

Curriculum Units by
Fellows of the
Yale-New Haven Teachers Institute
Guide
2016

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Preface

In February 2016, thirty-nine teachers from eighteen New Haven Public Schools became Fellows of the Yale-New Haven Teachers Institute® to deepen their knowledge of the subjects they teach and to develop new curricular material to engage and educate the students in their school courses. Founded in 1978, the Institute is a partnership of Yale University and the New Haven Public Schools, designed to strengthen teaching and improve learning of the humanities and STEM fields in our community's schools. Through the Institute, Yale faculty members and Public Schools teachers join in a collegial relationship. The Institute is also an interschool and interdisciplinary forum for teachers to work together.

The Teachers Institute has repeatedly received recognition as a pioneering model of university-school collaboration that integrates curriculum development with intellectual renewal for teachers. Between 1998 and 2003 it conducted a National Demonstration Project that showed the approach the Institute had taken for twenty years in New Haven could be tailored to establish similar university-school partnerships under different circumstances in other cities. Based on the success of that Project, in 2004 the Institute announced the Yale National Initiative to strengthen teaching in public schools®, a long-term endeavor to influence public policy on teacher professional development, in part by establishing in states around the country exemplary Teachers Institutes following the approach developed in New Haven and implemented elsewhere. 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.

Teachers had primary responsibility for identifying the subjects on which the Institute would offer seminars in 2016. Between October and December 2015, teachers who served as Institute Representatives canvassed their colleagues in each New Haven public school to determine the subjects they wanted the Institute to address. The Institute then circulated descriptions of seminars that encompassed most teachers' interests. In applying to the Institute, teachers described unit topics on which they proposed to work and the relationship of those topics both to Institute seminars and to courses they teach. Their principals verified that their unit topics were consistent with district academic standards and significant for school curricula and plans, and that they would be assigned courses or grade levels in which to teach their units during the following school year.

Through this process four seminars were organized, corresponding to the principal themes that emerged during the canvassing. The seminars were:

- “Shakespeare and the Scenes of Instruction,” led by Leslie Brisman, Karl Young Professor of English;
- “Literature and Identity,” led by Jill Campbell, Professor of English;

- “Citizenship and American Democracy,” led by Heather K. Gerken, J. Skelly Wright Professor of Law; and
- “Physical Science and Physical Chemistry,” led by Charles A. Schmuttenmaer, Professor of Chemistry.

Between March and July, Fellows participated in seminar meetings, studied the seminar subject and their unit topics, and attended a series of talks by Yale faculty members.

The curriculum units Fellows wrote are their own; they are presented in four volumes, one for each seminar. The units, which were written in stages over time, contain five elements: content objectives, teaching strategies, examples of classroom activities, lists of resources for teachers and students, and an appendix on the academic standards the unit implements. They are intended primarily for use by Institute Fellows and their colleagues who teach in New Haven. They are disseminated on Web sites at teachersinstitute.yale.edu and teachers.yale.edu. We encourage teachers who use the units to submit comments at teachers.yale.edu.

This *Guide* to the 2016 units contains introductions by the Yale faculty members who led the seminars, followed by synopses written by the authors of the individual units. The Fellows indicate the courses and grade levels for which they developed their units and other places in the school curriculum where the units may be applicable. Copies of the units are deposited in New Haven schools and are online at teachersinstitute.yale.edu. A list of the 220 volumes of units the Institute has published between 1978 and 2016 appears in the back of this *Guide*.

The Yale-New Haven Teachers Institute is a permanently endowed academic unit of Yale University. The New Haven Public Schools, Yale's partner in the Institute, has supported the program annually since its inception.

James R. Vivian

New Haven
August 2016

I. Shakespeare and the Scenes of Instruction

Introduction

All drama depends, for our understanding of the situation on stage, on one character explaining things to another, a “scene of instruction” to which we, the audience, are as it were auditors in the classroom. And almost all drama involves one or more scenes of recognition in which a character explains the awareness to which he or she has come—or surprises another with an awareness that comes as we watch or read, as an unexpected revelation. Shakespeare seems to have been particularly interested in exploring the dynamics of these scenes of instruction, both the scenes of “knowledge” instruction that often get a plot going and the scenes of “wisdom” instruction that bring a journey to its end. Shakespeare variously experiments with where these scenes of instruction are placed, how many “classes” we can attend without a recess, the difference between self-revelation and revelation to others, the comic and tragic consequences of instruction that is intentionally or unintentionally wrong, and the breathtaking ways in which teacher and student change places or in which the most important lesson turns out to be learning to challenge the authority of the figure previously assumed to be the teacher.

This seminar was conceived as a way of getting teachers and students more deeply involved with the art and wisdom of Shakespeare, so concentrated in these scenes—and as a way of exploring how attention to scenes of instruction within literature might affect our understanding of and excitement about the scenes of instruction in which teachers and students are actually engaged. Consider briefly three opening scenes of instruction in Shakespeare’s major tragedies:

The first lines of *King Lear* are Kent’s question, “I thought the King had more affected the Duke of Albany than Cornwall.” We are being caught up quickly with the history of the king’s private emotions and public displays of preference, and we are being led quickly into Gloucester’s disastrous public display of sexual and parental preferences. But we are also being led immediately into a real “seminar topic,” a social and ethical question that far transcends the local matters of knowledge on which we need to get caught up and that holds us till the very last lines of the play: “The weight of this sad time we must obey, / Speak what we feel, not what we ought to say.” What should be the relationship between what we feel and what we say? To what extent does mature social behavior depend on repressing “what we feel” and publicly saying only “what we ought to say”? Do Edgar’s last lines (perhaps, as Q1 gives it, Albany’s last lines, so that the king’s more affecting Albany would have this last reaffirmation!) suggest that speaking what we feel is what we should have learned to do in the course of this play? Or is “speak what we feel” a rare opportunity, something Cordelia got wrong but which we have, in the end, earned—at least for this overwhelmingly special moment as the curtain is about to descend? When I myself was a high school student, passing the Regents exam in economics depended on spouting the “free trade” orthodoxy that everyone benefits if

Italy, which can make shoes more cheaply than England, can export shoes to England without tariff while England can sell its tea without tariff to Italy. I remember questioning whether such free trade policies would not mean a race to the bottom, manufacturing going to the country where labor laws are weakest and workers could be exploited for the most hours at the lowest wages. What about fair trade, abolishing tariffs only when fair labor laws are shared between the partner states? My wise English teacher, to whom I complained, misquoted King Lear to make his practical point: “The weight of this sad time we must obey, / Speak not what we feel but what we ought to say.” If you wish to do well on the standardized exam, you must spout what you “ought,” not what you think! I imagine that every high school student encounters some version of this sad wisdom, both in the classroom and in social life.

The opening lines of *Hamlet* ostensibly suggest a “scene of instruction” in which one castle guard exchanges identity information with another. But it is hard to read *Hamlet* without realizing, whether proleptically or retrospectively, that “Who’s there?” is a most pressing identity question throughout this play, and the circumstances and extent of “stand and unfold yourself” are a matter to brood about in scene after scene. If we jump ahead to Hamlet’s last words, “The rest is silence,” we may here again wonder if those words apply only to Hamlet at the moment of death or if the question when silence is more appropriate than standing and unfolding oneself is a question in scene after scene—as it is in all of our lives, perhaps especially hauntingly in the lives of adolescent students. *Hamlet* makes us question again and again whether “stand and unfold yourself” is something we need to learn to do only in soliloquy—or whether the forms of self deception in Shakespeare’s soliloquies (and our students’ diaries or electronic postings) make it impossible to distinguish rhetoric from self-revelation to the self.

The opening lines of *Othello* introduce us to the nightmare world of bad pedagogy—Iago as “teacher” out to mislead Roderigo—and then Othello. Roderigo’s opening words, “Never tell me?” mean, in modern English, “You don’t say!” But because that expression is so common, and so commonly taken as a dead metaphor for “That’s incredible!”, we are alerted both to what Iago *does* say and how much saying and misleading he does right up to his last words: “What you know, you know. / From this time forth I never will speak word.” There is a bitter truth to the fact that he is so incapable of speaking true that the best he can do is never more to speak word. But Roderigo’s complaint—not just that Desdemona is married but that Iago, of all people, should be the one to convey this news, alerts us to the sad but necessary fact that it matters not just what we hear but what we hear from whom. At a time when budget cuts and moves to avoid conflict with parents have led to the disastrous abolition of sex education in many schools, it may be worth thinking of Iago’s information about Desdemona as a synecdoche for sex education generally and the consequences of not just “getting it wrong” but “getting it” from the wrong person. Attention to this aspect of scenes of instruction cannot be far from the mind of a teacher or student, and indeed a student of any age.

Though our approach could have taken us to any of Shakespeare's plays, and though the actual syllabus of plays we discussed in seminar was determined by the choice of the seminar participants, there are a number of plays that could not be omitted from this enterprise both for themselves and for the theoretical questions about scenes of instruction that they raise so urgently. The first of these is *Hamlet*, frequently taught in the high schools, and centering around two very problematic scenes of instruction. Hamlet tells us that the play is the thing wherein he'll catch the conscience of the king, though he seems far more preoccupied with catching the conscience of the queen. Is Hamlet like a teacher who has had to fill out a lesson plan but has (or discovers? or hides from himself?) the real lesson plan (discovering his mother's involvement in the murder or discovering to her the way in which marrying her husband's brother is, emotionally, tantamount to murder)? And does catching the conscience of the king mean learning for sure whether Claudius has murdered Hamlet senior (informational knowledge, with Hamlet and Horatio as the students) or striking the conscience of the king, getting the king to realize and expose his own guilt (the king as "student" with far more than information as the goal of the "lesson plan")? These are questions that have to come up in discussions of the play, but they are also questions of wide resonance, affecting how we trust or do not trust characters and narrative voices in literature, how we trust or suspect the voices of those we meet and think we know.

