respect their classmates') emerging identities by focusing on the imaginative and expressive potentials of language in a wide variety of poems, thoughtfully selected and arranged in sequence for the purposes of the unit. Jen's unit focuses on a crazily-demanding verse form, the sestina, as a way to get her students to relax, learn that it's OK to play with words, and in the process discover that form is essential (not an adjunct or ornament) to content – a key recognition that will prepare them for the expectations of advanced literary analysis in high school and beyond.

Irene Jones and Jean Capacetti work in classrooms that could not be more different; yet they both use poetry ingeniously to address certain shared challenges. Irene's students are English Language Learners on a Navajo reservation in Arizona. Her unit uses a poem in a children's book about a regional ritual occasion – The Shiprock Fair – as a springboard into English-language learning that involves the children in drawing on and learning about Navajo tradition and culture. Jean's unit, written for his predominantly African-American students in beginning Spanish classes in the New Haven school system, uses Spoken Word poetry in English to draw his students in; then they create their own Spoken Word poetry integrating Spanish words and phrases: a literary form to which they respond easily and naturally becomes a bridge to a language and culture they sometimes resist and hang back from. Jean himself models this practice with a bilingual Spoken Word poem of his own composition.

All of these teachers encourage their students to play with words, to practice listening, speaking, and performing, and to take pleasure in language, on the assumption that that pleasure in language is an essential foundation for future studies. It can act as a bridge to basic fluency as well as to modes of formal analytic writing and thinking that are attentive to tone and expression and therefore foundational for advanced comprehension.

Stephanie Vest and Liz Daniell teach high school students preparing for AP exams. Stephanie's unit centers on William Blake's *Songs of Innocence and Experience* – mysterious poems that investigate innocence and experience in the context of the new industrial society of eighteenth century England. The subject might seem far away, but Stephanie takes Blake as a mirror for her students who find themselves between the innocence of childhood and the complex consciousness of adulthood. Liz's unit, which will be coordinated with her students' study of World War I in history class, focuses on the rich, poignant efflorescence of English poetry during the Great War. Liz uses history as a way into poetry for students who are unaccustomed to reading it. At the same time, poetry adds depth, immediacy, and particularity to their study of history. These units both draw on some of the highlights of poetry in English.

Our seminar Coordinator, Sydney Coffin, teaches poetry as an arts elective in a Philadelphia high school. His unit will invite students to create collage poems by cutting up and pasting language found in magazines, which will sometimes take the form of shape poems. This practice takes part in the tradition of found art that runs from Marcel Duchamp's ready-mades to contemporary Conceptual Poetry. The avant-garde is alive and well in Sydney's classroom, where his students will find that playing with words is a way not only to make poems, but to make other people's words their own, and thus to achieve an active, creative relation to the world around them, which they might otherwise assume was simply given, nothing for them, and not something that can be changed.

Langdon Hammer

Synopses of the Curriculum Units

2014.02.01

[Life Happens: Thinking about Key Life Transitions and Identity through Poetry](#), by Brandon Barr

Students in middle school face a multitude of changes as they progress through adolescence. Changes such as growing up, dealing with death, moving, changing friendships, changing relationships with family and peers, and losing and gaining different things become key changes that often impact students emotionally and academically. Even though these changes often consume the attention and focus of students, they are often not addressed in class. This unit seeks to provide students the opportunity to reflect on these issues and pursue some of their thinking through poetry. Poetry induces kids to grapple with difficult emotions and provides a creative outlet that is often not fully addressed in many teaching situations. Poetic form is taught through carefully selected mentor texts that can be used as frames for students to organize their ideas and produce poetry.

(Developed for English Language Arts, grade 8; recommended for English Language Arts, grade 8)

2014.02.02

[Growing Up Yo in New Haven: Teaching Spanish through Bilingual Slam Poetry](#), by Jean Capacetti

In this unit, students will explore popular Slam Poetry in English and Spanish from artists in New Haven as well as from around the country. Then they will look specifically at bilingual poetry which features English and Spanish within the same poem. Finally they will get an opportunity to write their own bilingual slam poetry and perform it in front on their peers. In the narrative portion of my unit I will discuss the history of Spoken Word Poetry and why teaching Spanish through poetry will be beneficial for the students as well as looking at select poems in English, Spanish, and Bilingual, and discussing why these in particular are good examples to use with students in Spanish class.

(Developed for Spanish I and II, grades 9-12, and Spanish III, grades 10-12; recommended for Spanish, all grades)

2014.02.03

[Tearing Poetry Apart: A Short History of How Collage, Concrete, and Conceptual Poems Are Made](#), by Sydney Coffin

Here is a short history of Conceptual poetry and 7 activities for learning how to make visual Dadaist cut-up poems, typography poems, visual collages with words, redaction

poems, concrete constructivist poems and found poems, culminating in the production of a multi-media altered work of literature. Deeper than any activities, however is the goal of understanding the conceptual framework for poetry of this type, and cultivating critical thinking skills: *How could this text be altered to find new meaning(s)? How and why have artists and poets employed a variety of physical techniques to express their sense of language and its possibilities?* For teachers, I will discuss the theory behind using these multiple modalities to assist students in learning the joy of class work. Ultimately, students will see how the "Conceptual" work being done over a wide span of history synthesizes art, poetry, and even philosophical theory. Participants in this unit, whether located in a Poetry workshop, English class, Philosophy, or Art and Design seminar, will find themselves entering the contemporary moment where these separate fields pursue a common thread of inquiry. Ultimately, this is a unit about how to *think*, as much as one about how to *do*.

(Developed for Poetry elective, grades 10-12; recommended for English and Art, grades K-12)

2014.02.04

Dulce et Decorum Est: Common Core and The Poetry of War, by Elizabeth Daniell

In this age of standardized testing, poetry is generally left as an after-thought, something to do if there is extra time because it is so rarely covered on our exams. Some districts are misreading the standards and are falsely believing that students should be reading less literature and more non-fiction. As such, we are short-changing students out of a rich genre of literature. Poetry should not be the after-thought, it should be the primary focus of a sustained, scaffolded, and structured unit in a standards-based classroom.

As this year is the beginning of the centenary, this cross-curricular unit will use the poetry of World War I to meet the goals of the Common Core. In addition to the traditional poet-soldiers like Wilfred Owen and Siegfried Sassoon, this unit incorporates songs like "Your King and Country Want You" and poems like A.P. Herbert's "The General" (about one of the least-liked British officers of World War I), to provide students with a rich opportunity to look at the wit and humor created in the worst moments of the human experience.

(Developed for AP Literature [Sept], grade 12; English 2 and 2A [Dec]; recommended for High School English/English 2 and English 10, grade 10)

2014.02.05

The ABCs of Elementary Reading and Writing Poetry with Animals, by Karin Foss

I've often heard that school curriculum follows the rule that students learn to read up until third grade and then they read to learn. Makes sense. But what happens when many of your students enter fourth grade reading two years behind grade level? How do you build

the comprehension and analytical skills they will need when they are unable to read the grade-level material? This unit will provide information to lead elementary students through reading and discussing a wide variety of animal poetry that will range from Shel Silverstein to Alfred, Lord Tennyson. This range of material will challenge on and above grade level students while not being so lengthy that struggling students will find it inaccessible. Students will be looking at and analyzing the use of similes, metaphors, alliteration and idioms. I am hopeful that students will take as much joy and pleasure from hearing great poems and through creating their own poetry, as they do when given watercolors and paper with the license to just paint, create, and enjoy.

(Developed for English Language Arts, grade 4; recommended for ELA, grades 3-5)

2014.02.06

The Sestina: Having Fun with Form and Content, by Jennifer Mazzocco

Students typically approach poetry with trepidation; they feel pressured to interpret it correctly, getting the "right" answer that the teacher wants. Likewise, when they write, they stare at the blank paper, often with little clue of where to start. Poetry seems, from their perspective, to exclude. Some people just get poetry; others don't. Some people can write poetry; others can't.

This unit focuses on the sestina form and the activities within will help students analyze example poems and, as a culminating project, write their own. Students will work collaboratively to discuss poems and to write them, learning how to make observations about the way the sestina form works and ask questions about how that form supports the content of the poems. Specifically, this unit will ask students to think about the way the sestina form uses repetition of words to create a feeling of movement through time and explore an "obsession" of the topic. Along the way, students should ideally realize that poetry, in particular poems with a set structure, are a playground for language, not an intimidating force that is unavailable to them.

(Developed for English I CAS, grade 9; recommended for English, grades 9-12)

2014.02.07

Poetry Café: The World of Langston Hughes, by Joyce Jacobson

Poetry Café: The World of Langston Hughes: This unit will introduce students to the world of the renowned poet Langston Hughes. Known for his unique, yet simple approach he embodies many of the characteristics of celebrated classic poets. The unit will focus briefly on his life, and then introduce seven of his poems including the celebrated poem *The Weary Blues* that incorporates elements of Jazz and Blues into poetry. His poems are simple and easily accessible to students in grades 2nd-5th, yet can be adapted to upper grade students. Presented with photos and music typical of the

Harlem Renaissance of the 1920's students will be able to connect their own experiences in the community in which they live with those of the famous poet. It is within this context that they will begin to understand and feel the beat of poetry, and in turn create their own poems. These poems will be practiced and later presented in a Café setting. Forms of poetry touched on will be Free Verse, Jazz Poetry, and Rhyming poetry. A detailed notation, suggested questions, and activities accompany each poem.

