Developing Symbolic Interpretation Through Literary Argumentation

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Abstract

Literature can be a powerful resource for adolescents' psychosocial development as it provides opportunities to experience the world through the perspectives of others and juxtapose these with one's own experiences. However, access to these perspectives requires going beyond literal words on the page to explore interpretive meanings. This mixed methods case study addresses the need to better understand how adolescent students learn to interpret literary works. Specifically, ninth grade students participated in a five-week instructional module focused on symbolic interpretation and coming of age themes in texts with a variety of sources of complexity. The primary data sources were an intentional sample of classroom discussions and essays written pre- and post-instruction. Analyses indicate that students learned to make interpretive claims around symbolism. Textual evidence to support these claims was evident in whole class discussions but less so in the written essays. Students also struggled to reason about why evidence supported particular claims and how the interpretive claims were related to understanding the characters and their worlds. Discussion focuses on the value of symbolic interpretation as a starting point for engaging adolescents in interpretive practices but that developing facility with literary interpretation takes concerted effort over longer periods of time.

Keywords: Interpreting literature, adolescent learning, classroom discussion

Developing Symbolic Interpretation Through Literary Argumentation

Literature can be a powerful vehicle for inquiry into philosophical, ethical, and moral perspectives on the human condition. As a content area in the school curriculum, literary study may be a particularly valuable resource for adolescents as they wrestle with psychosocial issues including identity, sexuality, peer acceptance, and independence (Lee, 2011). However, realizing these affordances of literature requires that students make sense of literature from their own perspectives, juxtaposing the perspectives in the texts they are reading with their own experiences (Lee, 2007). Doing so requires that students learn how to move beyond the literal words on the page. They need to analyze and interpret the meaning and function of the author's words to access and experience the world through the perspectives of others and explore how these experiences relate to their own known and imagined worlds (Langer, 2011a; Lee, 2011; Vipond & Hunt, 1984).

However, assessment data indicate that few adolescents effectively interpret texts (National Assessment of Educational Progress, 2009a, 2009b). At the same time, how adolescents learn to take an interpretive stance toward literature has garnered little research attention in either the reading comprehension or learning sciences communities (Rapp, Komeda, & Hinze, 2011; cf. Langer, 2011a).

This paper addresses the need to better understand how adolescent students learn to engage in the practices of literary analysis and interpretation through a mixed-methods case study in a ninth grade English Language Arts class. The overarching research question concerned how students' literary interpretive practices progressed from their initial levels during a five-week instructional module intended to support the development of these interpretive practices.

The study was conducted in the context of a larger research and development effort focused on supporting adolescent students in acquiring the knowledge and skills needed to engage in literary analysis and argumentation (see Goldman, Britt, et al., submitted; Lee, Goldman, Levine, & Magliano, in press). We examined student learning through analyses of a sample of classroom discussions during the module and written essays collected prior to and at the conclusion of the module. The design of the specific instructional module used in the present study (see Methods) reflected our analysis of the knowledge, reasoning skills and practices, and dispositions that are important to the domain of literary interpretation.

Domain Analysis of Literary Interpretation

A primary goal in conducting a domain analysis for literary interpretation was to identify components of competent literary analysis. Having identified these components, we then generated learning objectives appropriate to the ninth grade class in which we conducted the study.   The domain analysis drew on work in rhetoric (e.g., Rabinowitz, 1987; Scholes, 1985), comprehension (e.g., Goldman & Bloome, 2005; Kintsch, 1998), expert–novice studies (e.g., Graves & Frederiksen, 1996; Warren, 2011; Zeitz, 1994), and English education (e.g., Appleman, 2000; Hillocks & Ludlow, 1984; Langer 2011a; Lee, 2007; Marshall, Smagorinsky, & Smith, 1995; Smith & Hillocks, 1988). What follows is our distillation of what is involved in engaging in literary interpretation with an inquiry orientation.

Literary analysis invites multiple points of view and interpretive claims about a literary work but requires supporting and warranting them with principles and generalizations based on knowledge of the human condition and of literary and rhetorical communication practices, including types of texts, plot structures, character types, and rhetorical devices (Applebee, Burroughs, & Stevens, 2000; Lee, 2011; Olshavsky, 1976; Rabinowitz, 1987; Smith & Hillocks,

1988). The reasoning skills include being able to draw from both the text in question and from knowledge of other texts, personal beliefs, belief systems (social, political, philosophical, or religious), or literary theories that articulate particular propositions about the nature of texts (Appleman, 2000; Schoenbach, Greenleaf, & Murphy, 2012).

Drawing from the text depends on close attention to the text and thus invokes basic processes of reading comprehension. We adopted a widely accepted cognitive discourse processing approach to thinking about basic comprehension processes and the representations readers construct of text (Kintsch, 1988, 1998; van Dijk & Kintsch, 1983; see also Goldman, 2004; van den Broek, 1996). This class of models asserts that comprehension results in different "levels" of representation of a text, most commonly described as surface code, textbase, and situation model (Kintsch, 1994). The *surface code* captures the specific words, syntax, and prosody of the text. The *textbase* refers to the semantic meaning of the text. The *situation model* draws on prior knowledge, including relevant associations and experiences, to elaborate upon the text base and construct a more complete "world of the story," i.e. the settings, characters, plot events, and causal links. However, to account for literary interpretation, we assume that additional "levels" of representation need to be postulated (see Goldman, McCarthy, & Burkett, 2015). This is because literary reading is *point-driven,* meaning that when we read literature, we attempt to construct a mental model representative of the author's possible intentions or messages in crafting the literary work (Johnson-Laird, 1983; Vipond & Hunt, 1984).

Comparative studies of literary experts and novice literary readers indicate that experts and novices "read" literary texts differently, with novices tending to remain at the textbase and situation model levels. In one study, Graves and Frederiksen (1996) demonstrated that literary experts engaged in more interpretive reasoning than novices when asked to read part of a literary

work (*The Color Purple* by Alice Walker, 1982) and provided a verbal description of the passage while reading. Analyses of those verbal descriptions revealed that literary novices tended to provide close paraphrases of the text, whereas experts used information from the text to engage in inferential reasoning about the figurative language of the text and what it implied about the subtext meaning and possible author messages. In another study, Zeitz (1994) analyzed the responses of experts and novices to literary texts for evidence of basic (literal events in the text) and derived meaning (e.g., abstractions such as theme). The findings indicated that experts observed multiple levels of meaning in literary texts, while novices held more to basic facts in the story. The search for meaning beyond the literal is essential in interpreting literary texts.

To test conjectures about the point an author might be trying to convey, readers must go beyond the traditional boundaries of situation models of stories and consider more general messages about, and perspectives on, the human experience. However, they must do so in the context of paying close attention to the text and how authors "craft" the story through their choices of types of characters, plot structures, dilemmas, the emotions conveyed in the narrative, and the language and structure used to convey these elements (Hillocks, & Ludlow, 1984; Rabinowitz, 1987; Scholes, 1985). For example, rhetorical devices (e.g., symbolism, satire, irony) may be communicated through specific words, repetitions of words or phrases, parallelisms, or juxtapositions to convey mood, intent, and point of view (Lee, 2007; Rabinowitz, 1987). Attention to linguistic cues and patterns of language use is a key characteristic of experts' reading of literature (Graves & Fredrickson, 1996; Peskin, 1998).

However, it is crucial to understand that the epistemologies underlying literary interpretation mean that a reader, as well as different readers, may arrive at different understandings of the larger message of a text, depending on the interpretive lens through which

the text is read (see Lee et al., in preparation). For example, Earthman (1992) found that one of

the key characteristics of experts' literary reading was their recognition and entertainment of

various perspectives on a text. This openness implies a willingness to revise one's understanding

with further reading or discussion of the text. Indeed, with any interpretation, the validity of

broader understandings comes from how one reasons from the text to the interpretation. That is,

valid interpretations must be based not only on the rhetorical elements present in the text—the

evidence as it were—but also on the reasoning that connects the evidence to the interpretive

claim the reader wishes to make. The reasoning reflects the worldviews and knowledge that the

reader brings to the text. These worldviews stem from readers' lived experiences, including their

exposure to, and/or immersion in, cultural, religious, philosophical, political, ethnic, etc. mores,

norms, and systems of critical thought. Various studies of literary expertise have found that

literary experts rely on knowledge of, and experience with, other texts (Earthman, 1992; Peskin,

1998; Zeitz, 1994) in addition to knowledge of the text's cultural and historical context

(Earthman, 1992; Warren, 2011). Therefore, the reasoning that supports literary arguments is

based on both understanding of the world and knowledge of texts.

Implications of the Domain Analysis for Instruction and Student Learning

The domain analysis implies that there are multiple foci for instruction in literary

interpretation. Students need to makes sense of setting, character, and plot (e.g. rising action,

climax) to build a textbase and situation model. Additionally, to get beyond basic understanding

of plot and characters, they need to study how rhetorical strategies (e.g., symbolism, use of

description) are employed to construct arguments about the meaning of texts (e.g., authorial

intent, theme, motivations and psychological states of characters) that often reflect social or

moral issues and the human condition. Furthermore, interpretive claims need to be supported by

evidence in the text and the reasoning that establishes that the evidence does indeed support the claim (Hillocks, 2011). The reasoning process relies, in part, on having definitional criteria for a variety of constructs, including characteristics of people (e.g., courage, persistence, recklessness, villainy), literary rhetorical devices (e.g., symbolism, irony, unreliability), and themes and character types (e.g., coming of age, tragic heroes). The reasoning process involves not merely asserting what you think but *how* you know and *why* you think that (Lee, 2007).