The second great scene of instruction in *Hamlet* occurs in Gertrude's closet, where despite Gertrude's and Polonius' sense of the young man needing to be taught something about decorum and respect, Hamlet sets out to upset the scene of instruction and teach his mother something about her own soul. His "lesson plan" is most peculiar, though, and the idea that she might come to a superior moral position from examining the portraits of the two men in her life leads to profound and profoundly disturbing questions about how it is we do change and grow in matters of real humanity.

The other Shakespeare play most frequently taught in the schools and calling for careful consideration of the problematics of scenes of instruction is *Macbeth*—to which, at the Fellows' request, we also devoted two sessions. *Macbeth* presents some nightmare version of "teachers" in the witches and in Lady Macbeth. But it also contains, at its core, a scene of instruction between Malcolm and Macduff in which Malcolm ostensibly misrepresents himself in order to test the purity of Macduff's motives for asking Malcolm to lead the campaign against Macbeth. Though Macduff is so desperate for "anyone but Macbeth," to evoke a current political slogan, Macduff finally learns to lay aside deference to a figure teaching him such hideous things about himself and dismiss the authority of his "teacher": Is Malcolm, as he has represented himself, fit to govern? "Fit to govern! / No, not to live." This is one of several great moments in Shakespeare where the object of the scene of instruction is to have the student reach the point of being willing to dismiss the "teacher" utterly. And surely, among the most important questions students must learn to ponder is the question when to be deferential and when to revolt against the authority of teacher, parent, or boss.

One Shakespeare play not frequently taught in the schools but essential to our study of scenes of instruction is *The Merchant of Venice*: In Venice, Portia's attempt to persuade Shylock to mercy may be regarded as a nightmare version of instruction if we think of the difference between teaching a lesson and teaching a student. To the best of my knowledge, there is only one version of this play on film, Trevor Nunn's, in which Shylock seems genuinely moved by Portia's words and almost yields; in most film and stage versions (we sampled four of this scene in seminar), he is deaf to all pleas; the nightmare classroom may get darker if we think of Antonio's "mercy" as anything but—the horrific insistence on Shylock's forced conversion. In contrast, the elegant Belmont scene of instruction by which Bassanio is brought to understand what it takes to become "marriage-ready"—not a forced conversion but a true moral conversion from profiteer to one willing to "give and hazard all he has"—raises delicate but profound questions about the difference between a test and a piece of instruction, a hint and a persuasion, a directive and an inner reformation. In an era when many teachers worry if the increased percentage of their time in testing has abetted or interfered with instruction, the question whether Bassanio is helped unfairly (Portia or the musicians cheating on Bassanio's test) or led subtly (in a model of great teaching or self-instruction) extends beyond Shakespeare to the Shakespeare classroom and classrooms generally.

Our seminar also studied *Much Ado about Nothing*, *A Midsummer Night's Dream*, *Henry IV*, *Romeo and Juliet*, *As You Like It*, and *Measure for Measure*. At the request of the Fellows, we concluded with a session on Shakespeare sonnets that allowed us to approach some of the more dialogic of these great poems as scenes of instruction between one speaker and an implied auditor—and to think anew about lyric poetry generally as solitary singing or conversational or "classroom" communication. We concluded with meditation on the great classroom exercises of having students respond to a poem with a poem they write or—following the brilliant model of Helen Vendler—inventing the poem to which the poem being studied could be imagined to be a response.

Members of this seminar have one and all made "scenes of instruction" their own and done work far beyond the particulars of their own teaching situation—in grade level and subject matter. Christine Elmore's unit on the casket choice in *The Merchant of Venice* is a model of how to do more interesting work with literature, work that goes beyond reading comprehension to comprehension of some fundamental aspects of our social being. There are a few, a very few great children's books (like Julia Donaldson's *The Spiffiest Giant in Town*) that simultaneously introduce both good fun and the morality of self-sacrifice. Her unit on *The Merchant of Venice* should likewise win the hearts and minds of teachers and students in a range of grades from first grade up. Briana Belling-Dawson, though herself a drama teacher rather than a reading teacher in the primary grades, does exemplary work in her unit of showing how attention to transgressive moments of speech can capture the literary imagination of young people while simultaneously engaging them in more thoughtful consideration of their own transgressive and potentially hurtful speech. Her unit might interest anyone presenting

Shakespeare to students of any grade. But far more important, it raises questions about how to engage the relationship between what happens on the page and what happens in students' own lives when words hurt and when the unintended (or maliciously intended) speech acts require careful undoing. Mary-Doris Devlin, a teacher of visual arts, has written a unit that should be of special interest to anyone working in the visual arts who is interested in ways of supporting literature teachers. But more important, she helps us to think about representation generally—about when to show and when not to show what someone is thinking. The question that comes up relentlessly in the primary grades about illustrations vs. opportunities for children to illustrate is the same question that Rupert Goold faced in deciding what to put on screen when Malcolm is describing his (feigned) unbridled lust to Macduff or when Kenneth Branagh decided to have Hamlet, contemplating the skull of Yorick, evoke on screen the visualization of the little boy delighting at the attentions of court-jester Yorick. These questions of representation form, in Mary-Doris Devlin's unit, a scene of instruction even for teachers whose medium is exclusively words.

The remaining four units might be thought of as more conventional uses of the classroom for literary study, but the particular interpretations of scenes of instruction in each of them are so special and so powerful that I think they should be of interest to teachers not even thinking about Shakespeare. Aron Meyer's unit on identity raises profound questions about the difference between playing roles, which adolescents and adults can change as we change our clothes, and changing ourselves, our identities, in fundamental ways. It is hard to imagine a question that could be more probing for anyone, but especially high school students. Marialuisa Sapienza's unit on gender identity in *Macbeth* simultaneously raises two crucial questions that create busy traffic on the bridge between what students read and who they are: What is the strength of social constructions of gender (and, by extension, social pressures of conformity generally)? And how do we distinguish a view taken by a character in a work of literature from the view of the author? Is the relation of character to author (say, Lady Macbeth's idea of masculinity to Shakespeare's ideas of masculinity) like the deceptive relationship of the roles we play to the identities we claim?

Robert Schwartz and Barbara Sasso offer curriculum units that depend on close and careful attention to one pedagogical "handle" that proves to be anything but a gimmick. Robert Schwartz's exploration of Shakespeare in terms of "tweetable" units allows for exciting opportunities to unpack memorable Shakespeare lines. More important, it raises fundamental questions for the study of Shakespeare, and fundamental questions for growing into maturity generally, about what is a private, what is a limited, and what is appropriately a broadly public communication. I doubt that anyone reading this unit will ever think about Shakespeare's soliloquies or students' Facetime posts in quite the same way again. Barbara Sasso's attention to the few stage directions that Shakespeare quartos and the folio have given us, and the many more stage directions that editors have

invented and that students could supply, turns into an extraordinarily engaging opportunity to let students “direct” their interpretations of literature—and their lives.

I want to thank all of my Fellows for their exciting work in the classroom and in their curriculum units. It has been a real privilege to be the student of each and every one of them, and I hope many reading their units will share my sense of excitement and delight.

Leslie Brisman

Curriculum Units

16.01.01

Character and Choice in Shakespeare’s *The Merchant of Venice*, by Christine A. Elmore

Readers, young and old, can learn about themselves by vicariously facing the conflicts, disappointments and triumphs lived out by the fascinating characters they encounter in literature. Shakespeare’s plays remain popular because they so evocatively and powerfully portray our human experience, as we live it today. That exposure to this mysterious, dynamic quality of life that allows us bravely to face conflicts and creatively learn from our mistakes is one of the most important lessons that we need to begin to teach our children.

Through the use of select children’s books and simplified versions of the well-known ‘three caskets scenes’ in the play, *The Merchant of Venice*, students will gain a familiarity with its fairy-tale-like storyline. The focus will be on the challenge that Portia’s suitors face in the context of this moral trial during which the suitors will have the rare opportunity to look beyond mere appearances in making their choices. But will they take a risk and do that? In these scenes we will look at how the choice of each of the suitors reflects his own character and decides his ultimate destiny.

This unit, divided into 3 sections, is interdisciplinary in scope and incorporates reading, writing, art and drama:

- 1: Pre-reading Activities
- 2: The Three Caskets Scenes
- 3: Post-reading Activities

Designed with first-graders in mind, this unit could easily be adapted for use in other primary and intermediate grades.

(Developed for Language Arts, grade 1; recommended for Language Arts, grades 1-5)

16.01.02

Breaking the Rules in Shakespeare, by Briana Lavonne Bellinger-Dawson

This unit will focus on the transgressive behavior of characters from some of Shakespeare’s most famous plays and how we can identify with those actions. This unit is designed to help students bridge the gap between Shakespearean literature and modern life. Many times we find ourselves saying the wrong thing to someone, something that might sound offensive; and even if we didn’t mean it, the next necessary step is to consider how we get out of that situation. In modern life, we create transgressive

behavior just as did Shakespeare's characters. The plays we will focus on in this unit are *Romeo and Juliet*, *Much Ado About Nothing*, and *Henry IV part 1*. Students will be asked to identify the transgressive behavior, to discuss the significance of who owns it, how he or she got into the situation, and how the scene might alternatively play out. Students will be asked to create parallel moments in contemporary contexts and to incorporate the Shakespeare line in their alternative contexts. This unit will suggest the use of vocabulary lists per each play, summaries of each story, character maps, as well as background information on the writer himself.