(Developed for ELA, History and Social Science, grades 2-3; recommended for Multiple Subjects Self-Contained Classroom, grades 2-8)

2014.02.08

[Using Poetry Songs to Teach Fluency Using Literature about Navajo Culture in an ELL Classroom](#), by Irene Jones

The approach in this unit is help the students realize that poetry has always existed in our culture, and still exists in writings of our Native American poets. Although the most common form of poetry for Navajo poets is in prose, they still create rhythm in the language they use. Students will also identify words that the author selects in a poem to create a rich auditory experience in a literary selection. The rhythms itself create heightened imagery or emotional effect.¹ Poetry about things they are familiar with like poems and nursery rhymes about animals, people and culture give students an opportunity to be exposed to other types of poetry. In addition, students will use knowledge of phonemic awareness by segmenting syllables in multi-syllabic words, especially with poems that rely on meters and stress to create a moment and create a feeling. Students will comprehend text by identifying structural elements of poetry. Nursery Rhymes that the students used to recite in Kindergarten and first grade can help them develop rhythm and recognize rhyming words. In addition, students will compose a narrative daily by writing simple poetry, using rhymes or any other poetry form to create rhythm. Students will write a poetry using any form to find a voice and to become confidence writers. Listening and speaking confidently is also a major component of this unit. To help establish speaking and listening skills, students will memorize and recite simple poems, part of a prose, or a verse.

1. http://www.poetrysoup.com/dictionary/prose_poetry

(Developed for Language Arts - English Language Learners, grade 4; recommended for Language Arts, grades 3-4)

2014.02.09

[Pictures, Poems, and Planets](#), by Kristen Rosenthal

How can I incorporate reading, writing and drawing poetry in my elementary art classroom as a *fun* interdisciplinary approach for my fourth grade students? Students can

be intimidated by interacting with art and with poems. Through strategies in observation, critical thinking, and collaboration students will recognize poetry and art are both accessible. I aim to build engagement in both poetic literacy and visual illustration in my elementary art classroom through humorous poetry.

I have always adored the wit of Shel Silverstein and still laugh when reading "Something Missing." This author-artist combines the art of poetry with the art of illustration as two symbiotic parts where the poem and drawing are interdependent. After an introduction of 'playing' with poetry and drawings by Shel Silverstein and creating original collaborative ones, students will use their prior knowledge of the planets from the fourth grade science curriculum to create a poem about an imaginary trip to a planet of their choice and draw an illustration of themselves during this extraordinary visit. "Something Missing" inspires me to fill in the gaps in my curriculum to best meet my students' needs. Their poems will use rhyme and figurative language inspired by elements in Silverstein's work.

(Developed for Visual Art, grade 4; recommended for Visual Art, Science, and English Language Arts, grade 4)

2014.02.10

[Don't Fear the Symmetry: The Poetry of William Blake](#), by Stephanie Muller

This unit is designed for an AP English Literature and Composition class taught in an urban setting, but is easily adaptable for any British Literature course or for a study in poetry of the Romantic Age. The unit is also multi-faceted. It centers on William Blake's poetry found in *Songs of Innocence* and *Songs of Experience*. It begins with a study of the major characteristics of the Romantic Age, providing for students a general idea of the social and political cultures during the time period of the poems selected for study. Next, students study poetry vocabulary terms. These specific terms help students identify devices within a piece of poetry and begin to understand how the poet projects his ideas through the use of metaphor, assonance, or paradox, for example. I also provide brief historical backgrounds of the late 18th and early 19th century, as well as a brief biography of William Blake. I want students to embrace Blake and the Romantic Age fully in order to see the genius of the man who painted his ideas. There is much to be discovered about the social and historical value of Blake's poetry, as well as a multitude of ways to connect his poetry and illustrations to contemporary times. His works are an excellent gateway into the study of Romantic, pre-20th century British poetry specifically, but also any poetry analysis generally.

(Developed for AP English Literature and Composition, grade 12; recommended for AP English Literature and Composition, and English 12, grade 12; British Literature, grades 11-12; and Creative Writing, grades 9-12)

2014.02.11

Visual Poetry, by Teresa Strohl

This Visual Poetry unit will show the similarities between the art making process and the process of writing or crafting a poem. Poets are intentional about the imagery their poems create in the same way an artist conveys a sense of beauty in their images. Poets share the same sense of perception as an artist does always carefully observing the world around them.

My third grade classes will analyze a painting by Stuart Davis called *Combination Concrete #2* to find the similarities in the elements of art and the elements found in writing poetry. This painting is full of line, bright colors, text, and overlapping shapes. From this busy painting students will create visual poems. Davis was surrounded by artists while growing up; I will incorporate visual poetry activities relating to some of his artist friends such as Charles Demuth and poet, William Carlos Williams. The unit will demonstrate a form of poetry called Ekphrastic Poetry, poems written about famous works of art or art that relates to a poem in some way. An example of a poem inspired by a work of art is William Carlos Williams's poem "The Great Figure." The painting is by a friend of Williams; Charles Demuth called *I Saw the Figure 5 in Gold*.

The culminating event of this unit will be a Poetry Café set-up in the art room to display the ekphrastic poems created, recite poems, and show off student blogs. The students' parents will be invited to attend the Poetry Café.

(Developed for Visual Arts, grade 3; recommended for Visual Arts and Literacy, grade 3)

III. Immigration and Migration and the Making of a Modern American City

Introduction

Immigration reform and urban revitalization remain some of the most urgent and vexing policy questions and debates in our current time. This seminar provided seven teachers from around the country the opportunity to study the complicated processes of U.S. urban formation through the histories of nineteenth- and twentieth-century immigration and migration patterns. We moved both geographically and chronologically through New York City, Chicago, and Los Angeles to anchor our examinations of migration, settlement, and urban/metropolitan formation across time and space. The seminar also aimed to introduce teachers to a range of primary sources that would enrich the histories of migration and urban formation: autobiography, literary fiction, census, photography, painting, film, newspaper articles, cartoons, and maps.

The seminar began by working through Jacob Riis's classic, *How the Other Half Lives*, published in 1890 as ethnic and racial mixing, tenement overcrowding, poverty, and economic exploitation came to typify life in New York and other nineteenth-century U.S. cities. The text helped to bring many of the seminar's key historical problems associated with immigration and migration and urban formation into focus. Riis's text also allowed participants to begin wrestling with one of the central challenges of the seminar – how to understand the histories of different immigrant and migrant groups as constantly overlapping, intersecting, and diverging as they move through and settle into the city. We also noted the ways in which immigration policy – or lack thereof – in this period shaped migration in ways that would be different from the twentieth century. At the same time, the emphasis on the images and text allowed us to consider how literary and visual forms convey historical information and cultural meaning differently. We also read academic articles on the uses and interpretations of Riis's seminal work by scholars and the public in the last century to begin to engage the theme of historiography and understand the writing of history as the result of academic debates and contestations over how to interpret historical sources and narrate the past.

As we prepared to gather back at Yale in July, the national media focused the public's attention on the plight of young Latino migrants stranded at the U.S./Mexico border. Our historic investigations became even more relevant to our understanding of pressing current issues and events. We started the intensive session examining the growth of antebellum New York City located at the southern end of Manhattan Island. Western European immigration along with regional rural to urban migration that included the harrowing escapes of fugitive slaves such as Harriet Jacobs in search of freedom fueled the city's growth. We paid particular attention to the Five Points neighborhood in Lower Manhattan as a racially and ethnically diverse neighborhood that would change following the violent expulsion of African Americans following the 1863 Draft Riots. Yet, the city continued to offer diverse groups of European immigrants and African American

migrants opportunities to encounter one another in public spaces such as Central Park as well as popular cultural amusements such as Coney Island and dances halls. We examined the ways in which these men and women responded to the challenges of urban life and fashioned new identities through their participation in urban commercial culture. We also studied the responses of social reformers to deal with the rising numbers of migrants and wide range of social, political, and economic concerns.

Following our study of New York City, we moved to Chicago to examine more closely the First Great Migration of African Americans from the South from the 1890s to the end of the First World War that occurred at the same time of large scale Eastern European immigration and settlement to that city. Looking at the business practices of Chicago employers and real estate agents helped make clear the ways in which European immigrants and African American migrants experienced the City of Big Shoulders differently. As the former found opportunities for socioeconomic mobility in the cities industries over time, the latter experienced racial discrimination and violence as evidenced by the 1919 Chicago Riot.

Moving to twentieth-century Los Angeles brought attention to the histories of Asian and Latino migration. We paused to remember that the nation grew dramatically throughout the nineteenth-century through imperial conquest and considered the dramatic changes in immigration policies throughout the twentieth century that turned the U.S.-Mexico border into a geopolitical reality that would profoundly reshape the lives of Mexican and Mexican Americans in the region even to this day. Our study of the twentieth-century formation of the Los Angeles metropolitan area also made clear the ways in which this city developed differently from the older U.S. cities we had studied. The automobile and, more importantly, the freeway systems that enabled car travel created exclusive suburbs throughout Greater Los Angeles that practiced new forms of class- and race-based exclusion and segregation that came into stark relief with the 1992 Los Angeles Riots.