English educators and researchers have focused attention on some if not all of these foci, but we could find few reports of instructional efforts that attempted to integrate multiple foci into an extended instructional effort, with the exception of Lee's Cultural Modeling Framework (Lee, 1995, 2007, 2011). The Cultural Modeling Framework identifies targets of interpretive problems that reappear across works of literature, defines heuristics and strategies for identifying and tackling these problems of interpretation, and articulates principles for drawing on students' prior knowledge, language repertoires, and dispositions socialized through everyday practices to scaffold these heuristics and strategies, including classroom discourse processes to support collaborative reasoning. This framework integrates prior work on a variety of strategies for supporting students in developing textbase and situation model representations (see Pressley, 2002; Schoenbach et al, 2012), argumentation skills (Hillocks, 2011), definitional criteria (Smith, 1991), making thinking visible (Lee, 2007), and developing the academic language forms that support interpretive claims (Langer, 2011a).

In addition, we incorporated participation structures that have been shown to enhance student thinking and reasoning, including whole class discussions as well as individual student work with graphic organizers intended to guide thinking (Anderson, Chinn, Wagoner, & Nguyen, 1998; Applebee, Langer, Nystrand, & Gamoran, 2003; Billings, 1999; Goldman &

Bloome, 2005; Lee, 2007). Prior efforts to transform high school literature study indicate that classroom discussions can be used to develop comprehensive understanding and exploration of multiple perspectives (Applebee et al., 2003; Langer, 2011a, b; Lee, 2005, 2007). Applebee et al. (2003) as well as others (Marshall et al., 1995; Reznitskaya et al., 2001) have also shown that the knowledge and skills evident in classroom discussions translate into improvements in individual students' written work. However, Marshall et al. (1995; see also Langer, 2011a and Lee, 2005, 2007) pointed out that improvements in collaborative discussions and written work are associated with the presence of particular types of teachers' discourse moves. Specifically, in classroom discussions that facilitated students' learning how to discuss literature, teachers' discourse moves 1) prompted students to generate a contextual framework to guide their interpretations, 2) encouraged students to elaborate on their responses, 3) generated questions based on students' contributions to the discussion, and 4) made explicit or prompted students to make explicit processes of analyzing and interpreting literature. These findings at the high school level are consistent with results of a meta-analysis showing positive effects of discussion-based approaches on literal and inferential comprehension with 8- to 12-year-old students (Murphy, Wilkinson, Soter, Hennessey, & Alexander, 2009).

For purposes of the present study, we focused on the interpretive problem of symbolism, and the life theme coming of age. Symbolism is a common rhetorical device used by authors to invite readers to make interpretations beyond the literal. When readers are able to detect and reconstruct potential interpretations of symbols, they are able to access deeper meaning in a wide range of literary texts (Lee, 2007). Likewise, coming of age is an archetypal theme in many literary works. It captures crucial experiences that characterize the transition from adolescence toward the maturity of adulthood. The case study reported here provides a relatively unique

window into adolescent students' initial attempts to engage in literary interpretation in terms of both what they learned and what continued to challenge them. Learning was examined through students' participation in classroom discussions focused on aspects of literary interpretation practices and through essays they wrote individually.

Methods

Research Context

The symbolism/coming of age module was implemented in two sections of Ms. Larson's (all names are pseudonyms) ninth grade classes, located in a large suburban school in the Midwest with approximately 2300 students. The racial and ethnic makeup of the school is roughly 50% white, 33% Hispanic, 10% Asian, and 4% Black. The ninth grade classes in which the intervention was carried out reflected recent influxes of Hispanic students to the area. In both sections, Hispanic students comprised over 90% of class. The two sections of ninth grade students were part of an integrated program for freshmen in reading, English, mathematics, and social science that, according to the school's website, "provides small group instruction, intensive tutorial help, and a focus on study strategies, counseling, support, and systematic parental contact." The students who are part of the program are identified in eighth grade through high school placement data, including reading scores below 30th percentile and counselor recommendation. Section 1 (3rd period) comprised 14 students, nine boys and five girls, and Section 2 (4th period) 13 students, nine boys and four girls.

Ms. Larson (NL), a reading specialist with over six years of experience teaching in middle and high schools, implemented the module in the 4th period section, and the first author of this paper (TS), a researcher with Project READI, taught the 3rd period section. TS is a former high school English teacher with seven years of experience in a large public school system.

Throughout the module implementation, NL and TS observed each other's instruction and debriefed and planned together so that implementation across the two sections was consistent. The intervention took place over five weeks, typically four days per week for 45 minutes a day per section.

Design of Ninth Grade Module: Symbolism and Coming of Age

Table 1 offers an overview of the symbolism and coming of age module, including the sequence of tasks/activities and texts. The task and text sequence provided opportunities for students to build their knowledge of symbolism as a rhetorical device in stories with coming of age themes in texts of increasing complexity. In addition, the sequence covered elements of argument (claims, evidence, and reasons particular evidence did or did not support specific claims) and background knowledge about immigration, assimilation, and East Asian family culture.

INSERT TABLE 1 HERE

We approached making interpretive claims about symbolism in three phases that built on one another: 1) identifying symbols and making claims about why they were symbols based on connections or associations made with the particular object or image (e.g., "When you think of roses, what does the image make you think about? What connections do you make with roses?"); 2) making symbolic interpretive claims based on associations and evidence in the text, connecting these to what they reveal about character(s) and their worlds; and 3) making symbolic interpretive claims based on associations and patterns of evidence across extended texts and connecting these to what they reveal about the character(s) and their world(s). The worksheets that were used to support students in each phase are shown in Table 2.

INSERT TABLE 2 HERE

In addition to the progressive increase in the complexity of the interpretive task related to symbolism, the texts themselves increased in complexity, moving from relatively simple with easy to identify symbols to short texts that featured literary conventions for cueing symbols with potential interpretive importance, and culminating in a lengthier, culturally less familiar text, "Two Kinds." (See Supplementary Table S1[1] [insert hyperlink] for complexity indices for the literary texts used in the module.)

The focus on symbolism was preceded (Days 1–3) by two different preliminary activities that drew on students' prior knowledge of the everyday world. The first focused on three elements of argument structure (Hillocks, 2011). The second activity served as a gateway activity (Hillocks, 1986; Smagorinsky, McCann, & Kern, 1987; Smith, 1989, 1991) to activate and build knowledge related to psychosocial struggles around identity and coming of age as experienced by immigrants to Chicago.

Symbols were introduced (Days 4, 5) through two texts from the everyday world: visual images of traditional symbols from everyday life (e.g., American flag, hearts, roses) and pop culture songs performed in videos, with lyrics provided on handouts. Lee (2007) refers to these as cultural data sets because students readily recognize and interpret that which is symbolic in these texts drawn from their everyday worlds. More generally, cultural data sets manifest the rhetorical problem that students will be encountering in literary texts but do so in texts where students routinely use the types of thinking and reasoning processes that they need to employ when working with literary texts. To make these thought processes visible so that they can be applied to school texts, the focus with cultural data sets is on the metacognitive, i.e., "how you know?" (Lee, 2006, 2007). For example, in the song title "Girl on Fire" by Alicia Keys, students

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[1] Supplementary tables are available only in the electronic version of the article.

explain how the lines of the song that state the woman is going places and is on top of the world justify a rejection of the title as literal and imply that she is unstoppable. In the present study, students worked with the two cultural data sets to identify symbols and make interpretive claims based on associations with the symbols, using the three-column worksheet shown as Sample 1 in Table 2. Group discussion was intended to focus on *how they knew* or *why they thought* what they identified as symbols were indeed symbols. This emphasis was intended to make explicit literary conventions, called rules of notice (Rabinowitz, 1987), that cue parts of the text as potentially important for interpretive claims.

Over the next five days, students worked on close reading and annotation strategies as means of determining basic plot and character elements (textbase and situation model levels of comprehension) and practiced identifying symbols. From days 11 to 14, they focused on the second phase of making interpretive claims about symbols, using Worksheet 2 (Table 2, Sample 2) with two relatively short texts. Class discussions around these provided students with opportunities to practice and get feedback from their peers and the teacher regarding their sensemaking and interpretive processes.

The final seven days of the module were devoted to the longest and most complex text of the module, "Two Kinds" a chapter from the novel *Joy Luck Club* (Tan, 1989). The first day focused on building knowledge of East Asian culture that was needed to understand the plot and characters. Over the next four days (Days 16–19) students first focused on textbase and situation model understanding of the plot and characters and then turned to interpretative claims about important symbols in the text and what they suggested about the main character and her world (Table 2, Sample 3). During the last two days of the module, students wrote essays that

compared the symbols and their interpretations with respect to the story worlds of "Two Kinds" and one they had done earlier, an excerpt from *When I Was Puerto Rican* (see Days 6–10).

Throughout all phases of the module, three instructional routines were used in one or two day cycles: teacher modeling of comprehension and interpretive processes in whole group configuration; small group and individual work (order varied) that provided opportunities for independent application of the modeled processes; and oral, whole class discussion for "sharing out" thinking. The cycle of instructional routines was intended to engage students in intellectually challenging work in a socially supportive but academic context.

Data Sources and Analytic Strategies

Data sources. The five-week period of instruction was intensively documented through video recordings and field notes. The documentation focused on whether processes and outcomes for students that had been anticipated in the design were visible in consideration of what was being implemented and how. Note that in the context of the larger project, the documentation served to inform subsequent design iterations. Along with the teachers (NL and TS), the second author of this paper was present every day during the implementation, taking field notes and videotaping the classroom lessons. All three made daily reflection notes and met three times a week to debrief, discussing what students seemed to understand and what they seemed to find difficult and previewing detailed lesson plans for the next several lessons.

When the module enactment had concluded, the design team examined whole class discussions to ascertain how student learning had progressed relative to the goal of engaging students in practices of literary interpretation and argumentation. In addition to examining the learning process at the classroom level, we looked at change at the individual level through a written essay task administered prior to and again after the completion of the module.

Analytic strategies: Classroom videos. Systematic analyses of the classroom discussions were conducted at the completion of the module and occurred in three phases: thematic content analysis of the field notes, segmentation into instructional episodes, and in-depth analyses of videos of a purposeful sample of lessons.