(Developed for Dramatic Arts, grades 5-8; recommended for Dramatic Arts/Theatre, English Literature, and Language Arts, grades 9-12)

16.01.03

Shakespeare: Scenes of Instruction and the Graphic Novel, by Mary-Doris E. Devlin

We will be studying *Macbeth* and how the Visual Arts teacher can help enhance a student's learning experience. The graphic novel form can help students interpret plot, character, and theme through its unique lens. This paper will examine both the purpose and the specifics of having students create their own graphic novel panels using Photoshop and Wacom (electronic drawing) tablets.

One area of focus will be inclusion of detail. Deciding what to leave out is just as important as deciding what to leave in. Sometimes the reader's imagination can conjure up an image that is far more powerful than any image an illustrator can create.

Students will also closely consider the importance of visual clues to the reader, asking key questions as they proceed. For example, how will a sense of mood and atmosphere be conveyed? The same scene with different shading and or use of lighting can appear dramatically different. Character expressions are another consideration: How will the scene convey emotions?

Students will complete the unit – *Four Scenes from Macbeth* – having improved their skills in both literary interpretation and artistic technique.

(Developed for Photoshop classes, grades 11-12; recommended for Visual Arts/Digital Arts, English Literature, and Shakespeare - *Macbeth*, grades 9-12)

16.01.04

Containing Multitudes: Role-Playing and Identity in Literature, by Aron Scott Meyer

This unit focuses on how characters' identities are constructed in text. When we read, how do we know that a character is acting or speaking according to his or her true nature?

When are those actions or speech the result of a role that has been assumed? Using Shakespeare's *Hamlet* as an anchor text, students will explore these questions at length in order to analyze the central character. This unit will allow students the opportunity to differentiate between an individual's (relatively) permanent identity and the various parts that same individual might play in various situations. As they read the play, students will constantly reevaluate Hamlet based on specific lines and interactions with other characters. Under what circumstances does the prince reveal himself truthfully, and why?

This study is particularly relevant to high school students, who often grapple with issues of identity and to reconcile actions and speech that may seem to contradict one's true nature. By closely examining the variety of ways in which Hamlet can be read as a character, students will develop an understanding of how to regard personality as a multifaceted quality.

Concurrently, students will conduct an investigation of a character in an independent reading book using the same framework. How does this character display his or her true nature in certain situations, and how does he or she assume temporary roles elsewhere? This independent study, along with the class-wide examination of *Hamlet*, will provide the foundation for students' performance tasks for this unit. Students will write a paper in which they explain the difference between role playing and establishment of true identity. Using evidence found in *Hamlet* and their chosen independent reading book, each student will conduct a deep analysis of how an individual may assume several roles to achieve a desired goal, while also maintaining a separate, stable identity.

(Developed for English, grade 9)

16.01.05

Macbeth: Gender and Gender Authority, by Marialuisa Sapienza

This unit studies how manliness or lack of manliness affects Macbeth. Shakespeare presents a very strong Lady Macbeth who is in control of a fearful and hesitant Macbeth. The supernatural power of the weird sisters lures Macbeth to believe he should be king, and he seems to succumb to the power of women that is evoked by their feminine presence. The differences between man and woman loom throughout the text. The sexual and gender differences, the masculine and the feminine, constantly cross the boundaries and prove ambiguous. The unit analyzes and discusses Macbeth's gender identity, and the authority it may have on Macbeth's ethics. The students also read excerpts from "The History of Sexuality" by Michele Foucault, excerpts from "Performative Acts and Gender Constitution" by Judith Butler, excerpts from "Sexual Transformation" by Gayle Rubin, and excerpts from "Female Masculinity" by Judith Halberstam. One goal of the unit is to make students understand, reflect about, discuss, and argue how Shakespeare sees gender, its influence on decision-making, and the reactions it might provoke. The other

goal is to help students question their own stereotypes about gender and facile generalizations and/or prejudices. The unit adheres to the new Common Core Standards.

(Developed for AP English Literature and Composition, grades 11-12, and English, grades 10-11; recommended for AP English Literature and Composition, grades 11-12, and English, grades 10-11)

16.01.06

Posting Daggers: A Twitter-Centric Approach to *Hamlet*, by Robert M. Schwartz

When teaching Shakespeare, we add to the modern problem of social media distraction the mission to convince students to not only read text, but to read something 400 hundred years old and in verse! So why not allow both worlds to meet? In this curricular unit, young learners are given the opportunity to explore their own world of modern communication while simultaneously analyzing the Bard, comparing the lines of *Hamlet* to how they communicate with each other. Students will explore and analyze Hamlet's many lines, whether they are meant as private meditations or public barbs, and translate that to modern modes of communication. Would Hamlet have used a public Tweet or a private "direct" message for any given sentiment? Who would he want to hear him ponder whether "to be or not to be," and how would that look on social media? Through exploration of key, succinct lines in the play that would hold up well in today's world of headlines, texting and Tweeting, students will delve into the character of Hamlet, his relationships with other key characters, and how words themselves – modern or centuries-old – can have a deep impact upon us, even in brief.

(Developed for English 4, grade 12; recommended for English, grades 11-12)

16.01.07**Struck to the Soul: Discovering Shakespeare by Directing, by Barbara Anne Sasso**

The quotation in the title of this unit is from the speech where Hamlet concludes that the only way for him to reveal something unspeakable is through the art of theater. This unit proposes that students, too, can discover the ineffable life lessons in Shakespeare by taking on the role of director: the one who sees things from above, who incarnates the setting and the actors, and the one who needs to understand the complex human problems Shakespeare's characters face. In this unit, students will provide stage directions that Shakespeare never wrote. The words are guidelines for what characters experience, but "the eye of man hath not heard, the ear of man hath not seen, man's hand is not able to taste, his tongue to conceive, nor his heart to report" what exactly it is that motivates characters to love, to hate, to commit suicide or indeed, to forgive each other. But the director will. Students will analyze characters, describe how particular lines should be delivered, and justify how staging, props and costumes might portray what words scripted by themselves do not. By doing so, students will understand the human motive and heartbeat beneath the iambic pentameter rhythms of Shakespeare.

(Developed for English 2, grade 10, and AP Literature and Composition, grades 11-12; recommended for English Language Arts, grades 9-12)

II. *Literature and Identity*

Introduction

‘As I read . . . I applied much personally to my own feelings and condition. I found myself similar, yet at the same time strangely unlike to the beings concerning whom I read . . . I sympathized with and partly understood them, but I was unformed in mind . . . What did this mean? Who was I? What was I? Whence did I come? What was my destination? These questions continually recurred, but I was unable to solve them.’

The plot events that allow the “monster” in Mary Shelley’s *Frankenstein* to find and read an epic poem, a novel, and a work of classical history are quite improbable, but the experience of reading he describes is familiar to many of us: recognizing his difference from the people around him, uncertain of both his origins and his future path, the creature searches intently for meaning and self-understanding in the books that have fallen into his hands. What he finds in his reading painfully intensifies his questions about himself as well as promising to cast some light upon them. Poignantly, this young reader reads entirely alone; he has no one with whom to share the urgent questions and reflections that his reading stirs, to guide his self-examination or to consider his reactions.

The curriculum units designed by Fellows in our seminar on “Literature and Identity” draw on the enduring power of books to prompt explorations of identity which Shelley powerfully evokes; in each case, their design also provides for the kind of guidance, dialogue, and sense of community in the reading process that Shelley’s creature so desperately lacks. While that creature lacks a reading community, one of the remarkable features of Shelley’s novel is that in the inmost portion of the novel’s layered structure, he is given a chance to tell his own story, to give voice to his own experiences, feelings, and sense of self. The units designed by seminar Fellows offer students opportunities to explore questions of identity through speaking and writing as well as reading, sponsoring their development of individual voice and their powers of story-telling. Collectively, these units affirm what Jessica Grande names “liber-acy”: the conviction that human powers of language and communication may blaze freeing paths forward and pose alternatives to violence as a means of self-expression.

In our shared readings for the seminar, ranging from *Frankenstein* (1818) to Claudia Rankine’s *Citizen* (2014), Gene Luen Yang’s *American Born Chinese* (2006), and Alison Bechdel’s *Fun Home* (2006), we found that literature in fact offers multiple approaches to identity: a means to reflect on and articulate what we already feel; a virtual community of people who are like us in one or another way, who have felt what we feel and expressed it openly; a window into the experiences of people very different from ourselves, across time and space; and models of the power of story-telling to make sense of individual lives and to find meaning in them, even in suffering, conflict, or confusion.

Throughout, we were mindful of the particular intensity and challenge of questions of identity for young people, who are continually involved in a process of ongoing identity formation, and of the complex and often fraught interplay of external features and internal experiences within the “identity” process.

In some of our readings and discussions, we attended closely to the broad, socially-recognized categories that contribute to the composition of individual identities: gender, race and ethnicity, class, able-bodiedness or disability, sexuality, religion, and geography (whether national region or city neighborhood). The social and political events of the year gave special urgency to these discussions; the daily news of racial strife and protest, mass incarceration, debates about religious difference, refugees, and undocumented immigrants, and the struggles of transgender people for acceptance entered into our discussions of our own classrooms, of our students, and of the works we read. Often our discussions moved among these levels, as we found links between literary treatments of identity and our own struggles to afford others their full due as individuals as well as to understand ourselves.