The seminar emphasized the importance of understanding how the migration histories of the groups of people studied varied greatly as a result of policies, laws, and social and cultural practices that offered some groups opportunities for social and economic mobility while excluding others. In particular, we examined the ways in which racial difference codified in laws and concretized in daily practices created structures of exclusion that shaped the migration histories of African Americans, Asians, and Latinos differently from European immigrants. The readings also featured the voices of immigrants and migrants that allowed participants to consider the ways in which these historic subjects were not just victims of racial exclusion or economic exploitation but also active agents who quickly learned forms of individual and collective resistance. For example, nineteenth- and early-twentieth-century Asian exclusion such as the 1882 Chinese Exclusion Act and the 1908 Gentlemen's Agreement greatly limited the migration of Asians to the U.S. By reading about the life histories and experiences of Koreans and Mexicans in Los Angeles in the early twentieth century, participants began to see the

ways in which the experiences of African Americans, Latinos, and Asian Americans intersected. At times economic barriers created intergroup competition while in other instances similar conditions resulted in collective political mobilization for better housing or work opportunities.

The seven curriculum units that grew out of the seminar reflect the hard work of the impressive group of teachers in the seminar. They range from grades 1 through 12 specializing in varied subjects: Spanish, History, Geography, English, and Visual Art. These teachers felt drawn to this unit specifically because of their own passion and commitment to their students and the urban neighborhoods that their schools serve. Their participation in the seminar discussions and readings allowed many to make connections back to their home cities and neighborhoods to better understand the historic struggles for racial and economic justice. Although many of the assigned seminar texts were not always immediately applicable to the elementary or middle school grades, these teachers nonetheless took away key pedagogical tools and methods as well as central analytical concepts needed to interpret and understand these materials.

The rich conversations generated from the seminar meetings supported the growth and development of the seven curriculum units presented. They cover a wide range of topics: family and neighborhood history, food and migration, work and migration in the global city, visual representations and immigration laws and policies, the construction of race and the making of juridical and geographic borders, and urban youth culture and rites of passage.

Together these units bring to life the city as a historic site of encounter for immigrants and migrants. And the everyday world of migrants whether on the intimate scale of the family or neighborhood is always shaped by larger social, economic and political forces in the city or nation at large. The units all aim to teach students the ways in which these historic subjects have aimed to shape their lives in the U.S. through individual and collective struggle. We hope that these units will help diversify, deepen, and broaden the ways students will engage with U.S. urban history and immigration and migration history.

Mary Lui

Synopses of the Curriculum Units

2014.03.01

[Lights, Camera, Immigration! An Examination of Global Cities Through Film](#), by Erin Breault

Students will explore the economic, social and political characteristics of migration and globalization through the lens of the "global city" as exemplified by Los Angeles and London. Students will utilize fiction film and contemporary television show excerpts about the experience of immigrants and migrants as a vehicle for analysis. Students will examine the films' portrayal of migration to these two cities, focusing on who the immigrants are, why they migrated, where they live, how their labor is utilized, and how their experiences vary depending on race, class, gender and nationality. In addition to film analysis, students will augment their study with primary sources. They will also read and evaluate secondary sources that analyze immigration and migration in the context of the global city's development over the twentieth century. The history of film, produced about the global city will also be examined.

This unit will be useful in satisfying the particular requirements of AP World History Unit "Accelerating Global Change and Realignments, c. 1900 to the Present". Common Core standards of gathering and evaluating sources (e.g. visually), in order to address a question or solve a problem apply.

(Recommended for World History AP and World History, Grades 10-12)

2014.03.02

[Neighborhood as Palimpsest: An Examination of Chicago's Back of the Yards Neighborhood Through Urban Historical Geography](#), by Molly Myers

Place is essentially about people and how people make meaning of their locations. This unit uses a local history approach to examining the geographical concept of sense of place. Using census records, foreign language newspapers, housing reports, settlement house papers, and other primary sources from 1900-1920, students will examine the Back of the Yards neighborhood of Chicago in order to identify how different groups of migrants and immigrants encountered one another and shaped the built environment around them. The Back of the Yards neighborhood located adjacent to the Union Stockyards was the entry point for many ethnic groups seeking employment in Chicago's industrial landscape. The years between 1900 and 1920 represent the high point of immigration from Europe and migration of African Americans from the South. Chicago can serve as an excellent case study about how industrialization, ethnicity, race, and space connect.

This unit uses strategies that align with the Common Core reading and writing standards as well as incorporate the historical/geographic thinking strategies that helps students make meaning on their own. The unit walks teachers through how to create this kind of unit for their own cities and neighborhoods that can be used for Human Geography, U.S. History, Sociology, and possibly English courses that are using Upton Sinclair's *The Jungle* as a primary text.

(Recommended for United States History, Grades 8-12; Sociology and Chicago History, Grades 9-12)

2014.03.03

[Tug-of-War: Mexican Immigration to the United States](#), by Barbara Prillaman

In this unit regarding racially biased immigration laws, high school students will focus on the guiding questions: What is the role of race and ethnicity in immigration policy? Who are considered foreign-born and how are their life chances in the United States shaped by a number of factors associated with their arrival? How does the legal status of the foreign-born vary by country of origin and connect to historically constructed categories of race and ethnicity? How has the movement from Mexico to the United States changed over time according to U.S. laws and how have these changes affected the social and legal identities of migrants? Following the Common Core Standards, students will read for meaning and interpret primary sources regarding immigration throughout our history. A case study of Mexican migration will emphasize how the laws/policies have been historically racially biased. This collaborative unit involves students in three different schools to work together through the use of Google Docs and Blogs, to focus on developing their technological skills necessary for college or the work place. Additionally, they will participate in Socratic Seminars to critically read and prepare to actively participate in conversations to help them make meaning of the complex content.

(Recommended for U.S. History, Grades 9-12)

2014.03.04

[The Cultural Move: Impact of Mexican Migration on Today's American Food](#), by Sobeyda Rivera

This unit is targeted for second-grade level students. They will gain insight into the Latin American countries, particularly Mexico and El Salvador, which have sent migrants to the United States. They will get a better understanding of how these two groups of immigrants influenced the cuisines of the United States. Many times my students struggle to realize the cultural and ethnic diversity outside of their community and do not recognize the ways in which Latino cultures have impacted our daily food options. Using our home city of Richmond, students will see the growth of Latino populations and the

proximity of the Latino neighborhood to their own. They will make the connection that not all "Spanish food" is "Mexican food" but that each country has their unique dishes. The unit will give the students an opportunity to learn about the waves of Latino immigration throughout the nineteenth and twentieth centuries and the connection to the different Latino foodstuffs that we see today in restaurants and grocery stores. The students will explore and connect pieces from the past and how migration history has created what we know and understand in today's stories.

(Recommended for Elementary Spanish, Grade 2)

2014.03.05

[Immigration and Migration: My Family and My Community](#), by Julie So

This unit will help 1st – 3rd grade teachers direct students to consider family history, and cultural stories in the historical spaces of their community. This first grade unit targets "A Child's Place in Time and Space" (CA HSS State Standards) through the study of immigration and migration to our city. It is designed to include immigration and migration histories of ethnic groups, background information about our city, teaching strategies, and activity examples to bring the concept of change over time to life. Discovering why friends, family, and community members needed to uproot their lives, move, and settle into a new land is a story with richness and depth, leading to a better understanding of one another with better compassion. The concept of history as change over time is compelling because it teaches students facts shaping their understanding of who they are, how they interact with and fit into the larger history of our community. It is my hope to empower students to make a difference in their life for the better, building up what educator Tara Yosso has called "community cultural wealth."

(Recommended for History and Social Science, Grades 1-3)

2014.03.06

[Understanding San Francisco Bay Area Immigration Through an Exploration of Laws and Images](#), by Sara Stillman

This unit leads students on an investigation of federal immigration laws by blending historical research with visual arts and inviting students to reflect upon the journeys they and their families made to call the Bay Area home while considering the stories of migrants and immigrants who came before them. We will explore personal stories from different time periods and try to understand how the political climate and laws and policies governing US immigration shaped the experiences of immigrants and domestic migrants. Our study will center around three federal laws that reflected and also shaped migration to the Bay Area: The Chinese Exclusion Act of 1882, The Immigration Act of 1924, and The Immigration and Nationality Act of 1965. Additionally students will explore California Proposition 187 and connect the local Bay Area and California debate

with the context of changes in federal laws from and the Immigration Reform Control Act (IRCA) of 1986 and the Welfare Reform Act of 1996. Together, through an Art Based Research approach, we create a timeline to visualize the scope of our learning, illustrate new vocabulary, read first person narratives from immigrants, view documentaries, visit the Oakland Museum of California, examine maps, art work, photographs, and newspaper articles to deepen their understanding how federal laws shaped immigration to the Bay Area and how those are reflected in the current debate over immigration.