Thematic content analysis. The primary purpose of this first phase of analysis was to ascertain if, as suggested by informal observations, field notes provided evidence that there had been changes in student participation and quality of argumentation and literary interpretation over the course of the module. The first two authors engaged in repeated readings and thematic summarization of the field notes and analytic memos for the two class sections. They independently wrote descriptions of what each "saw" in the discourse and classroom discussions, paying close attention to differences noted in the early-, mid-, and end-of-module discussions. The thematic content analysis was guided by prior work on characteristics of classroom discussion in mathematics and reading instruction that have been found to support sensemaking and meaning construction by creating a space for students to deepen their own reasoning through providing evidence and building on or critiquing the reasoning of others (Chinn & Anderson, 1998; Lee, 2001; Resnick, Michaels, & O'Connor, 2010; Wolf, Crosson, & Resnick, 2005). Features of discussions that provide evidence of this generally include use of newly acquired knowledge (Mercer, Wegerif, & Dawes, 1999), building and interacting with each other's comments (Nystrand & Gamoran, 1991; Wells & Arauz, 2006), and questioning the text, theme, or peer's claims (Chinn & Anderson, 1998; Wells, 2007). Features specific to literary analysis include rules of notice for rhetorical devices, multiple interpretations of a literary work, and evaluation of evidence and reasoning for interpretive claims (Applebee et al, 2003; Hillocks, 2011; Langer, 2011a; Lee, 2007; Rabinowitz, 1987).

The summaries suggested that over the five weeks students did indeed begin to engage in the literary argumentation and interpretive practices that were the focus of the module. This learning was evident in more involvement in interpretive argumentation by more of the students. In particular, the summaries provided indications of differences in interpretive moves students were using, the interpretations advanced, and whether there were competing interpretations or diffusion of ideas regarding symbolic meaning over the course of the module. These themes were evident in both sections. Based on this first phase of analysis, we proceeded to do more in depth analyses of the videos for one of the sections, Section 1.

Segmentation of instructional episodes. All twenty-one lessons of the module as implemented in Section 1 were segmented using the field notes. Segments were based on episodes of instruction. Episodes were defined as classroom activity during the instructional period that centered on a particular goal or topic (Bloome, Carter, Christian, Otto, & Shuart-Faris, 2004). For example, most instructional days had two to three episodes; these episodes were generally 1) a review or instruction of skills related to objectives of the module, 2) group, small group, or individual work with support handouts, and 3) sharing out either through small group presentations or whole-class discussions. Each segment was then coded for instructional objectives (interpretive problem, theme, argumentation), materials (text, text purpose, scaffolds), and classroom activities (participation structures, teacher activities, student activities). The first two authors established reliability on segmenting and coding of the lessons. The second author segmented and coded all lessons and the first author did the same for 20% of the lessons. Cohen's Kappa was 100% on number of episodes occurring in the instructional day and 98% for the labeling of instructional objectives, materials, and classroom activities for each episode.

Intentional sample of class discussions. To look at learning across time, samples of classroom discussions early, midway, and close to the end of the module were selected for deeper analysis. The particular episodes were chosen because of their occurrence in the instructional sequence (early, mid, end) and their focus on symbolic interpretation: symbol identification and associations for making claims about why they were symbols (Day 4), symbolic interpretation and what they reveal about the character and world using evidence from the text (Day 12), and symbolic interpretation as a means of understanding characters and their worlds by attending to patterns of evidence across extended texts (Day 19). Each of these discussions was transcribed and analyzed for student participation and the nature of that participation. We quantified the number of students contributing to the discussion, the number of talking turns per student along with number of words per student, as well as the overall length of the discussion. Qualitatively, we analyzed the nature of the interpretive practices in terms of the types of claims made and supported (e.g., identification of symbols, claims about symbolic meaning, evidence for interpretation, reasoning to connect claim and evidence) and by whom (teacher, particular students). In looking at the latter we were particularly interested in aspects that indicated discussions as supportive of literary interpretation, including teacher facilitation of the discussion, the types of questions advanced, and whether elaborations of ideas and exploration of multiple ideas were both teacher- and student-driven.

Analytic strategies: Pre/post essay assessment. We administered a written essay task prior to implementing the module and just after implementation was completed. The task instructions asked students to compare and contrast "how the symbols in each story help you understand the characters and their worlds." The pre- and the post-tests were each conducted in

one class period of 45 minutes. The pre-essay task was administered the week prior to the

module implementation and the post was given within 1 to 3 days of completing the module.

Students read two stories at pre and two different stories at post, none of which had been

part of the module. Two story sets (A and B) were developed for counterbalancing purposes,

with half the students in each section receiving set A at pre and B at post and the other half set B

at pre and A at post. Four stories were selected that had the following features: coming of age

theme, prominent symbolism related to the coming of age theme, and text complexity

appropriate for grades 6 – 12 (ages 12 – 18). The specific stories and details regarding length and

complexity are provided in Supplementary Table S2 [insert hyperlink]. We anticipated that

interpretations of these texts would be highly challenging for ninth grade students, particularly

prior to instruction. Absolute levels of performance were of less interest than changes in

performance from pre- to posttest and what these suggested about the development of literary

inquiry practices.

Coding of the pre/post essays. Essays were evaluated on eight dimensions that reflect

aspects of argumentation and interpretation in the literary domain. For each dimension, an

ordered set of score points defined the rubric. We, along with other members of the Project

READI literature team, developed the dimensions and score points based on a broad sample of

approximately 200 essays collected from students enrolled in sixth through twelfth grade English

Language Arts classrooms. The score points reflected the sophistication of the response with

respect to argumentation (three dimensions: claim, evidence, reasoning), literary interpretation

(four dimensions: substance of the claim, symbolic interpretation, thematic interpretation,

synthesis thru comparison/contrast of two stories), and organization of the ideas (one dimension).

All dimensions had at least three score points; symbolic interpretation had four; claims and

evidence each had five. The score points were arrived at through an iterative process using subsamples of the essays. A set of score points was agreed upon when the intraclass correlation coefficient for a dimension was at least .80 (Shrout & Fleiss, 1979).

The first two authors used the agreed upon dimensions and score points to score all of the essays in the two ninth grade sections that participated in the intervention described in this paper, scoring pre and post at the same time but blinding them for time point. They reached 88% agreement on score point assignments. A third scorer (a member of the READI literature team) scored six of the essays selected at random. That reviewer reached 84% agreement on the scores for the six essays. Any conflicts in scoring were resolved through discussion. Note that, with the exception of the Synthesis dimension, each story in a pair received a score on each dimension.

A summary of the eight dimensions and the rubrics is provided here. See Supplementary Table S3 [insert hyperlink] for the full rubric.

Dimensions of literary argumentation: claims, evidence, and reasoning

Claims: Assertions about the characters, their worlds, or what the symbols in the texts "mean," with increases in score points reflecting increases in the number, accuracy, and connectedness of the claims. The zero score point was assigned if claims were inaccurate with respect to the information in the story or restated the question prompt. The highest score point (four) reflected inclusion of multiple interconnected, nested, or counterclaims.

Evidence: Information from the text used to support a claim(s), with higher score points indicating increases in accuracy, amount and connectedness of the evidence to the claim(s). A zero indicated that no accurate evidence was provided; the highest score point (four) indicated comprehensive information for competing claims.

Reasoning: Principles or "rules" that relate evidence to claims (e.g., "When people are angry, they generally lash out at others"). A zero indicated the absence of these types of warrants in the essay; a two, the highest score point, indicated explicit use of cultural or literary norms in explaining why the information provided as evidence was supportive of the claim.

Dimensions of literary interpretation: substance/function of claim, symbolism, coming of age theme, synthesizing stories through comparison/contrast

Substance/Function of claim(s): The substance of claim statements with respect its substantive function logically and rhetorically in the essay. At the zero score point, the claim restated the question or provided a textbase level summary of the story (e.g., It was about a boy). A two (highest score point) indicated that the claim referred to how the characteristics of the story (word choice, plot type, character type) helped the reader understand the character and/or their world.

Symbolism: Captured the degree to which the student identified and interpreted something from the story as having symbolic significance. A zero score point reflected no identification of anything being a symbol; a one indicated identification of a symbol; the next score point added interpretation within the story world; and the final added implications or connections outside of the story world.

Coming of age: Reference to, or discussion of, character change or other coming of age criteria (e.g., character realization or new understanding about the world). A zero score point reflected no mention of coming of age theme. A one indicated mention of character change, and a two (highest score point) connected the change to something symbolic in the story.

Synthesis addressed whether the essay compared or contrasted the two stories, and, if so, whether the connection was at a surface level (e.g., Characters in both stories lived on a farm) or explicitly comparing and contrasting symbols using evidence from each text.

Organization dimension. Raters assigned a zero, one, or two to the essay based on a holistic judgment of the clarity, logic and rhetorical structure of the essay, including coherence within and between paragraphs.

Results

To preview the major findings, the analyses of the initial class discussion and of the essays written prior to the literary interpretation instruction indicated the absence of interpretive practices. The subsequent discussions and the post instruction essays showed that most students increased their participation and facility with literary interpretation practices. In reporting the results, we first examine the classroom discussions and then the individual performance on the essays.

Classroom Discussions

Overview. As might be expected, our predictions regarding student learning over the course of the module are closely aligned with the learning objectives of the module. Specifically, the module introduced interpretation of symbolism in literary texts to the students. As well, the teachers of both class sections intended to use classroom discussions as a way to share ideas and make thinking visible. However, we did not have any empirical basis for making predictions about the sequence, extent, or time frame of learning and change in either literary interpretive practices or participation patterns in the discourse.

Analyses of the discourse during whole class discussions indicated clear shifts in the aspects of literary interpretation that the students engaged with as well as shifts in both the

amount and quality of participation over the course of the module. To provide a brief overview of the findings, the first discussion shows a heavily teacher-directed lesson with little student participation in interpretive activities. That is, when prompted by the teacher, students could identify potential aspects of text that were symbols but not how they knew. In the second discussion, more students were actively engaged in identifying symbols and attempting to use information in the text to construct and justify their interpretations. As well, two students put forth different interpretations and the class discussion focused on criteria for deciding upon their legitimacy given the text. The third discussion focused more explicitly on connecting symbolic interpretations to understanding story characters and their worlds, as well as on more general themes about human nature. The story for this discussion was the longest and most complex text in the module. This class discussion had the broadest student participation, but they struggled to make sense of key symbols, whose interpretations changed over the course of the story, and their implications with respect to the character and her world.