Several of the units developed by Fellows build on the intuition that developing and articulating a stronger sense of one’s own identity may also allow more empathy and acceptance of others, in all their differences from oneself. Mislal Aodom-Lake’s unit, “Embracing Identity through Children’s Literature,” uses three stories about the complexities of cross-cultural identity to encourage students both to consider and embrace the complications of their own multiple roots and to celebrate the diversity of their peers. Structured around the study of several characters from Sharon Flake’s *The Skin I’m In*, Alexandra Novak’s “The Confusion of Identity Exploration in Middle School” juxtaposes corollary texts with key passages from that novel, allowing students to conceptualize the connections and contradictions among characters’ circumstances, behaviors, role-playing, and emotional needs. The innovative clusters of literary and multi-media works in Cheryl A. Canino’s “Right, Wrong, and Along the Continuum . . . You” are designed to provide a repertoire of words and ideas that will help students express their often inchoate experiences of conflict, longing, and struggle. Rich Cuminale’s “Discovering Yourself in the Voices of Others: Exploring Literary Aspects of Constructing an Identity” resists easy notions of “relatability” in literary works by challenging students first to identify with characters quite different from themselves, and then to create a voice for such a character in a story of their own.

Like Frankenstein’s creature, disowned by his creator and excluded from society, the narrator of Walter Dean Myers’ *Monster*, the main text for Jessica Grande’s unit, has been labelled a “monster,” and his fate depends on whether the members of a jury can see him as more than that—as an individual, and as fully human. Engaging students in a creative array of individual and group activities, Grande’s unit provides them with opportunities to address those experiences and circumstances of their own lives that may have made them feel less than fully human, and to see themselves, and their relationships

to the world, in new ways. Jamie Garstka's unit builds out from Sherman Alexie's *Flight* to encourage special education students to reflect on and define their identities for themselves, while Eric Maroney's unit highlights the centrality of questions of identity and of race in Ralph Ellison's *Invisible Man* to engage "non-traditional" AP students in both the intellectual rigors and immediate relevance of analyzing a great literary text. Two music teachers in our seminar, Gillian Ann Greco and D. Scott Stewart, extended our seminar's focus on literature and identity to encompass the important role that musical expression plays in our experience and perception of identity as well; they offer units that beautifully combine the study of music with discussion of literary works for students of different ages. Finally, in "Cuba! Identity Revealed through Cultural Connections," Waltrina Kirkland-Mullins provides a model of student-generated research and hands-on engagement that could be adapted to the study of any nation or culture, countering stereotypes and media images through direct experience of music, dance, food, and personal witness. Her unit reminds us that identity is something continually *lived*, a full-body experience, residing in body, palate, ear, and mind.

Jill Campbell

Curriculum Units

16.02.01

Embracing Identity through Children’s Literature, by Mislal Andom-Lake

This unit was developed for middle school students but may be adapted for elementary or high school students. The unit is focused on language arts, social emotional and behavioral standards. The activities and lessons included in this unit explore themes of identity. Using multicultural children’s literature, this unit will encourage participants to have honest and courageous conversations regarding race, culture, and socio economic identity. The activities in this unit have been created to boost a sense of belonging and acceptance by breaking down stereotypes in order to build a positive school community. The unit includes hands on activities and celebrates individual as well as group identities.

The time frame for this unit is nine weeks. Included in this unit are lesson plans and reading lists for teachers and students. Different hands-on activities are also recommended.

(Developed for Language Arts, Social Emotional, grades 4-8; recommended for Language Arts and Social Studies, Elementary and High School grades)

16.02.02

Right, Wrong, and Along the Continuum...You, by Cheryl Ann Canino

Using a primarily “quasi-bibliotherapeutic” approach, this curriculum unit seeks to afford adolescent middle school students an opportunity to discover and identify with characters, situations and/or literary elements within a narrative framework. By using narrative text, this writer seeks to provide an opportunity for students to discover and critically deliberate the concept of identity and its development. The term “quasi-bibliotherapeutic” is used to insinuate a connection with the reading of literature, generation of self-knowledge, and the crafting of an individual’s own identity narrative. It is not meant to imply that by reading the various texts contained herein a guide to self-discovery has been provided or such renderings will be therapeutic. This unit serves as an exploratory vehicle for the engagement of meaningful and thought provoking conversation with and between students. This unit should also provide fodder for student reflection on the concept of their identity as individuals and their placement within society. This unit may be used to supplement or enrich an existing middle school English language arts or literature curriculum.

Key words: African American Mexican Puerto Rican Latino
identity development adolescent short story narrative
socially conscious music literature bibliotherapy

(Developed for English Language Arts, grades 7-8; recommended for English Language Arts, grades 7-9)

16.02.03

Discovering Yourself in the Voices of Others: Exploring Literary Aspects of Constructing an Identity, by Richard Walter Cuminale

In the context of an 11th-grade English classroom, this unit will focus explicitly on the complications of “literature” and “identity.” It explores the tensions that exist in these words themselves: the distinct and intensely personal lived experience of literature that at the same time touches on the universal elements of humanity; the idea that identity is a signification of the self, yet at the same time the signification conditions the identity it signifies. This unit hopes to challenge students with questions that they may not have answers to as they study a series of short stories with a focus on voice: where literature and identity converge. Ideally students complete this unit with a sensitivity to these tensions and the confidence to engage with them with whatever text they encounter or create.

(Developed for English 3, grade 11; recommended for English, grades 9-12, and AP Literature and Composition, grades 11-12)

16.02.04

Helping Special Education Students Define Their Identity Through Literature, by Jamie Elizabeth Garstka

Know thyself. These two, small words hold tremendous power. The path to understanding who we are and how we relate to others is long and ever changing. This unit has been designed for high school special education students enrolled in English I. The novel *Flight* by Sherman Alexie and other supplemental readings will be used to explore the development of self-identity and the importance of empathy. Through classroom support in the general education classroom and specialized instruction in the resource room, students will engage in learning experiences that explore how we as individuals define ourselves and relate to others who come from different backgrounds; it is through our differences that we can find common connections.

(Developed for English 1 and Resource, grade 9; recommended for Special Education and English I and II, grades 9-10)

16.02.05

Liber-acy: Liberation from Trauma through Literacy, by Jessica Margarita Grande

This unit is developed for an 8th grade English class using *Monster* by Walter Mosley as the core text. The overarching inspiration can be used for all grade levels along with the knowledge of ACES (Adverse Childhood Experiences) scores, and recent studies related to trauma informed care in education. The unit meets national Common Core language arts standards along with New Haven social emotional standards. Through the study of poetry, scenes and literature, students will be doing self reflective analysis of themselves and literary texts with the hope that a message of resilience can be developed. Writing will be a tool for academic and social/emotional self improvement. The activities range from creating a found poem, writing a scene, and creating a narrative.

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

16.02.06

Music as Identity, by Gillian Ann Greco

This unit is based on the fourth-grade core text, *Yolonda's Genius*, by Carol Fenner. It intends to connect the core text to the general music curriculum and focus on responding and expressing identity through music. Students will concentrate on the responding and connecting processes from the National Core Arts Standards. Students will spend time exploring the identity of Andrew, the young boy in the novel who cannot read and barely speaks, but creates incredible music with his harmonica. Students will then create what

they believe Andrew's music sounds like, and use what they learn about Andrew's creative process and the musical elements to create an original composition based on their own identity. This unit would work best if the General Music teacher works together with the fourth-grade Language Arts teacher.

(Developed for General Music, grade 4; recommended for General Music, grade 4)

16.02.07

Cuba! Identity Revealed through Cultural Connections, by Waltrina Dianne Kirkland-Mullins

Through what lens do we identify a nation, its leaders, and its people? Can those of us outside of a select culture impartially examine and embrace a nation and its constituents through multiple lenses such that we objectively identify a country and its people—many of whose descendants live within American shores? How do we enlighten future generations to become thinkers who empathize, communicate, and interact with diverse cultures, ultimately helping them develop working relationships with diverse people within our country and ever-expanding global community? How can understanding identity and collective consciousness serve as a unifying force for a community, a nation, and the world? By immersing students in hands-on research activities, engaging discourse with entrepreneurs and individuals from diverse cultures, and more, we can perhaps evoke positive change in this regards. “Cuba! Identity Revealed” serves as a proposed “discovery prototype” to achieve this end. Using the country of Cuba as a springboard, young learners will go beyond textbook knowledge, media images, and sweeping generalizations to better understand and constructively embrace diverse cultures that exist both within and beyond America’s shores.

(Developed for Social Studies/Language Arts/Social Development, grades 3-4; recommended for Social Studies/Language Arts/Social Development, grades 3-6)

16.02.08

Racism and Identity in *Invisible Man*: Strategies for Helping “Non-traditional” AP Students Succeed, by Eric W. Maroney

This curriculum unit investigates self-identity, social-identity and the historical conditions that give rise to both. Using Ralph Ellison’s novel, *Invisible Man* students will examine the relationship between racism, exploitation and identity formation. Throughout the unit, students will use close reading techniques to develop an analysis of the nameless protagonist. Additionally, students will study the political figures and historical moments that are reflected in the *Invisible Man*’s identity. This unit addresses strategies for providing “non-traditional” AP Literature and Composition students an entry point into AP curriculum. At the culmination of the unit, students will write a literary analysis of the novel.

Key words

Literature: African American

Literature: Identity & Moral Development

(Developed for AP Literature, grades 11-12; English 4 and English 066, grade 12; recommended for English 3-4 and African American Literature, grades 11-12)

16.02.09

The Confusion of Identity Exploration in Middle School, by Alexandra Joanna Novak

This 6th Grade literacy unit focuses on the Required Core Novel *The Skin I'm In*, by Sharon G. Flake. This unit explores the confusing journey to finding identity as a middle school aged student. The complex identities of five characters from the novel, Maleeka, Char, Mrs. Saunders, Caleb and John-John, are analyzed with multiple supplemental texts. The project for the students includes a daily "Identity Journal," in which they analyze the characters using text evidence from both the novel and supplemental texts, and then compare these with what they are feeling or seeing within themselves. The unit culminates with a drawing of the student alongside the character the most identify with. Students present their journals with the drawings.