(Recommended for High School Visual Arts/History/Social Studies, Grades 10-12)

2014.03.07

[The Settled and the Unsettled, Then and Now: Rites of Passage in Urban Life and Narrative](#), by Krista Waldron

This unit explores a selection of American immigration/migration narratives from the mid-nineteenth century to the present day. They share rites of passage as a theme. This theme should be an interesting one, speaking directly to our urban and/or migrant students' personal experiences. Students will explore the historical, political, and cultural contexts which shape the narratives. Using mostly primary resources, we will hone critical reading skills with activities especially selected for challenged and on-level readers. As a final outcome, students will produce their own personal rites of passage narratives. Students in Big Picture Learning schools might use this as part of their autobiographies. We will develop the necessary skills—including social ones—for writing groups and peer evaluation. An inevitable aspect of this unit is the role that writing and narrative, particularly for marginalized youth, have in shaping social change. This unit will be appropriate for middle and high school classrooms in urban districts, especially for those with students from diverse backgrounds and with noticeable migrant or immigrant populations. The unit was created for at-risk students but is not limited to this constituency. Nor is it restrictive to the English classroom.

(Recommended for American History, Grades 9-10; American Literature and English Language Arts, Grades 9-11; English and Social Studies, Grades 7-8)

IV. Eloquence

Introduction

The seminar description for Eloquence promised the Fellows an introduction to classical rhetoric as it has been practiced from Demosthenes to the digital age. Despite the compressed time of the Special Session, that is what they got; but they did not leave it there—far from it.

Honoring the foundational principles of persuasion in the rhetorical treatises of Aristotle, Cicero, and Quintilian and demonstrating their relevance in contemporary media, the seminar explored the theory and practice of persuasive public speaking and speech writing across the curriculum. Examples came mainly from the eloquence of three American Presidents—Jefferson, Lincoln, and Reagan. But eloquence is a technique of expression that may be applied to the presentation of any content, and the curriculum units vary accordingly. Topics range from Euripides as a forensic dramatist in *The Medea* to the concise rhetoric of Twitter feeds, and they include units on rap-music lyrics, spoken-word poetry, environmental awareness, Navajo (Diné) speech-making after "the Long Walk," and the special uses of rhetoric pertaining to art, architecture, literature, French language, and social studies. The units make various use of concepts such as Ethos (appeal by character), Pathos (appeal by emotion), and Logos (appeal by reason) in oratory, past and present. They also make use of the established principles of rhetorical persuasion, focusing on invention, arrangement, style, memory, and delivery.

The results are various, inventive, and suggestive.

In "Medea: Innocent or Guilty. It's Just Rhetoric," Ludy Aguada, an English teacher from the William Overfelt High School in San José, puts the title character from the play by Euripides on trial for the murder of her children. She sets her students the task of making the persuasive juridical case either against her or for her. Their debates are to end in a fully staged courtroom argument about the insanity defense based on current rules of evidence and criminal procedure. Hailing from the Kayenta Elementary School, Diné Nation, Priscilla Black cites the eloquent words of nineteenth-century Navajo leaders in claiming the physical and spiritual territory of Diné Tah for their descendants, down to the present day. She titles her unit "Eloquence and Culture," and she intends it as a pointed message to her fourth-grade class about the importance of honoring Navajo language and tradition. Gloria Brinkman of North Mecklenburg High School in Charlotte, NC likewise seeks to empower her students through "Articulations: Crafting Credible Discourse on Art, Aesthetics, and Design"; but in her case, she proposes to do so by offering them ways of talking about contemporary art. Rhetoric here is multi-staged process of description, analysis, and interpretation.

Christina Cancelli, English teacher at the Franklin Military Academy in Richmond, VA, and Cheree Carmello, English teacher at Pittsburgh Gifted Center, invoke different media in similar ways to meet their students where they live. They both challenge them on the ground of contemporary literacy—mediated and vernacular. Christina confronts the pervasiveness of social media, namely Facebook, Twitter, and Instagram, in her students' active lives as texting rhetoricians, and she maps a path to heightened critical awareness of such phenomena as online personal branding (known to the ancients as "Ethos"). She titles her unit "Re-Tweet This: Personal Branding through Social Media is the New Rhetoric of Persuasion." Her goal is to impart the greater mindfulness of digital literacy to a generation already fluent in social media but not always yet sufficiently reflective about their consequences. In "From Insurgent Listener to Word Warrior: Self-Advocating through Spoken Word," Cheree has found in the spoken-word poems written by her students the inspirational source of a soul-stirring eloquence. The literacy she is nurturing in them is not always in sync with "business English," but it is a medium of direct persuasion marked by powerful expressiveness. Grammar without expression makes nothing happen. Eloquence without grammar is at least a good starting point. In that spirit of keeping young eyes on the prize, which is credible personal persuasiveness, Crecia Cipriano, who teaches French at the Betsy Ross Middle School in New Haven, CT, has created a unit, "Elements of Rhetoric in the Language-Learning Classroom," designed to increase fluency by inculcating the techniques of a persuasive public speaker in her beginning French speakers.

Like Ludy Aguada in her Medea-on-trial unit, April Higgins, who teaches history at the Skyline Middle School, has chosen a forensic rhetorical format for her unit. "Energizing the Debate: The Pros and Cons of Renewable Sources of Energy" puts into play the hard choices that press upon the citizens of estuarial Delaware as ocean levels rise and the land sinks. April will divide her class into teams to debate several subsidiary issues of the larger question, including renewable energy from ethanol and wind power. Before they argue the issues in a formal debate, however, each side will gather evidence on the applicable environmental science and public policy. Conflicting values and principles are also at the heart of Joe Lovato's unit, "The Politics of Rhetoric: William Golding's *Lord of the Flies* and Leadership Speeches of WWII." Joe teaches English at Mt. Pleasant High School in San José, CA. He designed his unit to coordinate the literature and history curricula. He takes the political allegory of Golding's novel, which dramatizes the struggles of marooned boys, a miniature version of the weakness of liberal democracy before fascism, as a way of interpreting the speeches of Neville Chamberlain, Adolph Hitler, and FDR from the 1930s and 40s.

In "Rhetoric in My World: Engaging Students in Rhetorical Analysis through Political Speech Writing," Jo Stafford, who teaches English at East Central High School in Tulsa, is setting her students to work on writing speeches themselves. They will study and analyze great speeches of the past, including the Gettysburg Address, but they will put what they learn into practice. Lincoln's great speech, which was a touchstone for our

seminar discussions in Eloquence, also serves as a key point of comparison in Rachel Stayton's "Eloquence and Authenticity: Who Are You and Why Should I Listen to You," which she has designed for her English classes at Armstrong High School in Richmond, VA. Juxtaposing Lincoln's brief "Remarks" with Edward Everett's stem-winding "Oration" at Gettysburg, Rachel develops criteria for true eloquence, in which the audience "believes the speaker to be sincerely conveying the plain *truth*." She contrasts this with inauthenticity and the consequent loss of credibility. She matches the nineteenth-century orations with comparisons of the rhetorical style of two hip-hop artists, Kendrick Lamar and Jay Z, well known to her students. Popular performance in the Land of Lincoln permeates the last of the units, Sarah Weidmann's "Auditorium Building, Chicago: 'The Temple of Peace,'" which she has created for her English and History classes at the National Teacher Academy in Chicago. Adler and Sullivan's great architectural masterpiece appears here as rhetoric in stone and cladding—literally so in the literary scheme of its decorations, metaphorically so in the eloquence of its intention to create a truly democratic civic auditorium—of the people, by the people, and for the people.

Joseph Roach

Synopses of the Curriculum Units

2014.04.01

[Medea: Innocent or Guilty? It's Just Rhetoric](#), by Ludy Aguada

This unit was developed for use in an Advanced Placement English Language and Composition course. Though AP English Language often focuses on American Literature to analyze and practice the effective use of rhetoric, this unit will use *Medea* by Euripides as its foundational text. Students will read the play, discuss themes such as love and betrayal, family and abandonment, and explore issues such as justice, personal responsibility for one's actions and the consequences that result. As a culminating activity, students will conduct a mock trial to determine whether Medea should be found guilty of the murders of the princess of Corinth, King Creon, and the murder of Medea's own two children, or be found innocent by reason of insanity. Students will act as jurors, witnesses, and attorneys. They will conduct research to construct "autobiographies" for their characters, use information from the play as part of the trial record, prepare witnesses for trial, conduct direct and cross examinations, and deliberate her guilt or innocence. These activities will develop students' skills for reading closely as well as their ability to write and speak persuasively.

(Developed for Advanced Placement English Language and Composition, grades 11-12; recommended for Advanced Placement English Literature and Composition, grades 11-12, English III, grade 11, and English IV, grade 12)

2014.04.02

[Eloquence and Culture Leading with Words](#), by Priscilla Black

This unit was design for the students to meet three objectives. This particular unit tells about one of the biggest Native American Indian Tribe, Dine'. As you read about the Dine' you will notice the name Dine' is preferred tribal name verses Navajo. This Unit will use both names because many research documents use the name Navajo. Like many other younger ethnic generation, they are immerse with today's contemporary way of living. Our Dine' Nation is not an exception to that. Through observation of my own, school age children are not aware of their history. In addition to history the art of speech is not taught at elementary schools on the Dine' Nation. This unit can become the key to open the door to Native American Eloquence.