Starting point: How do you know it is a symbol? This particular lesson occurred on Day 4 of the module and marked the first time students were introduced to symbolism and asked to think about what makes something a symbol. Essentially, they were asked to think about how they knew when something had meaning beyond the literal. The excerpt below from the class discussion illustrates that the starting point for participation and literary interpretation was a fairly traditional pattern of teacher–student interaction. The teacher used questions with known answers, and there was limited participation on the part of just a few students. Students identified symbols, but these were single word responses to the teacher.

Lesson context. This lesson specifically focused on recognizing and interpreting symbols in familiar contexts and making explicit the processes and cues involved in doing so. During the

first part of the lesson, students were shown pictures of everyday objects, including flags, team

emblems, a rose, and the Statue of Liberty, and they offered ideas about what they symbolized.

The lesson excerpt picks up the class discussion that occurred after students had watched a video

of *Glee* in which the cast performed the song "True Colors" and had filled out the worksheet

asking for symbols they identified, associations with them, and what the symbols meant (Sample

1 in Table 2). As in the first part of the lesson, the intended focus of the discussion was on

students articulating what they thought were symbols and why they thought so.

   Lesson excerpt.

   1.1   Teacher: In this song, there is a pretty obvious symbol. What do you guys think?

   1.2   Gus: Happiness

   1.3   Teacher: What does happiness stand for? Because it's not necessarily an object,

right? It's something that if we think about an object it might mean happiness. Ali, what

do you think?

   1.4   Ali: Object?

   1.5   Teacher: A thing, as a symbol.

   1.6   Ali: I was thinking of "But I see your true colors."

   1.7   Teacher: True colors

   1.8   Ali: Looking at someone being themselves.

   1.9   Teacher: So he gave us a symbol and a possible meaning. Why do you think I said

it's pretty obvious?

   1.10   Ali: Said it like 10 times

   1.11   Teacher: What else?

   1.12   Eve: Isn't it the rainbow?

1.13   Teacher: Definitely, it might be a rainbow. Why did I say it's an obvious one?

1.14   Cal: It's the object.

1.15   Ali: it's the title.

Symbolic and thematic interpretative practices. This first lesson excerpt illustrates where students were starting from in terms of literary interpretive practices as well as discussion practices. Students had difficulty shifting to a more interpretive stance from one where they simply provided what answers they thought the teacher was looking for. Students struggled to make sense of the lyrics, the worksheet, and what was being asked of them (identify titles and repetition as clues to symbols and get at how we know something is symbolic) as seen in lines 1.2, 1.4, 1.12, and 1.14. Beginning the conversation by asking about obvious symbols was meant to serve as support for student explanations that would make explicit various "rules of notice" (Rabinowitz, 1987). In the case of this song, repetition of the phrase "true colors" and its prominent position in the title were "obvious" cues that it was a possible symbol, at least to the teacher (line 1.1). However, one student instead gave an affective response to the song as a whole (line 1.2). This was not the answer anticipated by the teacher. She attempted to provide further definition of what she was asking and what she had in mind as a symbol (lines 1.3). She specifically turned to a different student for a response. Ali and the teacher alternated turns (1.4–1.8) until Ali provided a meaning for "true colors" (1.8). At that point, the teacher attempted to focus the discussion on rules of notice (line 1.9), asking why she said it was an obvious one. Ali provided the answer the teacher was after—repetition (line 1.10) and prominent placement in the title (line 1.15). From this point, the rest of the lesson was focused on figuring out why some images might be obvious symbols and helping students think through their choices of what might have symbolic meaning in a particular context.

When discussing the song lyrics, students offered words and phrases as having symbolic meaning but their reasons for saying so suggested that they really could not articulate and perhaps did not have any systematic criteria for deciding whether something was symbolic. However, in the course of the discussion of possible symbols, some parameters around what did and did not qualify as a symbol were established. For example, one student indicated that the words *sad eyes* in the song were a symbol for "sad eyes," referring to the physical facial feature. This led to a consideration of whether *sad eyes* was a symbol and, if so, whether it could represent "sad eyes." During this discussion, two students proposed that a symbol cannot simply "represent itself." In other words, a symbol cannot represent its literal meaning. By the end of the lesson, the discussion produced a more structured approach to identifying symbols.

   Student participation. What also stands out in this excerpt is that the teacher was driving the conversation with seven turns out of 15 and only three students contributing. The students were not putting forth their own claims about possible symbols in the song. Rather, the teacher ended up advancing some heuristics that often help draw attention to symbols—repetition and titles. This excerpt is typical of participation throughout the class discussion on Day 4, summarized in Table 3. The second column of the table indicates that only six students contributed overall and that their contributions were for the most part limited to a word or short phrase. The limited participation might have reflected confusion regarding what the teacher was asking, lack of familiarity with being asked to interpret, a sense that this was the familiar "guess what the teacher wants me to say" game, or all of the above. Regardless, students did not contribute substantively to *how* they knew it was a symbol.

INSERT TABLE 3 HERE

Intervening Instruction. Over the next five days of instruction (Days 6 – 10), students practiced close reading and annotating with an excerpt from the book *When I Was Puerto Rican* (Santiago, 1993). Students tracked the story plot, noting changes in character and identifying and articulating how they were recognizing and interpreting symbols. As students more readily identified symbols and articulated how they were identifying them, the teacher asked them to use associations they made with the symbol to suggest what the symbol might mean and how it might relate to story theme. Students worked independently, in pairs or small groups, and discussed their "findings" as a whole class. Thus, by the middle of the module and second sampled lesson discussed in this paper, students had had instruction and opportunities to practice recognizing symbols, articulating what made them think they were symbols, and making interpretations based on their associations.

Text-based interpretations: What in the text makes you think that? The second intentionally sampled lesson occurred on Day 12 of the module and introduced the second phase of symbolic interpretation: using textual evidence to support interpretive claims about symbols. The class discussion shows noticeable changes from Day 4's, even though this lesson was the initial effort to move beyond interpretations based on associations. The lesson excerpt illustrates more active student contributions and efforts to use evidence to support their interpretive claims.

Lesson context. The focal text was the Cisneros vignette "Four Skinny Trees." Compared to the text students had been working with, this was shorter, but richer in symbolism. As a result, there was less for students to keep track of in terms of plot and event sequence but more opportunity for students to focus on interpreting figurative language. The day before this discussion, students were instructed to read the vignette silently, annotating anything that might be symbolic. For homework, students were asked to identify three possible symbols in the

vignette and complete the worksheet shown as Sample 2 in Table 2 for each one. As noted
earlier, this worksheet explicitly asked students to indicate textual evidence to support their
interpretations of symbols.

On Day 12, the class began with discussion focused on what students had written on their
worksheets. Student contributions were recorded on a projected version of the worksheet, the
contents of which are shown in Table 4. Class discussion indicated that most students had written
"four skinny trees" for what they thought was symbolic. As a group, they established that four
skinny trees met the criteria for what might be important according to the rules of notice (titles
and repetition). Students noted quotes from the text and associations (Column 3) indicating
weakness and lack of support. A disagreement about what the symbol meant emerged when Eve
and Cal offered two different interpretations (Column 4). Eve indicated that the four skinny trees
symbolized the narrator's feelings; but Cal claimed that they symbolized four unpopular friends.
This was the first time in the module that students were explicitly confronted with conflicting
interpretations. Capitalizing on this, the teacher oriented the class discussion around determining
what text-based support there was for the two conflicting interpretations, as depicted in the
lesson excerpt.

INSERT TABLE 4 HERE

Lesson excerpt.

2.1   Eve: The girl, like she feels like she has no one there for her, like the trees.

2.2   Teacher: … And what are you thinking?

2.3   Cal: What if it's someone, cause I don't agree, like she [Eve], I agree with the
things she is saying but I thought the idea was that it was a group of kids.

2.4   Teacher: Okay a group of kids, what do you mean a group of kids? That the

symbol represents a group of kids?

2.5   Cal: That are unpopular.

2.6   Eve: But then why would she look up to them if they were unpopular?

2.7   Cal: 'Cause it always says like four so it could be four kids that are useless, not

useless but not confident.

The teacher turned to the other students, asking for support for either interpretation.

2.8   Rex: 'When I am too sad and too skinny to keep keeping.' (*reading a line from

the text).* She might feel that she feels exactly like the trees.

The teacher continued to seek other students' ideas about textual evidence to support

either claim. Ali responded:

2.9   Ali: The four friends.

2.10   Teacher: Okay, so give us evidence. Tell us which paragraph, then read it to us,

then tell us why it supports that.

2.11   Ali: Um, the first one, it says, 'They are the only ones who understand me.' Trees

can't understand you so it has to be like people, you don't talk about your feelings like

that.

2.12   Teacher: You don't talk about your feelings like that. So when they say 'They are

the only ones who understand me,' you are thinking that…

2.13   Ali: That the people are replaced by trees. Like in this case.

Towards the end of class, Eve remained unconvinced by Cal's interpretation. She

provided evidence from the text to contradict the suggestion that the trees might represent four

unpopular friends, especially because no other people beyond the narrator were mentioned in the text:

> 2.14   Eve: Yeah, I was going to say that it says, 'Four who do not belong here but are here.' It even says that the city planted them. So we can't find students, like people.

The tone and affect of Eve's statement suggested that this evidence clearly showed the problems with Cal's interpretive claim.

Symbolic and thematic interpretative practices. The excerpt from the class discussion on Day 12 provides evidence of students' progress in identifying and using the language and content of the text to support interpretive claims. Both Eve's and Cal's claims indicate that they were taking an interpretive stance towards the text: they both understood that the trees had a meaning beyond the literal. However, the students appear not to have the language forms for expressing how and why the evidence from the text supports specific claims, so we see the teacher providing these on several occasions, for example 2.10 and to some degree 2.4.