(For use with 6th Grade Literacy, specifically the Quarter 1 Fiction Core Novel *The Skin I'm In*.)

Keywords: identity, core novel, *The Skin I'm In*, race, gender, ethnicity, bullying, middle school

(Developed for Literacy - Core Novel, grade 6; recommended for Literacy - Core Novel, grade 6)

16.02.10

Music as an Expression of Self: How Music Supports Our Perception of Identity, by David Scott Stewart

At no other time in a person's life does one search for a sense of identity, a definition of what self means on a personal level, than during adolescence. It is during the middle and high school years that we are provided meaningful opportunities to step outside of the principal parental/guardian dominated influence that shaped our identity for our first

decade.

This unit explores the combined use of music and literature as a means through which youth and adolescence navigate the development of what I have defined as personal, projected and perceived identity. Lessons are organized using the three areas of scope as a guide through sequential and iterative modules designed to develop students' lines of inquiry towards a deeper and broader understanding of how music mirrors and supports the psychological and emotional events impacting our sense of self.

(Developed for Music Exploration, grades 11-12; recommended for Language Arts and General Music, grades 10-12)

III. Citizenship, Identity, and Democracy

Introduction

Our seminar used citizenship as a lens to examine questions of identity, membership, and belonging. We discussed how citizenship marks those inside and outside of the community and explored the ways in which the fight for equality is often waged under citizenship's banner. Those discussions naturally segued into conversations about democratic participation and equality.

We began the seminar by studying the conceptions of citizenship held by the Founders and puzzling over how they could maintain deeply egalitarian commitments and still exclude so many from voting. Danielle Allen's *Our Declaration: A Reading of the Declaration of Independence in Defense of Equality* served as our guiding text. Focusing on the seminal work of Ed Rubin and Ernie Young, we also explored the ways in which identity issues were worked out in debates over federalism and state citizenship. Next we traced the quest for inclusion undertaken by different groups, including African Americans, Latinos, Asian Americans, and women. We often grounded these discussions in Supreme Court cases, including *Hernández v. Texas*, *Brown v. Board of Education*, and *Korematsu v. United States*. The remainder of the sessions were preoccupied with the benefits and burdens of citizenship. We covered such topics as felon disenfranchisement, constitutional rights in times of emergency, and political participation. One of the highlights of the seminar was reading the work of Dwayne Betts, who wrote a searing book on imprisonment as well as several volumes of poetry. Betts spoke to the Fellows in a joint session attended also by Jill Campbell's seminar participants. He read from his book and discussed the role of race, policing, felon disenfranchisement, and sentencing in the U.S. today.

Over the course of the seminar, a number of common themes emerged, many of which are canvassed by the units prepared by the Fellows. We spent a great deal of time talking about the relationship between law and politics. Many think that constitutional rights are handed down from on high, but in fact rights are merely "parchment barriers" if they are not backed by strong social norms. That is why social movements like the civil rights movement have always been necessary to breathe life into constitutional rights and turn those parchment barriers into robust shields. Because citizenship is both a legal concept and a normative ideal, fights for equality and inclusion are often waged within the framework of constitutional law. And because citizenship is so deeply tied to membership in a community, it brings with it both benefits and burdens.

Many of the units in this seminar examine the relationship between citizenship and identity. Because the events of the last, tumultuous year loomed large over our

discussions, these units all examine the relationship between the past and present. Medea Lamberti-Sanchez uses the presidential election as a frame for exploring questions of racial, gender, and partisan identity. The drama of the election provides an excellent means of grounding abstract questions of citizenship and participation for her young students. She looks to history, particular the suffrage movement, to help students understand our election system and Hillary Clinton's historic run for the presidency.

Racial and ethnic identity were central to the units offered by Vancardi Foster and Valbona Karanxha. Foster's unit examines the path to civic inclusion in the hope of teaching his students to care for other members of their community. Focusing on the discrimination experienced by African Americans, women, and Asian Americans, he hopes to teach his students about the relationship between communities and outsiders. Foster's unit is very much animated by the searing events of the last year. He argues that by teaching students about what he terms the "Citizenship Complex" – the process by which groups achieve full inclusion in our national community – he will build their sympathy for those who have yet to achieve the recognition we should accord to all citizens.

Karanxha finds an evocative parallel between Puerto Rico's legal status and Puerto Rican identity. Offering an in-depth exploration of the island's history, she suggests that Puerto Rico's liminal status poses dilemmas for U.S. citizens of Puerto Rican descent as they negotiate their relationships to the island and to the United States. In doing so, she illuminates the historical roots of Puerto Rican identity and sympathetically explores the dilemmas they face as they move from the island to the continental U.S.

Other Fellows explored the connections between the benefits and burdens of citizenship. Gwen Ferguson-McLean and Rachel Leibiger designed units to teach young children about the rights and duties of citizens in the hope that their students will understand that the benefits of community membership are paired with duties to that community. Ferguson-McLean explores ways of connecting these abstract notions to the day-to-day concerns of young children. She builds on the community values children already understand – the ties they have to their family, the way they act in class and treat their friends – to draw broader lessons about citizenship and membership in a national community. Beginning with communities writ small, she opens her students' minds to the values of our community writ large.

Leibiger, too, seeks to make the abstract ideals of citizenship concrete for her students. She emphasizes two stories that are sure to matter to her students' own identities – the suffrage movement and the school desegregation movement – in order to ground lessons about the right to vote and the right to a public education. Deploying stories about striking moments in history and compelling group exercises, Leibiger's aim is to help her students understand not just their duties as citizens, but the possibilities that come with citizenship.

Finally, Matt Monahan looks to where the rights of a citizen end, examining the limits of the protections citizenship affords. He analyzes the scope of constitutional rights during wartime, with a focus on the post 9/11 era and modern-day surveillance. He seeks to bring abstract questions about privacy and government power to life using literature and film. The ideas he raises are rich and evocative, and he pairs them with astute advice about teaching students through film and blogging.

Taken together, these units provide a kaleidoscopic view of some of the most important questions of the day. While these units are deeply connected to contemporary events, they touch on issues of identity and belonging that are profound and enduring.

Heather K. Gerken

Curriculum Units

16.03.01

The Price of Freedom, by Gwendolyn Y. Ferguson-McLean

History is a challenging subject to impart to students, especially 7 and 8 year olds. As with all subjects, showing a connection to their daily lives ensures its relevance and an enduring understanding. Students have some sense of their basic rights, but they do not know how these rights came to be and how they differ for noncitizens and those outside the United States.

The aim of this unit is to teach students how our constitutional rights evolved and why they are salient today. It's divided into sections to ensure this complex topic can be presented at an elementary level. It will provide the students with an overview of the Constitution of the United States with a focus on the rights and privileges of citizens that will be most intuitive to children (1st, 13th, 14th, 15th, and 19th). Activities include producing a narrative writing, a research booklet, a dialogical notebook, and a take-action choice piece with an eye to promoting critical thinking about historical change. Upon completion, students will have a better understanding of their rights and responsibilities as citizens, and how they can contribute to the betterment of this country.

(Developed for Reading, Writing, and Social Studies, grade 3; recommended for Reading, Writing, and Social Studies, grade 4)

16.03.02

The Citizenship Complex: Why the Vote Matters in the Race for Freedom and Equality for All, by Vancardi Dwight Foster

Not all people are born equal or free but there is an expectation of both when you are a citizen of the United States. Our struggles to earn the base level of representation are quickly forgotten as we look for another group to demonize. In my unit we will discover why George Washington was ahead of his time with his warning about "factions" and how their existence makes freedom and equality harder to bridge. As we trek through time highlighting issues such as the abolition of slavery, support for women's suffrage, and the challenges that face Asian and LGBTQIA communities my hope is that student understand the sacrifices made to be accepted and to earn the right to vote but more importantly the difficulty in being welcomed into American society.

The "Citizenship Complex" is the process by which groups gain full inclusion. To understand it, one must look to the intersection of law, citizenship and the Constitution. The unit aims to provide a more complex history of our nation, to tell a more earnest story of how the American identity became a mosaic of human struggle, and to offer a more robust and enlightening study of these issues so that as students recognize the

power of citizenship they will take a more hopeful view of what our nation will look like in the future. By engaging in the sophisticated discussions of the past, identifying why some groups supported each other and scapegoated others, and learning about the importance of supporting efforts at inclusion, our students should become more informed, open-minded, and ready for the globalized world of the 21st Century.

The unit will focus on four groups that have experienced the “Citizenship Complex”: African-American slaves, women, Asian immigrants, and the LGBTQIA community. By comparing these groups over time, we will really be able to unearth the cycles behind the Citizenship Complex and understand that American citizenship means at different times in our country’s history.

(For use with U.S. History and Civics classes but can also be used with the Facing History and Ourselves Curriculum)

Keywords: government, supreme court, citizenship complex, citizenship, freedom, equality, federalism, republicanism, civics, amendments, identity, democracy, self-determination, the other, disenfranchisement, voting, gender, Civil Rights, Constitution, and rights

(Developed for United States History, grades 10-11, and Facing History and Ourselves, grade 11; recommended for United States History, grades 10-12; Civics, grades 11-12; and Facing History and Ourselves, grades 9-12)

16.03.03

Democracy and Citizenship: The Complex Case of Puerto Rico, by Valbona Karanxha

The unit focuses on the struggles for self-identity and self-determination that continue to be problematic even a century after Puerto Rico’s inclusion in the United States’ territory. As a teacher of Spanish and Latin American culture, I find it very appealing that my Puerto Rican heritage students are aware of their roots and I have tried to bring that perception into the unit using a variety of lesson plans to help students understand the political status of Puerto Rico and their rights as citizens of the U.S. In this unit students will be exposed to various topics in the history of the Caribbean islands but with a focus on Puerto Rico. Students will be able to contrast the different historical epochs and their political implications. Finally, using the research as a guide, students will be able to evaluate how the outcome of the Spanish-American War changed Puerto Rico’s political status from Spain’s colony to a U.S. territory. After exploring what being a Commonwealth meant for the people of Puerto Rico, they will be able to explain Puerto Rico’s “dual” citizenship and how it affects the Island’s national identity and culture.