The first part of the unit will help you understand the history of the Dine Nation and two main leaders that made a huge difference. So many students see the pictures of our past leaders and do not ask who they are. The history behind the past leaders are so important to our existence for cultural and ownership of tribal lands. In studying the topic, students can associate their identity to their culture and sacred tribal lands. Once that objective is covered under background knowledge, I want our 4th grade students to learn about

eloquence. How did the speeches of the past leaders in the 1800's improve our living standards today? How did spoken words of great leaders help us get our land back called Dine Tah. The final objective is to learn that Native American Indians have eloquence that is tied in with leadership.

As one looks at this unit, you will be able to use the history and background knowledge for any other ethnic speakers you wish. Also, you will be able to find specific standards from the English Language Arts, Social Studies, Writing, Speaking and Listening standards of your state and apply it. You may find that some standards can be embedded into certain content area with ease. I encourage teacher to use this unit for learning about other cultures' eloquence other than American leaders.

(Developed for Social Studies, grade 4; recommended for Social Studies, grades 4-5)

2014.04.03

[Articulations: Crafting Credible Discourse on Art, Aesthetics, and Design](#), by Gloria Brinkman

In this unit students will learn how to craft credible oral and written discussions of their theoretical interpretations of works of visual art. Writing critically about art has always been of particular intrigue within the content of visual arts curriculum in attending to essential standards for critical response. Class activities in this unit build on the sequence of the four-step art critical method-Description, Analysis, Interpretation, and Judgment-with the goal of understanding its objective operations as well as its implicitly rhetorical structures. Students will work collaboratively to grow skills in reading visual texts closely identifying organizational principles as well as cogent components that attempt to convey significance. Students will advance their examinations of established artworks within analytical frameworks and apply aesthetic theories as they explore a variety of solutions to interpretation.

Students will present rhetorical arguments for their interpretations employing strategies for public speaking that persuade their listeners to consider works of art from new perspectives. In a corresponding studio art project students will create rhetorical self-portraits. Through these varied approaches to rhetoric students will grow in appreciation of works of art as powerful communicators of ideas across time and culture. They will recognize the democratizing effects of credible interpretations of works of art and how eloquent public speaking can be a source of personal empowerment.

(Developed for Visual Art, Intermediate, grade 10 and International Baccalaureate Middle Years Program, Visual Art, Year 5, grade 10; recommended for Visual Art, Intermediate/Art II, and English Language Arts, grades 9-10)

2014.04.04

[Re-tweet This: Personal Branding through Social Media is the New Rhetoric of Persuasion](#), by Christina Cancelli

With a unit focused on persuasion at the English 11 level, it is essential that students form a depth of understanding with persuasive techniques and their application to academic forms, and this unit will focus on how the social media platforms which today's students are already actively engaging can serve as a new way to utilize and showcase the art of persuasion effectively. Time will be spent focused on understanding academic persuasive techniques, personal branding, and the nuances of each social media platform. Most importantly, however, the students should begin to cognitively and consciously create self-awareness with respect to where and how persuasion exists in their own lives, especially regarding their relationship with social media. Students will acknowledge that the concept of 'buying what one is selling' is age old, and that in understanding the classic academic foundations behind these motivations, one can best comprehend and orient how it functions in his or her world today. Ultimately, this unit will create a conscious young adult who understands the method and power of platform, audience, and personal branding with both academic and real world applications; thus, students will be able to use their knowledge of branding and persuasion to be more cognizant of their own digital footprint and savvy about what they choose to do with it.

(Developed for English, grade 11; recommended for English, grades 9-12, and Debate and Rhetoric, grades 11-12)

2014.04.05

[From Insurgent Listener to Word Warrior: Self-advocating through Spoken Word](#), by Cheree Charmello

Spoken Word is a mixture of poetry, performance, and activism. This three-week, 90-minute block unit on Spoken Word has been designed for middle-level gifted students. Students will be able to describe the concept and importance of logic (*logos*), self-character (*ethos*), and audience emotions (*pathos*). They will be able to identify and analyze the significance of rhetorical tropes within professionally performed and peer performed Spoken Word pieces, and employ such techniques in self-written pieces, focusing on the elements that improve oral performance. They will be able to explain the connections between inventions (*inventio*), arrangement (*dispositio*), style (*elocutio*), memory (*memoria*), and delivery (*pronunciatio*).

(Developed for Language Arts, grades 7-8; recommended for Language Arts, grades 7-12)

2014.04.06

Elements of Rhetoric in the Language-Learning Classroom: Convince Me You are Fluent!, by Crecia Cipriano

In this unit, I seek to explore and indeed exploit the elements of rhetoric, those tools used in effective and persuasive speaking and writing, to open up a new pathway to fluency for world language students, both in prepared and spontaneous communication. With these tools, they will not only learn to inject more style and voice into their writing and speaking, but in so doing, will in fact hasten to persuade the listener or reader of their linguistic fluency. In the act of convincing others, they will without doubt start to convince themselves. And this, of course, is where the magic happens for our kids.

Simply put, rhetoric is the art or study of writing or speaking effectively or persuasively. At first blush, it might seem that the application of rhetorical canons and devices would be too advanced a concept for beginning language learners. Here one might begin to imagine powerfully worded political speeches or ancient and serious philosophical debates more clearly than question-and-answer paired practice around ordering foods or introducing family members. Yet by distilling these rhetorical elements down to their core and tweaking them to our language learning purposes, I believe that they become powerful allies in our quest for smooth speech and oral confidence for our students.

(Developed for French 1A, grade 7, and French 1B, grade 8; recommended for World Languages, grades 7-9)

2014.04.07

Energizing the Debate: The Pros and Cons of Renewable Sources of Energy, by April Higgins

The core of this unit is the art of persuasion and its use to promote social and environmental change. In particular, this unit focuses on speaking about climate change in Delaware. I used the steps involved in argumentative writing that are outlined in *Teaching to Exceed the English Language Arts Common Core State Standards*, as a framework. The steps include identifying issues and stances on issues, conducting rhetorical analysis of nonfiction and informational texts, and analyzing rhetorical appeals: logos, pathos, and ethos. The second part of the unit is a formal classroom debate on three issues facing Delaware residents due to climate change. Through this unit the students will learn the skills to argue a point in a respectful, but powerful way using evidence to support their ideas. I hope the students will see the rebuttals of their classmates as collaboration and not an attack. As we work to solve this environmental problem, I want the students to be open-minded enough to consider the arguments of their peers. I hope to foster respectful interactions to create a culture where a diversity of ideas are valued, even if everyone isn't always in agreement.

(Developed for Social Studies, grade 6; recommended for Social Studies, Science, and English Language Arts, grades 5-8)

2014.04.08

The Politics of Rhetoric: William Golding's *Lord of the Flies* and Leadership Speeches of World War II, by Joe Lovato

This unit applies the study of rhetoric to William Golding's *Lord of the Flies*, and then engages students in critical readings of political speeches of World War II, helping students understand the dynamics of eloquence and the efficacy of different appeals on a populace. By focusing on the use and consequence of rhetorical strategies employed by principal characters in the novel and helping students to see similarities between the use of *ethos*, *pathos*, and *logos* within the novel and three different speech acts, students will develop a deeper understanding of both, enabling them to draw parallels between the novel and the politics that inspired it. Ultimately, students will apply their knowledge of rhetoric and eloquence to craft and deliver an oration in the persona of one of the principal characters from the novel. This unit addresses the Common Core through close reading and analysis of non-fiction historical texts, while still maintaining the novel as the core text. It is cross-curricular and it addresses reading, writing, speaking, and listening skills.

(Developed for English II Honors, grade 10; recommended for English/Language Arts, History, and Rhetoric, grades 9-12)

2014.04.09

Rhetoric in My World: Engaging Students in Rhetorical Analysis Through Political Speechwriting, by Jo Flory

This unit focuses on using political speeches as an entry point to help students learn the structure of argumentative writing and elements of effective rhetoric. Students will analyze rhetorical strategies employed in a series of political speeches covering a wide range of speakers and topics, research contemporary issues, and then compose and deliver a speech about one that's relevant and important to them.

Activities emphasize collaborative group work and are designed to help students connect with issues and speechwriting in a way that makes the study of rhetoric more engaging and relevant. They will engage in group discussion, close reading and research activities, and writing exercises. The ultimate goal is that they recognize how current issues and politics affect their world and become empowered through forming opinions and developing a voice to express them.

This unit was created for students taking 11th grade Advanced Placement Language and Composition, but would be well suited for any 11th or 12th grade American Literature or American Studies class.

(Developed for English Language and Composition, grade 11; recommended for English Language and Composition, and English III, grade 11; English IV, grade 12; and American Studies, grades 11-12)

2014.04.10

Eloquence and Authenticity: Who Are You and Why Should I Listen to You?, by Rachel Stayton

The purpose of this unit is to transform students into creative and informed critics. They will gain an enhanced awareness of rhetorical tropes both in American history and contemporary popular culture while learning that eloquence is artifice as a means to sincerity. We will compare the successfulness of eloquence in four different works: Lincoln's Gettysburg Address, Edward Everett's Oration at Gettysburg, Kendrick Lamar's album "good kid, m.A.A.d. city" and Jay Z's album "Magna Carta Holy Grail." In each pair of works, one succeeds much more in stirring the passions through eloquence and a sense of authenticity. This unit will not only examine what eloquence means, but how the speaker achieves credibility and a sense of "truth" through it. At the end of the unit, students will create a rhetoric rubric for the perfect hip hop song and write a persuasive review of a musical album. This unit will give students ownership of literature by helping them develop a nuanced approach to aesthetic evaluation.