The practice of paying attention to the language and structure of the text as support for interpretive claims is fundamental to literary reasoning. For this reason, we elaborate on how this was manifest in the excerpt. First, Eve drew on the parallelism between the description of the trees and the narrator's feelings, i.e., both the trees and the narrator are lonely (line 2.1). Rex (line 2.8) provided further support for Eve's interpretation by reading a line from the vignette (line 2.8) and equating the character's feelings with the trees. The logical warranting of the argument, although not explicitly stated by the students, is that if the four skinny trees are described in ways that parallel the way the narrator feels, then the two must be connected. These two students provided textual evidence to support this claim. A second example of heavy reliance on the language of the text was Ali's attempt (2.11) to support Cal's claim that the trees

symbolize four friends. Ali attempted to make sense of the unexpected and unusual attribution to trees of the human ability to understand. He paid close attention to the way language was used in the text, focusing on his own knowledge that trees do not have the capacity to understand people; only people have that capacity. The author of the text clearly violated that by replacing people with trees in the line from the text that Ali cited (2.11). Ali resolved this rupture by reasoning that the interpretation had to be that trees referred to people presumably because people can understand you. However, neither he nor Cal could provide other evidence from the text to validate this interpretive claim.

Finally, in her counterargument towards the end of class (line 2.14), Eve appeared to use the *absence* of language in the text about people to argue why it was more likely that the four skinny trees represented the narrator's feelings, rather than four unpopular friends. Her statement, "we can't find students, like people," attempts to get at the lack of textual evidence for people being present; only trees are present. Eve made a relatively strong case for her interpretive claim citing the absence of people in combination with the presence of parallel forms of description between the trees and the narrator's feelings.

Student participation. During this class discussion, eight of the 11 students present made at least one contribution to the conversation (Table 3, Column 3) but more importantly the distribution of turns and words per student indicate that the two students who had proposed the conflicting interpretive claims, Cal and Eve, dominated the student contributions. Indeed, the back and forth between them in lines 2.5–2.7 is an initial step in the direction of student-to-student argumentation. Despite this evidence that Cal and Eve were doing major intellectual work in this whole class discussion, the teacher continued to guide and manage the discussion. During her turns, she repeatedly invoked the task schema of finding "evidence in the text" that

might support one or the other of the two interpretations on "the floor" so the class could determine which was a stronger, more justifiable interpretation. Students' responses, although largely prompted, were longer and more substantive than they had been during the beginning lesson (see Table 3, Column 2). Ali's responses in lines 2.9, 2.11, and 2.13 exemplify this. At the same time, the teacher attempted to broaden participation in the discussion and intentionally sought input from students other than Cal and Eve. This effort was somewhat successful in that all but 3 students contributed to the discussion and these 3 appeared to be attending to the discussion (Field notes 10/31/2011).

To summarize, the two competing claims that emerged in this lesson indicated students' deepening of their knowledge, processes, and skills around literary reasoning, especially with respect to providing and explaining textual evidence for a particular claim. Of course, this is still largely with teacher support. However, it must be emphasized that this discussion included interpretive claims, explanations that linked those claims with evidence, responses to opposing perspectives, and counterclaims (Chinn, Anderson, & Waggoner, 2001, see also p. 387, Lee, 2001). It marks a move toward dialogic discussion and an increase in intellectual work on the part of the students as well as movement towards fuller engagement in literary disciplinary practices. However, still largely implicit was the reasoning linking the evidence to the claim.

Intervening Instruction. During the six instructional days between the middle lesson and the end-of-module discussion (Day 19), students spent two days reading and discussing the poem "A Song in the Front Yard" by Gwendolyn Brooks (see Table 1), practicing the process they had used with "Four Skinny Trees" of identifying potential symbols, making associations with them, and finding evidence in the text to support claims about what the symbols represented. However, the symbolic interpretation in the Brooks poem is more complex than in "Four Skinny Trees."

The poem expresses multiple perspectives on growing up symbolized by conflicting descriptions of the front and back yard. For example, the back yard, where the daughter/narrator wants to go, is described as "rough and untended" and where children "have some wonderful fun." However, it is also the place where her mother does not want her to go as she "sneers" and warns her daughter of a girl in the back yard growing up to be a "bad woman." Class discussion focused on connecting the symbolism of the front and back yards to the coming of age theme, focusing on how the daughter/narrator's age and immaturity influenced the way she saw the world, particularly in contrast to the mother's views. Students then wrote a paragraph with evidence and reasoning around the idea that although the daughter was beginning to come of age, her views were still immature. Thus, the work with "A Song in the Front Yard" continued to focus on multiple interpretations of symbols but, in this case, in relationship to the coming of age theme.

The four days directly preceding the end-of-module discussion on Day 19 were devoted to developing basic level understanding of the text "Two Kinds." "Two Kinds" is the story of a Chinese-American girl, Jing-mei, who narrates her struggles over her identity with her Chinese immigrant mother, a narration stimulated by the mother's death and Jing-mei's visit to the family home. Classwork on this story began with building background knowledge for the relatively unfamiliar East Asian cultural context (Day 15). Three days were then spent establishing the plot elements and sequence of events due to the complexity of the narrative itself. The bulk of the six-page story is Jing-mei's flashback to her childhood during which her mother attempted to mold her into a musical prodigy as a pianist. Jing-mei describes the past in terms of hopes, disillusionments (both mother's and her own), and her eventual outright rejection of becoming a prodigy. The last half page of the story relates a change in Jing-mei's perspective on her childhood and what her mother really wanted, namely for Jing-mei to try her best. She looks

back over the music that she formerly shunned and discovers something that she hadn't noticed

before: The song on the left-hand side of the page called "Pleading Child" and the one on the

right, "Perfectly Contented" are two halves of the same song, paralleling Jing-mei's realization as

an adult of the duality of her mother's goals and her feelings about her mother.

  "Two Kinds" posed new challenges for basic plot and character understanding as well as

for symbolic interpretation. The flashback narration introduces two chronologies that have to be

tracked (past and present) as well as two perspectives on those events (Jing-mei's child and adult

perspectives). Symbolic interpretation was challenging because there were two prominent

symbols (the piano and the song title) that were important for understanding the transformation

of Jing-mei's relationship with her mother and of Jing-mei's identity from childhood to

adulthood. The interpretive meaning of both of these emerged and changed over the course of the

story. Tracing the emergence and change is the issue that came into play during the third

intentionally sampled lesson presented here.

  Interpreting longer texts: What does that tell us about the character and her world?

The third sampled lesson occurred on Day 19 and emphasized using interpretive claims about

symbols to understand characters and story worlds. Not surprisingly, the class discussion

reflected a number of challenges students experienced in grappling with symbolic identification,

interpretations based on evidence from the text, and character understanding. The teacher heavily

guided the discussion as she attempted to draw students' attention to multiple parts of the text

and to make their thinking visible. Students' responses indicated a continued willingness to

engage with the interpretive task, as challenging as it was.

  Lesson context. Given the sources of increased complexity in "Two Kinds," the teacher

spent the first part of class modeling and discussing with students her process of tracing the

image of the piano throughout the text in order to illustrate how the meaning of a symbol might change over the course of a story and how students might approach the interpretive process in completing the Sample 3 worksheet (See Table 1, Sample 3). After that, students were given time to make a list of elements of the text with potential symbolic meanings and then discussed which of these to interpret as a class. The students voted to use the title of the music piece, "Pleading Child–Perfectly Contented," as the symbol to discuss and chart on the class worksheet.

Lesson excerpt.

3.1   Teacher: Where did we first see that [the titles of the songs] or what was going on? Tom, do you have anything?

3.2   Tom: I said that two halves equal one.

3.3   Teacher: Okay, he's jumping to two halves equals one. But how do you know that? What did you get from the story? Where did we first see it or what do you first remember about it in the story? Help him out, Gus, what do you have?

3.4   Gus: Childhood and later growing up in life.

3.5   Teacher: Do you remember first part for childhood? Where do we first see this title?

3.6   Gus: Pleading child.

3.7   Teacher: Yeah, what was going on? Where did we first see that title?

3.8   Tom: Talent show.

In the next few minutes, students and teacher added to the description of what was happening around both the first and second mentions of the song titles. Following that, the discussion moved to address how the interpretation of the symbol might be connected to the narrator Jing-mei. The teacher gave the students time to write down and share ideas with their

partners. Following the pair share, the teacher opened up the class discussion by asking "What type of person is Jing-mei?"

3.9   Cal: She is growing up and is more mature

3.10   Teacher: Okay, more mature, but how do we make sense of the fact that we said it's two halves equals one, two things connected?

3.11   Cal: 'Cause she actually plays the piano again, so it's not like someone who wasn't mature and throws away a piano and she didn't care. But she actually sees the piano as a sign of forgiveness.

3.13   Teacher: So she's moving, right? Character has moved now from immature to mature?

3.14   Cal: Yeah.

3.15   Teacher: Do you see what Cal did? He realized that if we are talking about two halves, there have to be two aspects. What other two aspects might we talk about in terms of Jing-Mei?

3.16   Max: Doesn't want to be bossed around.

3.17   Teacher: Max says she doesn't want to be bossed around but there's another half to that. She doesn't want to be bossed around, but yet what else does she want to do?