(Developed for Spanish 1A, grade 7, and Spanish 1B, grade 8; recommended for Spanish, grades 7-8, and Social Studies, Latin American History and Culture, grades 7-12)

16.03.04

Citizenship and Identity through the Lens of the Presidential Campaign, by Medea Elisabetta Lamberti-Sanchez

The unit will teach elements of civics and democracy through the lens of the Presidential election. Students will be asked to research, read, and write about various aspects of civics and democracy, using a wide array of multimedia resources that will include (but not be limited to) literature, music, visual arts, and technology. The goal of the unit is to help students understand the importance of voting and participation while building their knowledge of the election system. The unit will encourage your students to think about government in a new way and connect this remarkable election to their day to day lives. While this unit will be taught during the first marking period, the unit will work at any point throughout the next few years. It is a Social Studies based unit designed for middle school students, primarily in the sixth grade, but can be modified and adapted to fit high school curriculum, grades nine through twelve.

(Developed for Language Arts and Social Studies, grade 6; recommended for History, grades 9-12)

16.03.05

Citizenship and its Ability to Change Lives, by Rachel Pierce Leibiger

This curriculum unit focuses on children as citizens, and how they can claim ownership of their citizenship. Overall the unit works its way through the rights that children have as citizens and how they can use them to their advantage. It starts with what it means to them to be citizens, two specific rights that they have, and finally how they will use those rights to better their lives. The two rights that we discuss in this unit are education and voting. Those rights are the focus of this unit because I believe that they are the most important to young children and that they will benefit them the most in the long term. Education will provide the foundation for all of their learning throughout their lives, and voting is something that education prepares them for and will later in life affect their community and potentially the nation. I also believe that having an understanding of how voting actually impacts this country could potentially interest them in being active politically in the future.

(Developed for Enrichment, grade 4; recommended for History and Social Studies, grades 3-6)

16.03.06

**Know Your Rights: Citizenship, Surveillance and Democracy in Post 9/11 America,
by Matthew Sean Monahan**

This unit focuses on the surveillance culture and lost liberties in post 9/11 America and in the wake of hurricane Katrina. An increasing number of my students display interests in social justice and activism, two areas that should be at the heart of “Citizenship, Identity, and Democracy.” Initial research questions revolve around surveillance culture (SC): is today’s SC a byproduct of the post-9/11 era or a carryover from the Cold War? How much further back in time do its roots go?

What rights and privileges are guaranteed to citizens under the constitution? If times of ‘emergency’ require a suspension, a limitation, or alteration of these rights and privileges, how do we know what an “emergency” is during a period in which we wage wars on drugs as well as terror, and in which the “War on Terror” has lasted for more than a decade? Does the requirement need amending in times of seemingly endless conflict/war, or is a state of emergency temporary by definition?

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

IV. *Physical Science and Physical Chemistry*

Introduction

This seminar covered a range of topics in the physical sciences, with an emphasis on physical chemistry. Quantifying the world around us allows us to fully understand it. The subject of physical chemistry is largely concerned with the description of matter and transformation of matter.

Thermodynamics is the study of energy, heat, and work, and their interconversion on a macroscopic scale. It continues to play a central role in physical chemistry. The three laws of thermodynamics provide rigorous limits to the maximum efficiency of converting heat into work that can be obtained. The relationship of the Gibbs free energy to enthalpy and entropy is also extremely important. Chemical equilibrium and phase changes are fully understood in terms of the Gibbs free energy.

While thermodynamics treats matter on the bulk macroscopic scale, spectroscopy allows the microscopic molecular properties to be measured and understood. Spectroscopy is the interaction of light with matter. Sometimes absorption is measured, and sometimes emission is measured.

This seminar included demonstrations each week, and connections to our everyday life as much as possible. Some demonstrations were done by me, but each Fellow also shared a demonstration when they presented an overview of their curriculum unit.

The primary sources for background reading material were *An Introduction to Physical Science*, 12th Edition, by James T. Shipman, Jerry D. Wilson, and Aaron W. Todd, and *Chemistry*, 8th edition, by Steven S. Zumdahl and Susan A. Zumdahl.

We began by discussing the human side of science which included the scientific method, scientific ethics, and pathological science.¹ We then considered the gas laws which are the relationship among pressure, volume, and temperature of a container of gas, and in this way provide a clear path to thermodynamics. Internal energy, enthalpy, entropy, and Gibbs free energy are important thermodynamic properties, and set the stage for understanding physical change, i.e., phase transitions. In addition to phase diagrams describing solids, liquids, and gases, we discussed how the Gibbs free energy underpins the content of these phase diagrams. Metastable liquids such as water at temperatures above its boiling point² or below its freezing point³ are an interesting phenomenon because they will undergo a very rapid phase transition if the container is bumped or shaken. This section of the seminar was wrapped up by discussing mixtures, chemical reactions, batteries, fuel cells,⁴ and nuclear chemistry.⁵

We then moved away from physical chemistry and began discussing physical science more broadly speaking. We spent quite a bit of time on waves, interference,⁶ light and color, and polarization. This led to the application of spectroscopic methods to art conservation, preservation, and analysis,⁷ which culminated in a very interesting and engaging tour of the Yale University Institute for the Preservation of Cultural Heritage (<http://ipch.yale.edu/>). Lastly, we saw how spectroscopic methods are used in astronomy to characterize the temperature and composition of stars, and in the search for extrasolar planets, or exoplanets, which are planets that orbit stars in other solar systems.⁸

The curriculum units developed will be of interest to teachers ranging from second grade to senior year in high school. They provide extensive lists of reading material and other resources, and more importantly, a variety of hands-on activities. One of the recurring themes is that science is best learned in an experiential setting.

The units by Carol Boynton, Ariella Iancu, Stephen Kissel, and Larissa Spreng are overviews of matter and phase changes, and the thermodynamic considerations behind them. Terry Bella's focuses exclusively on the physical properties of water, while Michael Petrescu's focuses on the gas laws, heat engines, and thermodynamic efficiency (using the example of a Stirling heat engine). Christopher Finan's unit approaches the properties of matter in the setting of forensic science.

Jonathan Cap's unit describes the history of batteries and their role in robotics. The units by Amanda Weires and Andrea Zullo each cover light and sound, but from very different perspectives. Amanda's unit is about light and sound in the context of a theatre setting (plus a discussion of exoplanets), and Andrea's is an anatomical description of the human perceptions of sight and sound.

Charles A. Schmuttenmaer

Additional Readings

1. "Pathological Science" by Irving Langmuir, *Physics Today*, volume 42, page 36, 1989.
2. <https://www.youtube.com/watch?v=2FcwRYfUBLM>
3. <https://www.youtube.com/watch?v=pTdiTe3x0Bo>
4. "Fuel Cells," Los Alamos National Lab publication LA-UR-99-3231, www.pdhonline.com/courses/e196/fuelcells.pdf
5. "Inertial Confinement Fusion", https://en.wikipedia.org/wiki/Inertial_confinement_fusion
6. "The Michelson-Morley Experiment" by, R. S. Shankland, *Scientific American*, volume 211, Issue 11, page 107, November 1964.
7. <http://www.webexhibits.org/pigments/intro/look.html>
8. "NASA Says Data Reveals an Earth-Like Planet, Kepler 452b," *New York Times*, July 23, 2015; <http://www.nytimes.com/2015/07/24/science/space/kepler-data-reveals-what-might-be-best-goldilocks-planet-yet.html>)

Curriculum Units

16.04.01

Water and Life & Phase Changes of Water, by Terry M. Bella

“Water and Life & Phase Changes of Water” is a unit that can be used to cover the Connecticut high school science content requirements concerning: phase changes of matter. The concept of phase change must be approached just as that, a concept. Encouraging students to develop a conceptual understanding of phase change is a focus of this unit. If the teaching of phase change is approached as such with the end goal of students connecting phase change with energy, molecular movement, and intermolecular bonds students can develop a deep understanding of the concept and be better prepared to apply this understanding to multiple situations.

This unit also addresses the need for strong content to be partnered with the very conceptual phase changes of water. A section on the emergent properties of water is included. These properties are fundamental to life on this planet, an inherently interesting topic for students. The emergent properties, all due to the polarity of the water molecule, are: expansion upon freezing; usefulness as a solvent; high specific heat; and cohesive behavior. Examples to use in the classroom are provided to the reader as well. The backdrop of life sciences can help a high school teacher make more connections between physical sciences and students’ lives.

(Developed for Phy-Chem, grade 9, and AP Biology, grades 10-12; recommended for General Science and Biology, grades 9-10)

16.04.02

Fun and Games with States of Matter, by Carol Boynton

Young students love to investigate, experiment and discover. This four-week unit gives second graders opportunities for all three as they learn about liquids, solids and gases through games and challenges with their classmates. They will participate in a Matter Scavenger Hunt, discover that solids remain solids even if they break apart, challenge teams in an Amazing Liquids Race, and investigate popping balloons.

As students join in the fun and games, they will develop critical thinking skills, learn to observe and take notes, document results, and make conclusions based on their findings. This unit is designed to make the current science curriculum more engaging and exciting for my primary-level students and encourage them to explore matter and the transformation of matter through experimentation and discovery.