(Developed for English, grade 11; recommended for English and AP English, grades 11-12)

2014.04.11

Auditorium Building, Chicago: "The Temple of Peace.", by Sarah Weidmann

The narrative curriculum unit I've written this year is titled *Auditorium Building, Chicago: The Temple of Peace*. It is a look into a social and cultural space that is an important part of Chicago's voice. The content is organized into four categories: history, politics, design, and rhetoric. The unit aims to connect the concepts and history of "Eloquence" with architectural design. I would argue that the Auditorium Building embodies rhetoric for equal opportunity, for all people, for community, for labors of love, for monumental permanence, for acceptance of diversity, and for change which is ever-flowing and constant. Students are asked to consider how a building might speak and also listen. Their studies will reveal a conceptual connection between rhetorical tropes and schemes/figures of speech and architectural expressiveness. The heart of the architectural design of this building lies in its purpose—a common ground for social and cultural dialogue. They will work to learn speech invention, arrangement, recitation and

memorization skills. They will also rewrite famous speeches using contemporary language. They'll rewrite a pageant that was performed during the Colombian Exposition as readers theater. As the culminating event of the unit our class will access the space several times in order to be able to act as docents and give tours while reciting speeches they have written to persuade the community that buildings can embody rhetoric.

(Developed for Social Studies, Writing, and Reading, grade 7; recommended for Social Studies, Writing, Reading, and Drama, grades 6-9)

V. Place Value, Fractions, and Algebra: Improving Content Learning through the Practice Standards

Introduction

The seminar on "Place Value, Fractions, and Algebra: Improving Content Learning through the Practice Standards" took its inspiration from the Practice Standards of the Common Core State Standards for Mathematics (CCSSM), which were developed in 2009 – 11, and have been adopted by the large majority of states. The Practice Standards are eight in number:

- Make sense of problems and persevere in solving them.
- Reason abstractly and quantitatively.
- Construct viable arguments and critique the reasoning of others.
- Model with mathematics.
- Use tools strategically.
- Attend to precision.
- Look for and make use of structure.
- Look for and express regularity in repeated reasoning.

The seminar took the point of view that these standards are not to be taught directly. Rather, they are habits that develop over time when students experience good teaching of challenging material. Accordingly, the Fellows of the seminar concentrated on writing units that give coherent and connected views of important topics of the mathematics curriculum, and that are built around collections of challenging problems.

Fractions were one of the topics especially mentioned in the somewhat unwieldy seminar title, and for good reasons. One is fractions have been one of the topics with which U.S. mathematics instruction has been least successful. A second is that the Common Core has adopted a new and potentially more promising approach to fractions, by starting with the idea of a unit fraction. In particular, this approach gives students a better chance of revising their understanding of the idea of number, so that they can come to think of fractions and whole numbers as being on an equal footing. Unit fractions are fractions with 1 in the numerator: $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, $\frac{1}{5}$, etc. A unit fraction, say $\frac{1}{4}$, of some quantity, is another quantity, of which it takes 4 copies to make the original quantity. So, $\frac{1}{4}$ of a foot would be 3 inches; $\frac{1}{4}$ of an hour would be 15 minutes; $\frac{1}{4}$ of a quart would be one cup. This approach gets students thinking of fractions as numbers that express quantity relationships, rather than "so many out of so many," an approach that leaves many not even thinking of fractions as numbers, but as two juxtaposed numbers.

Three of the units deal with fractions. All use the approach through unit fractions, and make substantial use of two models for fractions that were discussed in the seminar: number line models and area (aka "cornbread" or "brownie pan") models. Josephine Carreno develops her unit for fourth graders who are still getting used to fractions, and presents them with many different models. Patricia Lee's unit is for fifth graders who will need to study fractions intensively to stay in the hunt with mathematics. She emphasizes the number line because it is a comprehensive model that is especially good at conveying the idea that fractions belong to one overall system, and that any two of them can be compared for size. Rajendra Jaini's unit is for his chemistry students who need to increase their facility with fractions in order to deal with stoichiometry and other aspects of chemistry.

The topic of place value is represented by Torriann Kennedy's unit for her second grade class. She emphasizes role of the base ten units (1, 10, 100) in expressing 2- and 3-digit numbers and in addition and subtraction. Ann Agostinelli and Marissa Brown have produced units dealing with algebra. Ann's unit focuses on introducing symbolic expressions in ways that help students make sense out of the new language known as algebra. Marissa's unit is built around understanding linear functions from multiple points of view – from real-world contexts or scenarios, from tables, from graphs, and from symbolic equations. Key to connecting tables with graphs is the idea of *rate of change*, and its geometric analog, *slope*. A major take-away for her students is that an algebraic relationship is linear if and only if the associated function has constant rate of change if and only if the associated graph is a straight line.

Finally, Nancy Rudolph's unit stretches the boundaries of the seminar. She has written a unit to help her pre-calculus students better grasp the idea of inverse function. In so doing, she must sharpen their understanding of the formal structure of functions.

Roger E. Howe

Synopses of the Curriculum Units

2014.05.01

[Practice Standards = Perfect Problem Solvers](#), by Torriann Kennedy

Numbers can be represented in so many ways! Students (and their parents) are constantly complaining they "don't like math" or "can't do math." In order to make math more meaningful and simple for students to understand they need to learn how to change large numbers or large problems into simple parts, their pieces. This curriculum unit, written at Yale University in Summer 2014, describes the sequence of how students can break numbers into their pieces and use those pieces to solve complex problems. The sequence described in the unit includes students becoming fluent with adding and subtracting numbers and building a number sense to ten; how to use ten to describe the "teen" numbers; how to expand 2-digit and 3-digit numbers into their pieces (and although this unit is being written for 2nd graders, the foundation can be applied with larger numbers for students in higher grades or with smaller numbers for students in K-1); and how to use the pieces to solve addition and subtraction word problems both with and without regrouping situations.

This curriculum unit will be taught to 2nd grade students and provide a foundation for professional development for other teachers.

(Developed for Elementary Mathematics, grade 2; recommended for Elementary Mathematics, grades K-4)

2014.05.02

[Fractions Aren't So Scary! Using the Unit Fraction to Ease the Fear](#), by Josephine Carreno

This mathematics unit, created with the Common Core Mathematical Practice Standards in mind, is designed for students who have a limited conceptual understanding of fractions, particularly fourth grade students. The idea that a fraction is a real number, like a whole number, is foreign to many students. This unit will challenge the perspective students have that a fraction is made up and does not exist as a real number. We as teachers tend to focus on the procedural aspect instead of conceptual aspects when teaching fractions. While the procedural aspects of computation are important, the conceptual understanding should come first. The introduction of the unit fraction along with two types of models to illustrate those fractions hopes to create a conceptual shift of this understanding.

Students will become familiar with how to create area models and linear models through different activities. Students will then apply their new knowledge of the unit fraction to

adding, subtracting, comparing, locating on a number ray, and creating equivalent fractions through the use of those models.

(Developed for Mathematics, grade 4; recommended for Mathematics, grades 3-6)

2014.05.03

[Defending a Fractions Position](#), by Patricia Lee

The unit, Defending a Fractions Position, was inspired by a group of students, who are full of energy, highly motivated, but have had personal and academic struggles in various stages of their lives. The goal of the unit is to demonstrate how powerful concrete tools are in developing abstract ideas. It begins with building background knowledge in ways students see or connect with fractions on a daily basis. Next, the unit examines two powerful tools: the area model, also known to some as the brownie pan, and a linear model, the number line. Through the use of the area model and the number line the unit addresses the concept of unit fractions, and through them, general fractions. These models are used to develop the student's conceptual understanding. The unit works through a series of concepts and strategies from identify fractions on a number line to comparing fractions to benchmarks of zero, half and one whole. It also addresses additional concepts of ordering, adding and subtracting fractions. Finally, the unit provides activities that use concrete representations to promote student conceptual understanding.

(Developed for Mathematics, grades 4-5; recommended for Mathematics, grades 4-5)

2014.05.04

[Protect My House: Developing a Family Over the Counter Drug Dosage Chart](#), by Rajendra Jaini

This unit was designed to be taught to high school chemistry students at the beginning of the school year. It has an overarching goal to fill in core gaps in students' mathematical knowledge. Students will create a poster for their household that will have a list of over the counter drugs that their family uses, along with the correct calculated dosages for each of their family members. By having students create a product (poster) that directly relates to their family's well-being, I hope to capture their buy-in regarding why they need to learn math skills that apply to life; these are, in fact, the same skills required to succeed in chemistry. While this unit lays the foundational framework for stoichiometry, the emphasis of the unit is on the development of mathematical concepts and practices of arithmetic, fractions, and proportional relationships. As such, this unit can be used in any of the high school math class sequences including pre-algebra, algebra I, geometry, and algebra II. By focusing on teaching students how to read, interpret, and mathematically manipulate information from OTC drug labels, the end product will not only be

applicable for the students, but will be a great starting point for many of the essential stoichiometric conversions that will be necessary in general chemistry.