3.18   Lea: Be accepted for who she is.

3.19   Teacher: Yep. Doesn't want to be bossed around but she wants to be accepted.

Symbolic and thematic interpretative practices. The lesson excerpt illustrates students trying to connect the meaning of a symbol and changes in its meaning to the change in the main character across the story. Lines 3.1 to 3.8 indicate a combination of skills students are developing in the context of the affordances of this text. The symbol students selected by its very

nature entails two contrasting meanings that parallel Jing-mei's development from child to adult, reflected specifically in the change in perspective on her relationship with her mother. Understanding the symbol, therefore, requires understanding a more complex plot and characterization. Specifically, the first part of the title (Pleading Child) can be connected to the narrator's childhood, when she was an obedient child hoping that her mother would accept her as she was. "Perfectly Contented," the second part of the title, relates to the narrator as a grown up, when, as an adult, she is finally able to realize that her mother was never disappointed in her but simply wanted her to try her best. Lines 3.1, 3.3, 3.5, 3.7 show the teacher using prompts that attempt to elicit the plot elements around the symbol that might serve as a basis for interpretation. The fact that the teacher has to ask four times before a student provided the textual evidence may indicate that students are now taking for granted certain steps in the process of interpretation: In 3.2 and 3.4 the students jumped directly to interpretations. The teacher worked to get them to take a step back and provide the textual evidence for those interpretations. Although those interpretations were not fully elaborated, students were able to determine that the title of the song highlighted two aspects ("two halves equals one") and reflected the narrator's life ("childhood and later growing up in life").

Considering the complexity of the task and text, it is not surprising that students needed support to connect their interpretations to the larger messages in the story, as in lines 3.9 to 3.18. For example, Cal's response (line 3.9) to what the symbol tells us about the character was that she is growing up and is more mature. Because Cal's response seemed to lack the dual aspects that were previously established for the symbol, in line 3.10 the teacher pushed him to consider the two aspects. His response, pulling on evidence from the text, is a clear example of the duality of the character: as an immature child she refused to play the piano; as a mature adult, she

"actually plays the piano again" (line 3.11). The teacher (lines 3.12 and 3.14) then summarized what Cal said and asked students for further ideas on how the interpretation of the symbol connected to the character. Max in line 3.15 provided one more aspect (not wanting to be bossed around). In line 3.16, the teacher again attempted to clarify and emphasize the duality to help students focus on the parallelism in the title of the piece, their interpretations, and the narrator's life. Lea responded (line 3.17) by providing the second aspect of Jing-mei's character (wanting to be accepted for who she is). Max's and Lea's responses together highlighted the character's desires and became another possible interpretation of the music piece and what it said about the character. The contributions of the students reflected in this lesson excerpt indicate a change from the first lesson in that the students are indeed attempting to use evidence in the text to develop interpretations. They are providing the teacher with responses that can be revoiced and for which the teacher can seek further elaboration. Thus, the class discussion provided opportunities for students to make sense of what was being asked and to think through the multiple steps required for interpretation, particularly in a longer text.

It is also clear that in moving to this longer, more complex text, the interpretive process was much more difficult for students than it had been in the second sampled lesson. Students continued to be able to identify symbols but it was more difficult to make associations between the symbol's description and the characterization of the narrator and support these interpretive claims with evidence from across the text. For example, students readily identified the song title as a symbol at the beginning of the story but they also needed to recognize that its interpretation evolved and depended on events that occurred throughout the story. They could not simply rely on evidence from one point in time in the story. Rather, they needed to learn that localized interpretations might or might not be supported by later parts of the story.

Students needed continued support to engage in these interpretive processes in the elaborated way called for by the complexity of the narrative itself. In this discussion, the teacher attempted to scaffold student thinking processes and make them visible by focusing them on the text, using prompts such as "But how do you know that? How did you get that from the story?" She also asked students to recall when they came across the symbol (song title) in the story. Students mentioned that Jing-mei played the song in the talent show as a child and then as an adult found the song in her dead mother's belongings. Focusing on these two instances was similar to the modeling that the teacher had done at the beginning of the lesson when she traced the evidence for the evolving interpretation of the piano over the story. In recalling the talent show, students recalled how badly Jing-mei played, the great disappointment of her mother and of Jing-mei herself, and her rejection of being a pianist. As well, the students recalled that when Jing-mei came across that very piece of music as an adult, she realized that the two halves of the score were from the same piece of music, leading to an interpretation that Jing-mei had made her peace with her mother. It was through these specific steps and supports that students moved a bit closer to seeing how in longer texts, symbols must be traced to determine a broader and more complete interpretation that sheds light on the characters and their world.

Student participation. The lesson excerpt indicates stronger teacher guidance of the discussion and less discussion among students than the mid-module lesson. This is reflected in fewer words per turn per student (see Table 3, Column 4), although 10 of the 14 students present (71%) contributed at least one comment. As in the mid-module discussion, the prompts the teacher used continually modeled the thinking processes in which the students needed to engage to trace evidence for and check interpretive claims across the narrative. In this way, the teacher's prompting and generation of questions based on students' responses encouraged students to

continue applying the process of analyzing and interpreting literature. As well, the teacher prompts pushed the process back onto the students by asking them to elaborate and explain their responses. These types of teacher discourse moves have been found to promote student learning in a number of content areas (Chinn, et al., 2001; Marshall, et al., 1995; Michaels, O'Connor, and Resnick, 2008; Wolf, et al., 2005).

      Summary of class discussions. Over the course of the instruction, students became more adept at identifying symbols and using evidence from the texts to support their interpretive claims about the symbols. They also began to be more explicit about the reasoning that justified connecting the claim to the textual evidence. However, they were still very much in the process of learning these argumentation practices, and the discourse moves of the teacher were a prominent part of the class discussion. Not surprisingly, it was challenging for them to apply these new processes to recognizing patterns of evidence across a longer text in the third lesson. Under these circumstances, they continued to identify symbols and evidence in the text relevant to their interpretations while the teacher scaffolded the process of gathering evidence across multiple parts of the text. She also guided the process of reasoning about implications of these patterns for interpretive claims about the character.

Essays: Pre and Post module

      The essays administered prior to the start of the module and at the conclusion of the five weeks of instruction reflect progress toward literary interpretation and argumentation that parallels the trends observed in the classroom discussion. That is, the dimensions of the rubric on which students showed significant improvement are consistent with changes and challenges reflected in the classroom discussions. Table 5 shows the frequencies of students scoring at each score point on each dimension of the rubric at pre- and post-test. The dimensions are grouped

into those for which Wilcoxon signed-rank tests indicated significant shifts in the pre to post

distributions and those for which the shifts were not significant.

INSERT TABLE 5 HERE

There were significant shifts on one dimension of argumentation, claims, and on two

dimensions of literary interpretation, what the claims were about and what students wrote about

symbolism in the stories. More students were making one or more accurate claims (score point 2

or higher) on post-test than were at pre-test. The shifts in the function dimension suggest that

along with the increase in making claims, those claims were about the internal states of the

characters or the nature of the story worlds (score point 1) rather than summaries of story actions

(score point 0). Finally, the symbolism dimension shows that, whereas no student identified

anything symbolic at pretest, after the module, 60% of the students were identifying symbols

(score point 1 or better) and half of those students were providing interpretations within the story

world. These changes in written essays that individuals wrote on their own suggest more modest

changes than what appeared to be evident in the classroom discussions. This is not surprising

given the challenges of expressing ideas in writing.

Furthermore, the dimensions on which there were nonsignificant shifts from essays

written pre module to those written after mirror the difficulties observed in the discussions. In

particular, the challenges of being explicit about reasoning that were evident in the oral

discussions were also evident in the written work. Only 22% of the students included explicit

reasoning in their essays (score point 2) whereas 41% had nothing in their essays to indicate why

evidence supported particular claims. With respect to evidence, about one-third of the students

continued to provide no evidence or provide inaccurate evidence. Of the other two-thirds, there is

some suggestion that about half of them made some progress with respect to using the text as a source of evidence (score points 2 and 3). The remaining dimensions showed little change.

Taken together, the whole class discussions and the individual pre/post essays indicate that students learned to identify symbols and make interpretive claims about them. Support for claims based on evidence in the literary texts was evident in the whole class discussions. The essays indicated that a small number of students improved in their use of evidence from the text. The essays mirrored the struggles evident in the class discussions to reason about why evidence supported particular claims and how the interpretive claims were related to understanding the characters and their worlds. This is not surprising given the rhetorical demands of the essay writing task, a task requiring analysis of two stories and then their comparison (see for discussion Lee & Goldman, 2015).

General Discussion and Conclusions

The case study presented here is unique in following learning over a five-week instructional sequence intentionally designed to systematically build adolescents' knowledge of, and attention to, heuristics and reasoning processes for engaging in literary argumentation. This module was students' initial introduction to symbolism in literary texts and essays written prior to the module reflected this: they focused on literal aspects of the stories. In the class discussion around song lyrics, it was clear that students lacked explicit knowledge of strategies for identifying symbols and struggled to articulate criteria that qualified something as symbolic rather than literal (e.g., the discussion of sad eyes meaning sad eyes). By the second discussion, roughly at the middle of the module, students' participation indicated that they had learned to recognize symbols and consider their meaning based on associations, as they endeavored to connect their interpretations to what was present in the text. Students seemed to struggle to find

the language to express their thinking, but the teacher provided discourse patterns to help scaffold the overall argument, emphasizing the need to make explicit why the text segments they cited constituted evidence for their claims. This class discussion also showed movement toward exploration of multiple perspectives as students tried to support as well as challenge each other's ideas. Prior research has reported that these kinds of conversations are central to developing individual reasoning, reading, and writing (Alvermann, et al., 1996; Cazden, 2001; Commeyras, 1994; Guthrie, Schafer, Wang, & Afflerbach, 1995; Waggoner, Chinn, Yi, & Anderson, 1995; Wells, 2007).

The third discussion was intentionally focused on ways to deepen understanding that built on what students had begun to do in the second discussion when they noted the parallel between the description of the trees and the character. We noted that the complexity of the text meant that students had to keep track of multiple time points, multiple symbols, and multiple meanings for individual symbols. Recognizing the inherent complexities of tracing symbolic meaning over the course of this story, the teacher externalized the new thought patterns that students needed to employ by modeling the process of tracing the meaning of one of the symbols over the course of the story. Although students struggled to apply these patterns to another symbol, they were engaging in practices of literary argumentation—finding evidence from the text and then attempting to reason about the interpretation and how it changed.