(Developed for Science, grade 2; recommended for Science, grades 1-4)

16.04.03

You can have my dead battery, No Charge, by Jonathan Cap

In this unit we will discuss and learn about how batteries work their relation to the field of robotics. We will study the different types of batteries, their differences and their uses. We will also briefly look at the history of batteries and a timeline of different events in the field of batteries. Students will set up and conduct experiments, which will span days to weeks. During this time other units and lessons can be taught. On the conclusion of the experiments the students will recap the lesson and conclude the unit. This unit will be tied into students' Chemistry courses allowing a better understanding of the chemical reaction that goes into the operation of a battery. This will be tied into students' math skills and digital media as they will be making small mathematical calculations and viewing video footage.

(Developed for Robotics, grades 11-12; recommended for Robotics, Science, and Engineering, High School grades)

16.04.04

Properties of Matter: A Forensic Science Approach, by Christopher Francis Finan

Middle school students are naturally fascinated by the world of forensic science, crime scene investigation, law, and criminal justice. This curriculum unit is designed to spark their interests and provide meaningful real-world connections to the standards they are learning in general science, with a particular focus on the application of properties of matter to the field of forensic science. Forensic science is based upon the recognition, identification, and evaluation of physical evidence, so it is the perfect theme for engaging students in the content of properties of matter. Students will develop a strong understanding of how physical and chemical properties can be used to identify crime scene evidence, as well as separate and analyze the components of mixtures. Furthermore, they will begin to develop their knowledge of atoms, elements, and compounds. This unit is packed with hands-on activities that allow students to: explore matter using scientific tools and techniques, apply the scientific method to new questions, use creative thinking and problem-solving skills to analyze crime scenes, and create arguments that are supported by evidence. Students will know from day one why it matters to understand matter!

(Developed for General Science, grade 7; recommended for General Science, grades 7-8)

16.04.05

What Makes Things Go Boom? by Ariella Iancu

Most students point to Walter White as a chemistry anti-hero—using crystalized fulminated mercury, disguised as crystal meth, as a grenade to blow up a drug lord that

wronged him. Explosions are engaging, exciting parts of chemistry, yet dangerous to society when unplanned, such as unexpected water heater explosions. This unit will look at the components that make reactions spontaneous and explosive, including energy, enthalpy, entropy, and how they apply to physical and chemical changes. Focus will be on quantifying reactions and phase changes and working on the match concepts connected to kinetics and thermodynamics. To keep students engaged with the complex mathematical components, students will be using each lesson as a way to research and explore exciting explosions, such as that in *Breaking Bad*, and water heater explosions, building a model of their understanding. After finalizing their model of explosions, students will then apply their model to a community issue, such as air-bag safety. Students will design a safe and effective airbag that incorporates multiple concepts from the unit, and includes quantifications to ensure their safety.

Keywords: chemical change, phase change, kinetics, thermodynamics, energy, enthalpy, entropy,

(Developed for Chemistry and Chemistry Honors, grade 11; recommended for Chemistry, Chemistry Honors, and AP Chemistry, grades 9-12)

16.04.06

Teaching Matter and Phase Changes, by Stephen C. Kissel

Over 1,200 types of animals have the ability to walk on water. They do so due to surface tension, a physical property of liquid matter. Particles of solid matter are not locked in place, but actually vibrate around their central position. If not limited by a container, gaseous matter will expand endlessly. Furthermore, matter in the plasma state is uncommon on Earth, but the most common phase in the universe because it is a major component of stars.

Everything we see, hear, smell, taste, and touch is matter. Matter is all around us. Learning about matter is learning chemistry. Chemistry is the study of all aspects of matter including the composition, structure, properties, and changes of matter. Solids, liquids, gases, and plasmas are states, or phases, of matter. On our planet, along with matter, there is energy. Thermal energy, or heat, is intrinsically related to states of matter as well as the phase changes of matter.

This curriculum unit promotes the study and investigation of matter as well as phase changes. A hands-on approach is encouraged and suggestions are made in reference to discourse, demonstrations, activities, and experiments. The unit is designed for physical science and chemistry teachers. It should run approximately one month.

(Developed for Phy Chem, grade 9; recommended for Chemistry, grade 11)

16.04.07

Thermodynamics, by Michael Petrescu

When an athlete performs a task, some of the energy being used turns into heat. That is why they feel hot afterward. This unit focuses on thermodynamics, a study of the relationship between energy, work and heat. Students will explore and study the laws of ideal gases, as well as the concepts of temperature, temperature scales and kinetic molecular theory. To enhance understanding, students will be introduced to the workings of a Stirling engine.

Each lesson will be accompanied by a lesson plan. Depending on the lesson, also included will be examples and applications (problems to be solved by students using the equations and concepts presented in the lesson).

The unit is intended to be taught in 10th or 11th grade Chemistry classes, but it can be used also by middle school 7th and 8th grade teachers to expose students to concepts like temperature, pressure, volume and ideal gas laws. Although the primary focus of this unit is Chemistry, the lessons and concepts of this unit can be used in Physics, Physical Science and Math classes to introduce and familiarize students with these concepts. Student understanding will improve in relation to vocabulary, computation skills, problem solving skills and comprehension levels. Many strategies, examples and applications will be brought out and explained in the unit. The unit will last approximately three weeks.

(Developed for Engineering, grade 8; recommended for Chemistry, grade 10, and Physics, grade 11)

16.04.08

What's the...Matter? by Larissa Spreng

Matter is all around us, but how often do we really take an opportunity to think about the matter that makes up our world? This curriculum unit will allow middle school students to think more deeply about the changes that occur in matter and consider *why* phase changes occur. Students will first learn about the three states of matter (solids, liquids, and gases). They will then examine the role thermodynamics (energy, heat, and work) plays in phase transitions. Students will practice modeling molecules and describing the molecular properties of each state of matter and compare elements, mixtures, and compounds. Through hands on experiments, students will be able to explore properties of matter. Finally, students will gain a deeper understanding of the law of conservation of matter and chemical equilibrium by writing chemical equations for everyday chemical reactions. Teaching this unit will enrich middle school students' knowledge and understanding of the world around them, which is filled with matter. Over this 10 day

unit students will gain exposure to real-world scientific connections through hands on inquiry, interactive simulations, and catchy songs about states of matter.

(Developed for General Science, grade 7; recommended for General Science, grades 6-7)

16.04.09

Lights and Actions, by Amanda Weires

A unit on wave phenomena, and its applications to detecting and evaluating extrasolar planets, and lighting and sound design in theatrical productions. The unit is designed for a high school physics class, but could be modified for physical science, astronomy, technical theater, or the middle school level.

(Developed for Physics, grade 12; recommended for Phy Chem, grade 9)

16.04.10

Physical Science in Sight and Sound, by Andrea Zullo

In anatomy, form and function of sensory organs allows students to understand how the body interacts with external stimuli. Explorations of the eye and ear often lack a full exploration of the physical science phenomena behind them. In this unit, both the eye and ear are explored as receptors for wave phenomena of light and sound. The interaction between anatomy and physical science provides a robust understanding of how the body functions. In addition to a brief study of waves, students will also explore medical interventions such as the bionic eye, glasses, hearing aids, and cochlear implants as ways to improve our ability to sense sight and sound.

(Developed for Medical Interventions and Human Body Systems, Elective; recommended for Anatomy and Physiology, and Health)

**Curriculum Units by Fellows of the
Yale-New Haven Teachers Institute
1978-2016**

	2016	
Volume I		Shakespeare and the Scenes of Instruction
Volume II		Literature and Identity
Volume III		Citizenship, Identity, and Democracy
Volume IV		Physical Science and Physical Chemistry
	2015	
Volume I		Teaching Native American Studies
Volume II		American Culture in the Long 20th Century
Volume III		Physics and Chemistry of the Earth's Atmosphere and Climate
Volume IV		Big Molecules, Big Problems
	2014	
Volume I		Picture Writing
Volume II		Exploring Community through Ethnographic Nonfiction, Fiction, and Film
Volume III		Race and American Law, 1850-Present
Volume IV		Engineering in Biology, Health and Medicine
	2013	
Volume I		Literature and Information
Volume II		Immigration and Migration and the Making of a Modern American City
Volume III		Sustainability: Means or Ends?
Volume IV		Asking Questions in Biology: Discovery versus Knowledge
	2012	
Volume I		Understanding History and Society through Visual Art, 1776 to 1914
Volume II		The Art of Biography
Volume III		Anatomy, Health, and Disease: From the Skeletal System to Cardiovascular Fitness
Volume IV for the		Engineering in the K-12 Classroom: Math and Science Education 21st-Century Workforce
	2011	
Volume I		Writing with Words and Images
Volume II		What History Teaches
Volume III		The Sound of Words: An Introduction to Poetry

Curriculum Units by Fellows (continued)

Volume IV Energy, Environment, and Health

2010

Volume I Interdisciplinary Approaches to Consumer Culture
Volume II The Art of Reading People: Character, Expression, Interpretation
Volume III Geomicrobiology: How Microbes Shape Our Planet
Volume IV Renewable Energy

2009

Volume I Writing, Knowing, Seeing
Volume II The Modern World in Literature and the Arts
Volume III Science and Engineering in the Kitchen
Volume IV How We Learn about the Brain
Volume V Evolutionary Medicine

2008

Volume I Controlling War by Law
Volume II Storytelling: Fictional Narratives, Imaginary People, and the Reader's Real Life
Volume III Pride of Place: New Haven Material and Visual Culture
Volume IV Representations of Democracy in Literature, History and Film
Volume V Forces of Nature: Using Earth and Planetary Science for Teaching Physical Science
Volume VI Depicting and Analyzing Data: Enriching Science and Math Curricula through Graphical Displays and Mapping