(Developed for Chemistry, grades 10-12, and AP Chemistry, grades 11-12; recommended for Chemistry, grades 10-12; PreAlgebra and Algebra I, grades 8-10; and Algebra II, grades 9-12)

2014.05.05

Developing Mathematical Minds – Learning Fractions Through Career and Technical, by Minerva Jackson

The unit will begin very basic, using appropriate fraction strategies (strips) according to the "build it, draw it and write it" method as recommended in Singapore Math. When students achieve the appropriate mastery, the teacher can begin adding area, set and linear models. Instruction will take into account Howard Gardner's theory of learning styles, in order to reach as many students as possible. Gardner's three general approaches to learning include visual, auditory, and kinesthetic. Student will also use manipulatives to build their understanding of fractions. The end goal will be to blend the separate topics into a unified knowledge of fractions and to apply this to career and technical education math. This lesson is designed to meet the need of students who possess general and special education needs. I have spent a great deal of time developing this lesson. My goal is to design a curriculum unit that would be easy for the teachers to deliver and comprehensible for all students. Adding the career and technical component to the curriculum unit will immediately grab the attention of the student because fractions are relatable in every field of study. I always have group games available for lessons which are taught. The games can be played during centers or at the teacher station. Playing games allows for learning through play and motivates the students to grow socially, which is vital to the student with special needs or social issues. Remember to introduce fractions with enthusiasm and to fun when teaching fractions.

(Developed for Mathematics, grades 6-8; recommended for Mathematics 6, grade 6; Mathematics 7, grade 7; Mathematics 8-Pre Algebra, grade 8; and Mathematics - General, grades 3-5)

2014.05.06

Fearless Problem Solvers Can "Express" Themselves Mathematically, by Anne Agostinelli

My goal in this unit is to build a strong foundation for students to explore and understand algebraic expressions in a logical progression based on their prior knowledge. It is also my goal for them to apply their understandings to investigate the mathematics behind topics that matter to them. The core of the unit will be centered on developing strong, fearless problem solvers who understand shortcuts to become experts. Through focused

problem sets designed to gradually extend subtopics of expressions, students will construct meaning about the properties of numbers and variables as we discover how these things work together in algebra. By reordering topics to present a logical progression of ideas, students' learning will be scaffolded to prevent burnout and promote the Standards for Mathematical Practice in the CCSS-M. Sense-making, tinkering, and developing problem solving strategies and skills will serve as the core of our class discussion as students define algebra within their own contexts to apply in a culminating project where they investigate issues that are important to them and apply their algebraic reasoning and skills to come up with viable solutions to share with our school community.

(Developed for Algebra I, grade 8; recommended for Algebra I, grades 8-9, and Pre-Algebra, grades 6-7)

2014.05.07

[The FAL of Linear Relationships: Simple and Complex Word Problem Scenarios with Two Variables](#), by Marissa Brown

This curriculum unit will require students to read word problem scenarios involving linear relationships, and determine the relationship between independent (x) and dependent (y) variables. The problems will gradually increase in complexity as the unit progresses. Class discussions and related assignments will help lead to interpretation of a rate of change in relation to the slope of a line in a graph describing the scenario. Students will progress to recognizing rate of change in everyday situations and will eventually be able to interpret that rate of change using multiple forms: word problem scenarios, tables of values, graphs, and linear equations in slope-intercept form. Emphasis will be placed on understanding the relation between dependent and independent variables for linear functions.

(Developed for Common Core State Standards Integrated Mathematics I (CCSS Math 1), grades 9-10; recommended for Common Core Mathematics for Middle School, grades 7-8; Summer Bridge Programs for Incoming Ninth Graders, grades 8-9; and Common Core Mathematics - Traditional Algebra I, grades 9-10)

2014.05.08

[Using Math Practice Standards to Understand Functions and Their Inverses](#), by Nancy Rudolph

This curriculum unit provides meaningful instruction in the CCSS-M Content Domain of High School Functions while implementing the Standards for Mathematical Practice. I am writing it for my precalculus students, but much of it will apply to any algebra course. This unit was organized by first creating a "Lesson Tree," which our seminar leader, Roger Howe, describes as a progression of lessons "whose coherence and connectedness

promote the Practice Standards." The lessons are grouped into three major sections: "What Exactly *Is* a Function?", "Making New Functions From Old", and "All About Inverse Functions." My goal is to expand students' definition of a function, emphasizing domain and range. Students will learn function operations, including composition, an operation in which it is critical to understand domain and range to be able to recognize when composition is undefined for all values of the independent variable. Students will study function transformations as composition. Finally, students will learn the requirements of, and the process for finding inverses of functions. Again, students must be aware of domains and ranges to understand when a function is invertible and, if it is not, how to restrict its domain so that it is.

(Developed for Mathematics - Pre-Calculus and Mathematics - Trigonometry [transition course], grades 11-12; recommended for Pre-Calculus, 10-12, and Algebra I [parts of unit] and Algebra II , grades 9-12)

VI. Microbes Rule!

Introduction

Microbes, especially bacteria and viruses, dominate our planet. These microscopic creatures evolved billions of years before other organisms, and changed the oxygen composition in the atmosphere, making evolution of other life forms possible. Microbes are still vital players in the ecosystem, helping to regulate global photosynthesis levels, and contributing to earth's water cycle. It is increasingly apparent that the microbes associated with our bodies – the human microbiome that outnumbers our own cells 10 to 1 – impact your health in amazing ways, such as allowing you to maintain a healthy immune system and perhaps even affecting traits like your body weight. Microbes can invade the genomes of other organisms too; the Human Genome Project revealed that virus-derived genes comprise perhaps 10 percent or more of the human genome. The negative impact of some microbes on our health and economy is also dramatic, due to their huge disease toll in humans and in domesticated plants and animals. Microbial diseases can be devastating, causing extreme morbidity and mortality that have literally changed the course of human history. However, scientists and engineers have discovered that microbes can be harnessed in useful ways to solve many of our most difficult problems. Long ago, humans "domesticated" microbes for production of foods, such as yogurt, cheese, bread, and alcoholic beverages. More recently, we have used beneficial microbes and their naturally and artificially-engineered products to exert warfare (biocontrol) against harmful microbes that would otherwise devastate our food supply, thus protecting multi-billion-dollar food industries from collapse. In addition, microbes are being developed to treat deadly diseases of humans, such as auto-immune disorders and cancers. There is even the possibility that microbes will help solve society's energy problems associated with our ever-expanding population size, through creation of biofuels and even longer-life batteries. Microbes rule the planet, affecting our lives for better and for worse. This seminar explored the fascinating world of microbiology, and included biology and chemistry teachers of all grade levels, who used the subject matter to enrich their classroom units on a wide variety of biology and chemistry topics.

The resulting units were diverse, reflecting the varied interests and backgrounds of the Fellows. Phil Carver develops an integrated science unit for middle school students, where microbes and their fascinating traits are used to help illustrate the importance of microbes in a wide variety of science topics, ranging from human biology to ocean ecosystems. Troy Holiday's unit takes high school students on a journey to understand the longstanding war between humans and viruses, emphasizing how this evolutionary "arms race" has affected the biology of both humans and viruses. Maria Orton's unit merges high school chemistry and biology, explaining the downside of humans living in modern ultraclean environments and how this explains the rise in allergies, and drawing parallels between atoms that rearrange in a chemical reaction and microbe-immune cell interactions that lead to allergic responses. Valerie Schwarz's unit emphasizes exploration

of plant-microbe interactions by elementary school students, explaining how microbes are essential for plant health and the overall health of soil ecosystems. Arcadia Sloan's unit for high school students emphasizes the impact of infamous microbes, especially bubonic plague bacteria and smallpox virus, in shaping the course of human history, including changes in medical treatments, farming practices and even religious beliefs. Jolene Smith's unit is designed for fifth graders, concerning the historical impact of tuberculosis and influenza diseases on Native American populations, and how microbes challenge the ability to maintain the Circle of Life: the daily living of cultural practices and maintenance of good health. Vanessa Vitug's unit engages high school students to understand how both beneficial and harmful microbes interact with the integumentary (skin) system, and that skin provides an essential barrier between humans and the pathogenic microbes that can infect us. Kathleen Tysiak's unit for high school students examines the essential role of the human immune system in combating disease pathogens, the continued difficulty of developing drugs that target HIV, and the future of the human species in our ongoing battle against disease agents.

Paul E. Turner

Synopses of the Curriculum Units

2014.06.01

[Microbes Rule the School and the Entire Planet](#), by Phil Carver

This curriculum unit includes a brief background on microbes, the human microbiome and the interactions of microbes with humans and the entire planet. Microbes really do rule the planet, as they contribute to our climate, the composition of our atmosphere, the digestion of our food and even our human genome. I teach an integrated 8th grade science class which covers just about all of the science disciplines. This unit is a five day unit which can be dispersed throughout the year, or can be used for a testing review at the end of the year. There are five activities described in detail, along with teaching strategies and methods. All my activities include reading, observation, and analytical writing. An annotated bibliography and instructions on how to implement a Socratic seminar are included. I incorporated the Socratic seminar because I wanted to provide this as a strategy about how to emphasize the microbe unit. I teach a diverse population of students in a high-needs school and I believe this unit will help assist teachers and students to make connections with topics such as probiotics, infectious diseases, and the human microbiome.