This case study illustrates that literary interpretation is a complex problem solving task (Lee, et al., in press). Similar to other examples of complex problem solving, learning what to attend to and how to reason about it takes time, models and/or examples of the process, extended and supported opportunities to practice with feedback, and variability in the conditions of learning to strengthen robustness and transfer (see for discussion Bransford, Brown & Cocking,

2000; Donovan & Bransford, 2005; Paschler, et al., 2007). Thus, the instructional design featured in the present case study aimed to provide multiple engagements with literary interpretation in texts with a variety of sources of complexity. However, the design intentionally circumscribed the complexity of the problem solving by focusing on a single rhetorical device, symbolism, even though literary works are replete with multiple rhetorical devices important to interpretation. In concentrating on symbolism, we were able to support students in gaining practice and understanding of the form and function of language in literary texts. Such skills and practices shift the understanding of literary elements as discrete, disconnected aspects of texts that have no broader purpose than to be defined and located (i.e., "Define simile and then find a simile in the passage"). Instead, as illustrated in the present case, students began to see *how* words, descriptions, and language use in literary texts were manipulated in order to create an emotional response, an interpretation. They began to attend to patterns of language use that have relevance to understanding characters in texts and general principles of human nature. Once students have practice in seeing language as intentional, instructional next steps can extend to other rhetorical devices.

The current work connects to a long tradition in the learning sciences of designing learning environments that create developmentally appropriate forms of authentic disciplinary practices in science and mathematics (e.g., Brown & Campione, 1994; Cavagnetto, 2010; Lehrer & Schauble, 2006; Lampert, 2003; Linn & Eylon, 2011; Magnusson & Palincsar, 2001; Moje, et al., 2004; Osborne, Erduran, & Simon, 2004), as well as in history (Bain, 2005; De La Paz & Felton, 2010; Levstick & Barton, 2011; Reisman, 2012; VanSledright, 2002). The case study reported here builds on Lee's earlier work in high school classrooms (1995; 2005; 2007)

designing literary reading experiences that engage students in deep analysis of literature using strategies for closely examining text that are used by literary professionals.

The current work also demonstrates that despite disciplinary differences in the nature and focus of interpretive work, we saw highly similar needs for shifts in classroom norms, expectations, and participation in discourse on the part of students as well as teachers. That is, students needed to listen to and respond to their peers as well as the teacher and invest effort in doing the intellectual work that they have not typically been asked to do (Driver, Newton, & Osborne, 2000; Greenleaf, Schoenbach, Cziko, & Mueller, 2001; Lee, 2005; Lee & Spratley, 2010; Ness, 2008; Osborne, 2010; Sandoval & Millwood, 2005). Likewise, teachers needed to allow students to engage in the disciplinary work without stepping in to do it for them. Making such shifts is an effortful process for teachers, and often requires multiple iterations, coaching, and various forms of professional development (e.g., McNeill & Pimentel, 2010; Ness, 2009; Simon & Richardson, 2009).

The strengths and contributions of this case study notwithstanding, there are also several limitations. For one, as a single case study with a small group of students, it is not possible to draw conclusions regarding critical features of the instructional design and implementation. Progress in that area will need to come from iterative design-based research that will allow for the testing of conjectures and hypotheses, some of which emanate from the present case (see for example Barab, 2006; Brown, 1992; Krajcik, McNeill, & Reiser, 2008). We also do not have information regarding the degree to which students connected with the cultural data sets and texts. That is, we selected and sequenced the texts to build on students' prior experiences and knowledge and to develop the knowledge needed for subsequent texts in the module. Students'

perspectives on these points as well as on their learning would have been valuable for assessing engagement and learning outcomes and for revising the module.

In addition, in this paper, we were able to share only a small window into a very rich data set. There are clearly tradeoffs inherent in the decision to sample student learning across the five-week module and to focus the whole class discussions related to symbolic interpretation. We have only been able to allude to aspects of the module that supported students in other aspects of literary argumentation, including understanding basic storyline and development of characters, building criteria for thematic interpretation, and using prior knowledge of author, genre, and cultural and historical context to situate the text. Finally, the student learning that occurred was intimately connected to what teachers learned as they progressed through the module. Their sensemaking, reflections and decisions—both "in the moment" and subsequent to interacting with the students—were critical to the opportunities students had to learn. Our next steps include formal reports based on these teacher learning data.

We noted that this case study reported on the first iteration in a program of design-based research. Our reflective analyses of it indicated three areas that constituted next steps for the design: explicit warranting/reasoning for claim-evidence relations, thematic interpretation, and written argumentation. The second iteration of the module provided opportunities for developing these skills. More time was allocated to the use of cultural data sets for making explicit the metacognitive processes that help students arrive at symbolic meaning as well as more time for making explicit the logic connecting claims to evidence. We also used gateway activities designed to construct criteria for recognizing coming of age themes. Finally, the need to devote more time to developing written argumentation and the academic language for expressing

literary arguments prompted both changes to the module and the creation of a short module focused specifically on argumentation.

In closing, we emphasize the important ways in which this case study extends our understandings of the concerted effort that literary interpretation requires. Nevertheless, we need to understand more about learning trajectories related to literary interpretation and the supports and opportunities required for learning. The present case also raises questions about how to help students tap into their life experiences in deep and meaningful ways to interrogate texts.

References

Alvermann, D. E., Young, J. P., Weaver, D., Hinchman, K. A., Moore, D. W., Phelps, S. F., Thrash, E.C., & Zalewski, P. (1996). Middle and high school students' perceptions of how they experience text-based discussions: A multicase study. *Reading Research Quarterly*, *31*, 244-267.

Anderson, R. C., Chinn, C., Waggoner, M., & Nguyen, K. (1998). Intellectually stimulating story discussions. In J. Osborn & E Lehr (Eds.), *Literacy for all* (pp. 170-196). New York, NY: Guilford.

Applebee, A. N., Burroughs, R., & Stevens, A. S. (2000). Creating continuity and coherence in high school literature curricula. *Research in the Teaching of English, 34,* 396-429.

Applebee, A. N., Langer, J. A., Nystrand, M., & Gamoran, A. (2003). Discussion-based approaches to developing understanding: Classroom instruction and student performance in middle and high school English. *American Educational Research Journal, 40*, 685–730.

Appleman, D. (2000). *Critical encounters in high school English: Teaching literary theory to adolescents.* New York, NY: Teachers College Press and National Council of Teachers of English.

Bain, R. B. (2005). "They thought the world was flat?" Applying the principles of how people learn in teaching high school history. In M. Suzanne Donovan and John D. Bransford (Eds.) *How students learn: History, mathematics, and science in the classroom* (pp. 179-214). Washington, D.C.: National Academy Press.

Barab, S. (2006). *Design-based research: A methodological toolkit for the learning scientist*.

    Boston, MA: Cambridge University Press.

Billings, L. (1999). *Discussion in the high school classroom: An examination of sociolinguistic*

    roles. Unpublished doctoral dissertation, University of North Carolina, Chapel Hill.

Bloome, D., Carter, S. P., Christian, B. M., Otto, S., & Shuart-Faris, N. (2004). *Discourse*

    analysis and the study of classroom language and literacy events: A microethnographic

    perspective. Mahway, NJ: Erlbaum.

Bransford, J. D., Brown, A. L., & Cocking, R. R. (2000). *How people learn: Brain, mind,*

    experience, and school. Washington, DC: National Academy Press.

Brooks, G. (1963). A Song in the Front Yard. In *Selected poems: Gwendolyn Brooks.* New York,

    NY: Harper & Row.

Brown, A. L. (1992). Design experiments: Theoretical and methodological challenges in creating

    complex interventions in classroom settings. *Journal of the Learning Sciences, 2*, 141-

    178.

Brown, A. L., & Campione, J. C. (1994). Guided discovery in a community of learners. In K.

    McGlly (Ed.), *Classroom lessons: Integrating cognitive theory and classroom practice*

    (pp. 229 - 270). Cambridge, MA: MIT Press/Bradford Books.

Cavagnetto, A. R. (2010). Argument to foster scientific literacy: A review of argument

    interventions in K-12 science contexts. *Review of Educational Research*, *80*, 336–371.

Cazden, C. B. (2001). *The language of teaching and learning* (2nd ed.). Portsmouth, NH:

    Hinemann.

Chinn, C., & Anderson, R. C. (1998). The structure of discussions intended to promote

    reasoning. *The Teachers College Record, 100*, 315-368.

Chinn, C. A., Anderson, R. C., & Waggoner, M. A. (2001). Patterns of discourse in two kinds of literature discussion. *Reading Research Quarterly, 36*, 378-411.

Cisneros, S. (1991). Four skinny trees. In *The House on Mango Street.* New York, NY: Vintage Books.

Commeyras, M. (1995). What can we learn from students' questions? *Theory into Practice, 34*, 101-106.

De La Paz, S., & Felton, M. K. (2010). Reading and writing from multiple source documents in history: Effects of strategy instruction with low to average high school writers. *Contemporary Educational Psychology*, *35*(3), 174-192.

Donovan, M. S. & Bransford, J. D. (2005). (Eds.). *How students learn: History, mathematics, and science in the classroom.* Washington, DC: The National Academy Press.

Driver, R., Newton, P., & Osborne, J. (2000). Establishing the norms of scientific argumentation in classrooms. *Science Education*, *84*, 287–312.

Earthman, E. A. (1992). Creating the virtual work: Readers' processes in understanding literary texts. *Research in the Teaching of English*, 351-384.

Goldman, S.R. (2004). Cognitive aspects of constructing meaning through and across multiple texts. In N. Shuart-Ferris & D.M. Bloome (Eds.), *Uses of intertextuality in classroom and educational research* (pp. 313-347). Greenwich, CT: Information Age Publishing.

Goldman, S. R., & Bloome, D. M. (2005). Learning to construct and integrate. In A. F. Healy (Ed.), *Experimental cognitive psychology and its applications: Festshrift in honor of Lyle Bourne, Walter Kintsch, and Thomas Landauer* (pp. 169-182). Washington, D.C.: American Psychological Association.

Goldman, S. R., Britt, M. A., Brown, W. Cribb, G., George, M., Greenleaf, C., Lee, C. D.,
      Shanahan, C., & Project READI. (2015). A conceptual framework for disciplinary
      literacy. Manuscript submitted for publication.