2007

Volume I American Voices: Listening to Fiction, Poetry, and Prose
Volume II Voyages in World History before 1500
Volume III The Physics, Astronomy and Mathematics of the Solar System
Volume IV The Science of Natural Disasters
Volume V Health and the Human Machine

2006

Volume I Photographing America: A Cultural History, 1840-1970
Volume II Latino Cultures and Communities
Volume III Postwar America: 1945-1963
Volume IV Math in the Beauty and Realization of Architecture
Volume V Engineering in Modern Medicine
Volume VI Anatomy and Art: How We See and Understand

Curriculum Units by Fellows (continued)

	2005	
Volume I		Stories around the World in Film and Literature
Volume II		The Challenge of Intersecting Identities in American Society: Race/Ethnicity, Gender and Nation
Volume III		History in the American Landscape: Place, Memory, Poetry
Volume IV		The Sun and Its Effects on Earth
Volume V		Ecology and Biodiversity Conservation
	2004	
Volume I		The Supreme Court in American Political History
Volume II		Children's Literature in the Classroom
Volume III		Representations of American Culture, 1760-1960: Art and Literature
Volume IV		Energy, Engines, and the Environment
Volume V		The Craft of Word Problems
	2003	
Volume I		Geography through Film and Literature
Volume II		Everyday Life in Early America
Volume III		Teaching Poetry in the Primary and Secondary Schools
Volume IV		Physics in Everyday Life
Volume V		Water in the 21st Century
	2002	
Volume I		Survival Stories
Volume II		Exploring the Middle East: Hands-On Approaches
Volume III		War and Peace in the Twentieth Century and Beyond
Volume IV		The Craft of Writing
Volume V		Food, Environmental Quality and Health
Volume VI		Biology and History of Ethnic Violence and Sexual Oppression
	2001	
Volume I		Medicine, Ethics and Law
Volume II		Art as Evidence: The Interpretation of Objects
Volume III		Reading and Writing Poetry
Volume IV		Race and Ethnicity in Contemporary American Art and Literature
Volume V		Bridges: Human Links and Innovations
Volume VI		Intelligence: Theories and Developmental Origins
	2000	
Volume I		Women Writers in Latin America
Volume II		Crime and Punishment

Curriculum Units by Fellows (continued)

Volume III	Constitutional and Statutory Privacy Protections in the 21 st Century
Volume IV	Ethnicity and Dissent in American Literature and Art
Volume V	Sound and Sensibility: Acoustics in Architecture, Music, and the Environment
Volume VI	The Chemistry of Photosynthesis
Volume VII	Bioethics

1999

Volume I	Women's Voices in Fiction
Volume II	Art and Identity in Mexico, from the Olmec to Modern Times
Volume III	Immigration and American Life
Volume IV	Detective Fiction: Its Use as Literature and as History
Volume V	How Do You Know? The Experimental Basis of Chemical Knowledge
Volume VI	Human-Environment Relations: International Perspectives from History, Science, Politics, and Ethics
Volume VII	Electronics in the 20th Century: Nature, Technology, People, Companies, and the Marketplace

1998

Volume I	The Use and Abuse of History in Film and Video
Volume II	Cultures and Their Myths
Volume III	Art and Artifacts: The Cultural Meaning of Objects
Volume IV	American Political Thought
Volume V	Reading Across the Cultures
Volume VI	Selected Topics in Contemporary Astronomy and Space Science
Volume VII	The Population Explosion

1997

Volume I	Twentieth Century Latin American Writing
Volume II	American Children's Literature
Volume III	American Maid: Growing Up Female in Life and Literature
Volume IV	Student Diversity and Its Contribution to Their Learning
Volume V	The Blues Impulse
Volume VI	Global Change, Humans and the Coastal Ocean
Volume VII	Environmental Quality in the 21st Century

1996

Volume I	Multiculturalism and the Law
Volume II	Environmental and Occupational Health: What We Know; How We Know; What We Can Do

Curriculum Units by Fellows (continued)

Volume III	Race and Representation in American Cinema
Volume IV	Remaking America: Contemporary U.S. Immigration
Volume V	Genetics in the 21st Century: Destiny, Chance or Choice
Volume VI	Selected Topics in Astronomy and Space Studies

1995

Volume I	Gender, Race, and Milieu in Detective Fiction
Volume II	Film and Literature
Volume III	The Constitution and Criminal Justice
Volume IV	Coming of Age in Ethnic America
Volume V	The Geological Environment of Connecticut

1994

Volume I	Family Law, Family Lives: New View of Parents, Children and the State
Volume II	Poetry in the Classroom: Incentive and Dramatization
Volume III	Understanding the Ancient Americas: Foundation, Flourishing, and Survival
Volume IV	Racism and Nativism in American Political Culture
Volume V	The Atmosphere and the Ocean

1993

Volume I	The Symbolic Language of Architecture and Public Monuments
Volume II	Folktales
Volume III	Twentieth-Century Multicultural Theater
Volume IV	The Minority Artist in America
Volume V	Environmental Science

1992

Volume I	The Constitution, Courts and Public Schools
Volume II	Writing and Re-writings of the Discovery and Conquest of America
Volume III	Reading and Writing the City
Volume IV	The National Experience: American Art and Culture
Volume V	Ecosystems: Tools for Science and Math Teachers

1991

Volume I	Regions and Regionalism in the United States: Studies in the History and Cultures of the South, The Northeast and the American Southwest
Volume II	The Family in Art and Material Culture

Curriculum Units by Fellows (continued)

Volume III	Afro-American Autobiography
Volume IV	Recent American Poetry: Expanding the Canon
Volume V	Adolescence/Adolescents' Health
Volume VI	Global Change

1990

Volume I	The Autobiographical Mode in Latin American Literature
Volume II	Contemporary American Drama: Scripts and Performance
Volume III	The U.S. National Parks Movement
Volume IV	American Family Portraits (Section I)
Volume V	American Family Portraits (Section II)
Volume VI	Genetics
Volume VII	What Makes Airplanes Fly? History, Science and Applications of Aerodynamics

1989

Volume I	American Communities, 1880-1980
Volume II	Poetry
Volume III	Family Ties in Latin American Fiction
Volume IV	Detective Fiction: Its Use as Literature and History
Volume V	America as Myth
Volume VI	Crystals in Science, Math, and Technology
Volume VII	Electricity

1988

Volume I	The Constitution in Public Schools
Volume II	Immigrants and American Identity
Volume III	Autobiography in America
Volume IV	Responding to American Words and Images
Volume V	Hormones and Reproduction
Volume VI	An Introduction to Aerodynamics

1987

Volume I	The Modern Short Story in Latin America
Volume II	Epic, Romance and the American Dream
Volume III	Writing About American Culture
Volume IV	The Writing of History: History as Literature
Volume V	Human Nature, Biology, and Social Structure: A Critical Look at What Science Can Tell Us About Society
Volume VI	Science, Technology, and Society

Curriculum Units by Fellows (continued)

1986

Volume I	The Family in Literature
Volume II	Writings and Re-Writings of the Discovery and Conquest of America
Volume III	Topics in Western Civilization: Ideals of Community and the Development of Urban Life, 1250-1700
Volume IV	The Process of Writing
Volume V	The Measurement of Adolescents, II
Volume VI	Fossil Fuels: Occurrence; Production; Use; Impacts on Air Quality

1985

Volume I	Poetry
Volume II	American Musical Theater
Volume III	Twentieth Century American Fiction, Biography, and Autobiography
Volume IV	History as Fiction in Central and South America
Volume V	Odysseys: Nineteenth and Twentieth-Century African-American History Through Personal Narrative
Volume VI	Time Machines: Artifacts and Culture
Volume VII	Skeletal Materials-Biomineralization
Volume VIII	The Measurement of Adolescents

1984

Volume I	Elements of Architecture, Part II
Volume II	Greek Civilization
Volume III	Hispanic Minorities in the United States
Volume IV	The Oral Tradition
Volume V	American Adolescents in the Public Eye
Volume VI	Geology and the Industrial History of Connecticut

1983

Volume I	Elements of Architecture
Volume II	Greek and Roman Mythology
Volume III	Reading the Twentieth Century Short Story
Volume IV	America in the Sixties: Culture and Counter-Culture
Volume V	Drama
Volume VI	Cross-Cultural Variation in Children and Families
Volume VII	Medical Imaging

Curriculum Units by Fellows (continued)

1982

Volume I	Society and the Detective Novel
Volume II	Autobiography
Volume III	The Constitution in American History
Volume IV	An Unstable World: The West in Decline?
Volume V	Society and Literature in Latin America
Volume VI	The Changing American Family: Historical and Comparative Perspectives
Volume VII	Human Fetal Development

1981

Volume I	The “City” in American Literature and Culture
Volume II	An Interdisciplinary Approach to British Studies
Volume III	Human Sexuality and Human Society
Volume IV	Writing Across the Curriculum
Volume V	The Human Environment: Energy
Volume VI	Computing

1980

Volume I	Adolescence and Narrative: Strategies for Teaching Fiction
Volume II	Art, Artifacts, and Material Culture
Volume III	Drama
Volume IV	Language and Writing
Volume V	Man and the Environment
Volume VI	The Present as History
Volume VII	Problem Solving

1979

Volume I	The Stranger and Modern Fiction: A Portrait in Black and White
Volume II	Themes in Twentieth Century American Culture
Volume III	Remarkable City: Industrial New Haven and the Nation, 1800-1900
Volume IV	Language and Writing
Volume V	Strategies for Teaching Literature
Volume VI	Natural History and Biology

1978

Volume I	Language and Writing
Volume II	20th Century Afro-American Culture
Volume III	20th Century American History and Literature
Volume IV	Colonial American History and Material Culture