(Developed for Infectious Diseases, Microbiology, Evolution, Biotechnology Careers, Ecology, and Food and Energy, grade 8; recommended for Integrated Science, grade 8)

2014.06.02

[This Means War! The Battle of Humans and Viruses](#), by Troy Holiday

My unit is on the evolutionary relationship between humans and viruses. Since the beginning of our existence, humans have fought off virus infections, but also sometimes succumbed to virulent virus diseases. The same could be said for the evolution of viruses, which have both won and lost in their interactions with humans. This ongoing relationship, which has been described as an "Arms Race", has caused both sides to experience devastating mortality rates. During my unit, we will investigate the history of the relationship between humans and viruses, and its impact on our world. After investigating past human-virus relationships, we will explore the modern day battles with viruses taking place in human populations all over the world.

The more virulent, or deadly viruses will be the focus of much of this unit. Virulent viruses were chosen because, in general, my students are more familiar with their impact on humanity. We will then expand our knowledge of viruses by identifying the different qualities of viruses, which will in turn, help the students to understand the processes that have shaped the evolution of both humans and viruses. The unit will culminate with students using their understanding of human-virus relationships to predict possible outcomes of this relationship in the future.

(Developed for Biology, grades 10-12; recommended for Microbiology, grades 10-12, and Evolution, grades 9-12)

2014.06.03**The magic of microbes may save our lives!, by Maria Orton**

This unit was written for high school chemistry classes in an urban setting in order to tie Biology and Chemistry together. This unit also addresses both the Common Core Standards and the Next Generation Science Standards. The law of conservation of matter tells us that matter cannot be created or destroyed but that it rearranges the pieces we start with to get a new configuration using every single one of our original pieces. The hygiene hypothesis tells us that the reason we get sick is because we live in a world that is too clean. Since our immune systems do not train as hard as they did in our ancestors, thanks to discoveries like antibiotics and vaccines, our immune systems tend to overreact and attack harmless microscopic objects like pollen and pet dander resulting in allergies. This unit not only shows how microbes can cause disease and inflammation but also identifies how integral they are to our own survival. In addition it also shows the parallel between how atoms get rearranged in a chemical reaction to how microbes interact within our bodies to produce an allergic reaction or an asthma attack. Students will identify the problem presented, analyze all possible solutions in order to determine which solution is the best choice, and then practice extending their analytical skills to identify what new problems will arise as a result of the solution chosen.

(Developed for Conceptual Chemistry and Scholars Chemistry, grade 10; recommended for Chemistry/Conceptual Chemistry, grade 10, and Advanced Biology, grades 9 and 11)

2014.06.04**A Gardenful of Microbes, by Valerie Schwarz**

A Gardenful of Microbes is designed to teach students the benefits of microbes in the soil. Students will learn about the millions of invisible microorganisms that work together with plants. As these organisms do their work, the quality of the soil improves. Students will learn about ecosystems, food webs, biodiversity, natural resources, and how small changes have a great impact on the soil food web. The unit also teaches the positive and negative human impacts on the soil and living organisms. Students will learn ways to conserve the environment naturally, while planting and monitoring in their school gardens. Students will investigate the types of organisms living in the soil by conducting a census to determine the biodiversity. A Berlese funnel will be constructed to filter out smaller organisms for observation. The highlight will be exploring the symbiotic relationship that exists between termites and protozoa. Students will extract protozoa from the guts of termites and view them through a microscope. The activities could easily be altered to teach ecosystems, conservation, and natural resources anywhere in the world. The target audience is a fourth grade science class, but it could be adapted for use with middle school science students.

(Developed for Science, grade 4; recommended for Science, grades 5-8)

2014.06.05

Microbes as a Driving Force of Change, by Arcadia Teel

Often in AP Biology, there are few connections made between topics so students are unable to understand the big picture. This unit, which is suitable for biology and history classes, connects two infamous microbes, bubonic plague bacteria and smallpox virus, to their effects on human history. The bubonic plague is traced from one of its earliest mentions in 1347 in Kaffa, a port city on the Black Sea, along the trade routes of the day through the end of the Black Death in Europe in 1352. The mode of transmission and the disease process are discussed as well as the impacts on society after the plague. Impacts mentioned include changes in the university system, approaches to medicine, farming methods, and changes in religious beliefs. The history of the smallpox virus is also traced from its first interactions with humans to its impact on native populations in the New World and later on Europeans in the 17th and 18th centuries. The developments of variolation by 18th century doctors and the work of vaccine pioneer Edward Jenner in the 1800s are also discussed. This compact unit takes into consideration the evaluation requirements used in an International Baccalaureate Program and includes the use of a Socratic seminar to guide students to solve problems proposed by the instructor.

(Developed for AP Biology, grades 11-12; recommended for Biology, grade 9; World History, grades 10-12; and U. S. History, grades 9-12)

2014.06.06

Microbiome within the Circle of Life, by Jolene Smith

The circle is a common diagram American Indian cultures use to identify their relationship with the natural path. The Diné culture and philosophy have a circle path or sun path. We use the Circle of Life path to stay in balance and not stray off the path which is known as *hozho*. Our children are not using the circle and prefer the Western society's linear way of living and thinking. In classrooms and schools, Diné educators who are administrators and teachers need to teach our children the Circle path because it is within our culture. The subject of microbiome with the Circle of Life is a way to connect to our children because it incorporates how to live with self-respect, reverence, balance, harmony, beauty, power, and wisdom. We need to teach our children so they learn and use the sun path to understand their past, to reflect on their present, and to guide their future.

The unit will cover the Circle of Life, the history of the 1918 influenza pandemic, and how it affected the Diné people, and the spread of the bacterial disease tuberculosis on the Navajo reservation. I will introduce my unit on a chart paper explaining the concept of the circle path in living a long life. The learning activities are interviewing a grandparent and creating a book about any of the topics the students learned. Other

activities are using a microscope to view cells on ready-made slides and a nurse or community health worker presenting information about tuberculosis.

(Developed for Integrated Science and Diné Culture, grade 5; recommended for Science and Diné Culture, grades 4-5)

2014.06.07

Making connections in science: viruses and the immune system, by Kathleen Tysiak

This unit is developed for an AP Biology class to use readings, models, and case studies to develop their literacy and scientific thinking skills while being immersed in high-level content. For example, complex discussions about vaccine development will help students demonstrate a sound understanding of viruses and the human immune system. While a number of examples will be used, an emphasis will be placed on Human Immunodeficiency Virus (HIV) and the struggle to produce a viable vaccine. More specifically, students will contrast innate and adaptive immunity, while learning the names and roles of various immune cells. They will also compare and contrast various forms of viruses, including bacteriophages, to define common structures. With a number of viruses, they will investigate the host-pathogen arms race that contributes to evolution and will make connections to overarching themes in Biology.

Students will learn about the history of vaccines through articles about smallpox variolation and vaccine development. Using historical context, this will foster discussions of ethical considerations and scientific advancement. Finally, students will explicitly study the structure and life cycle of HIV. In doing so, they will learn about why some individuals are naturally immune or have increased defenses against HIV, and how the virus's high recombination rates, high mutation rates, and ability to evade the immune system make it so difficult to develop a vaccine. The structure of the unit is developed in a way to help students form connections to big ideas in Biology while practicing complex analytical skills and discussing highly relevant material in a way to cover required material from the AP Biology Curriculum Framework.

(Developed for AP Biology, grades 11-12; recommended for AP Biology, grades 10-12; and Biology and Anatomy and Physiology, grades 11-12)

2014.06.08

It'll Make Your Skin Crawl – Microbes and Skin Physiology, by Vanessa Vitug

Knowing the diversity of microbes that call the skin home is enough to make even the most hardened microbiologist cringe. Reading internet articles and social media posts, the public has realized that microbes really are not invisible. In fact, beneficial and pathogenic microbes are all around us. The study of the Integumentary System cannot be taught without presenting students the idea of inter-relatedness, varied host-microbe

interactions, and pathogenesis. Physiology students at Mt. Pleasant High School struggle with critical reading. Often cries of "this is hard" or "I can't read this" are uttered when a student encounters a difficult passage or non-fiction text. Using the microbes and skin anatomy and physiology as an overarching theme, this unit encourages students to engage in difficult text in order to make science meaningful and tangible. Next Generation Science Standards challenges students and teachers to re-think how they teach their content. Thus, this unit incorporates multiple disciplines of science, with English, and a little history, not only meeting multiple standards, but promoting creative thinking rather than memorization. My unit allows students to study fundamentals of skin physiology, but with a microbial focus on the skin microbiome and its inhabitants.

(Developed for Anatomy and Physiology, grade 11-12; recommended for Anatomy and Physiology, grades 11-12, and Health, grades 9-12)