Goldman, S. R., McCarthy, K., & Burkett, C. (2015). Interpretive inferences in literature. In E.
      O'Brien, A. Cook, & R. Lorch (Eds.), *Inferences during reading.* Boston, MA:
      Cambridge University Press.

Goldman, S.R. et al. (2009). *Reading for understanding across grades 6-12: Evidence based
      argumentation for disciplinary learning.* Funded July 2010 by Institute for Educational
      Sciences, U.S. Department of Education, Grant # R305F100007.

Graves, B., & Frederiksen, C. H. (1996). A cognitive study of literary expertise. In R. J. Kruez &
      M. S. MacNealy (Eds.), *Empirical approaches to literature and aesthetics* (pp. 397-418).
      Norwood, NJ: Ablex.

Greenleaf, C., Schoenbach, R., Cziko, C., & Mueller, F. (2001). Apprenticing adolescent readers
      to academic literacy. *Harvard Educational Review*, *71*, 79–129.

Guthrie, J. T., Schafer, W., Wang, Y. Y., & Afflerbach, P. (1995). Relationships of instruction to
      amount of reading: An exploration of social, cognitive, and instructional connections.
      Reading Research Quarterly, 30, 8-25.

Hillocks, G. (1986). *Research on written composition: New directions for teaching.* Urbana, IL:
      National Conference on Research in English/ERIC Clearinghouse on Reading and
      Communication Skills.

Hillocks, G. (2011). *Teaching argument writing, grades 6-12: Supporting claims with relevant
      evidence and clear reasoning.* Portsmouth, NH: Heinemann.

Hillocks, G., & Ludlow, L. H. (1984). A taxonomy of skills in reading and interpreting fiction. *American Educational Research Journal, 21*, 7-24.

Johnson-Laird, P. N. (1983). *Mental models: Towards a cognitive science of language, inference, and consciousness* (Vol. 6). Cambridge, MA: Harvard University Press.

Kintsch, W. (1988). The role of knowledge in discourse comprehension: A construction-integration model. *Psychological Review, 95,* 163-182.

Kintsch, W. (1994). The psychology of discourse processing. In M. A. Gernsbacher. (Ed.) *Handbook of psycholinguistics,* (pp. 721-739). San Diego, CA: Academic Press.

Kintsch, W. (1998). *Comprehension: A paradigm for cognition.* New York, NY: Cambridge University Press.

Krajcik, J., McNeill, K. L., & Reiser, B. J. (2008). Learning-goals-driven design model: Developing curriculum materials that align with national standards and incorporate project-based pedagogy. *Science Education, 92*, 1-32.

Lampert, M. (2003). *Teaching problems and the problems of teaching.* New Haven, CT: Yale University Press.

Langer, J. A. (2011a). *Envisioning literature: Literary understanding and literature instruction* (2nd ed.). New York, NY: Teachers College Press.

Langer, J. A. (2011b). *Envisioning knowledge: Building literacy in the academic disciplines.* New York, NY: Teachers College Press.

Lee, C.D. (1995). A culturally based cognitive apprenticeship: Teaching African American high school students skills in literary interpretation. *Reading Research Quarterly, 30,* 608-631.

Lee, C. D. (2001). Is October Brown Chinese? A cultural modeling activity system for underachieving students. *American Educational Research Journal, 38*, 97-141.

Lee, C. D. (2005). Taking culture into account: Intervention research based on current views of cognition & learning. In J. King (Ed.), *Black education: A transformative research and action agenda for the new century* (pp. 73-114). Mahway, NJ: Lawrence Erlbaum (joint publication with the American Educational Research Association).

Lee, C. D. (2006). 'Every good-bye ain't gone': Analyzing the cultural underpinnings of classroom talk. *International Journal of Qualitative Studies in Education, 19*, 305-327.

Lee, C. D. (2007). *Culture, literacy, and learning: Taking bloom in the midst of the whirlwind.* New York, NY: Teachers College Press.

Lee, C. D. (2011). Education and the study of literature. *Scientific Study of Literature*, *1*, 49-58.

Lee, C. D., Briner, S. W., Levine, S., Burkett, C., McCarthy, K. M., Sullivan, M. P., Goldman, S. R., & Magliano, J. P. (in preparation). Developmental trends in literary reasoning.

Lee, C. D., & Goldman, S. R. (2015). Assessing literary reasoning: Text and task complexities. *Theory Into Practice*, (just-accepted).

Lee, C. D., Goldman, S. R., Levine, S., & Magliano, J. (in press). Epistemic cognition in literary reasoning. To appear in W. Sandoval, I. Braten, & J. Green (Eds.), *The Handbook of Epistemic Cognition.*

Lee, C. D., & Spratley, A. (2010). *Reading in the disciplines: The challenges of adolescent literacy*. New York, NY: Carnegie Corporation of New York.

Lehrer, R., & Schauble, L. (2006). *Cultivating model-based reasoning in science education*. Cambridge University Press.

Levstik, L. S., & Barton, K. C. (2011). *Doing history: Investigating with children in elementary and middle schools*. New York, NY: Routledge.

Libman, J. (2004). *An immigrant class: Oral histories from Chicago's newest immigrants*. Chicago, IL: Flying Kite, Inc.

Linn, M. C., & Eylon, B. (2011). *Science learning and instruction: Taking advantage of technology to promote knowledge integration.* New York, NY: Routledge.

Magnusson, S. J., & Palincsar, A. S. (2001). The interplay of first-hand and second-hand investigations to model and support the development of scientific knowledge and reasoning. In *Cognition and instruction: Twenty-five years of progress* (pp. 151-194). Lawrence Erlbaum Associates.

Marshall, J., Smagorinsky, P., & Smith, M. W. (1995). *The language of interpretation.* Urbana, IL: National Council of Teachers of English.

Mercer, N., Wegerif, R., & Dawes, L. (1999). Children's talk and the development of reasoning in the classroom. *British Educational Research Journal*, *25*, 95-111.

Michaels, S., O'Connor, C., & Resnick, L. B. (2008). Deliberative discourse idealized and realized: Accountable talk in the classroom and in civic life. *Studies in Philosophy and Education*, 27, 283-297.

Moje, E. B., Ciechanowski, K. M., McIntosh, K., Kramer, K., Ellis, L., Carrillo, R., & Collazo, T. (2004). Working toward third space in content area literacy: An examination of everyday funds of knowledge and discourse. *Reading Research Quarterly*, *39*, 38–70.

National Assessment of Educational Progress (2009a). *NAEP 2008 trends in academic progress (NCES 2009–479).* Prepared by Rampey, B.D., Dion, G.S., and Donahue, P.L. for the

National Center for Education Statistics, Institute of Education Sciences, U.S.

Department of Education, Washington, D.C.

National Assessment of Educational Progress (2009b). *Achievement gaps: How black and white students in public schools perform in mathematics and reading on the National Assessment of Educational Progress, (NCES 2009-455).* Prepared by Vanneman, A., Hamilton, L., Baldwin Anderson, J., and Rahman, T. for the National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education. Washington, DC.

Ness, M. K. (2008). Supporting secondary readers: When teachers provide the "what," not the "how." *American Secondary Education, 37*, 80–95.

Nystrand, M. & Gamoran, A. (1991). Student engagement: When recitation becomes conversation. In H. Waxman & H. Walberg (Eds.), *Effective teaching: Current research* (pp. 257-276). Chicago, IL: National Society for the Study of Education.

Olshavsky, J. E. (1976). Reading as problem solving: An investigation of strategies. *Reading Research Quarterly, 4,* 654-674.

Osborne, J. (2010). Arguing to learn in science: The role of collaborative, critical discourse. *Science*, *328,* 463–466.

Osborne, J., Erduran, S., & Simon, S. (2004). Enhancing the quality of argumentation in school science. *Journal of Research in Science Teaching*, *41*, 994–1020.

Peskin, J. (1998). Constructing meaning when reading poetry: An expert-novice study. *Cognition and Instruction*, *16*, 235-263.

Pressley, M. (2002). Comprehension strategies instruction. In C. Collins Block & M. Pressley (Eds.), *Comprehension instruction: Research based practices* (pp. 11-27). NY: Guilford.

Rabinowitz, P. J. (1987). *Before reading: Narrative conventions and the politics of interpretation.* Ithaca, NY: Cornell University Press.

Rapp, D. N., Komeda, H., & Hinze, S. R. (2011). Vivifications of literary investigation. *Scientific Study of Literature, 1*, 123-135.

Reisman, A. (2012). Reading like a historian: A document-based history curriculum intervention in urban high schools. *Cognition and Instruction*, *30*(1), 86-112.

Resnick, L. B., Michaels, S., & O'Connor, C. (2010). How (well- structured) talk builds the mind. In R. Sternberg & D. Preiss (Eds.), *From genes to context: New discoveries about learning from educational research and their applications* (pp. 163-194). New York, NY: Springer.

Reznitskaya, A., Anderson, R. C., McNurlen, B., Nguyen-Jahiel, K., Archodidou, A., & Kim, S. Y. (2001). Influence of oral discussion on written argument. *Discourse Processes*, *32*(2-3), 155-175.

Sandoval, W. A. & Millwood, K. A. (2005). The quality of students' use of evidence in written scientific explanations. *Cognition and Instruction, 23*, 23-55.

Santiago, E. (1993). *When I Was Puerto Rican.* New York, NY: Vintage Books.

Schoenbach, R., Greenleaf, C., & Murphy, L. (2012). *Reading for understanding: How reading apprenticeship improves disciplinary learning in secondary and college classrooms*. San Francisco, CA: Jossey-Bass.

Scholes, R. (1985). *Textual power, literary theory and the teaching of English.* New Haven, CT: Yale University Press.

Shrout, P.E., & Fleiss, J.L. (1979). Intraclass correlations: Uses in assessing rater reliability. *Psychological Bulletin, 86*, 420-428.

Smagorinsky, P. McCann, T., and Kern, S. (1987). *Explorations: Introductory activities for literature and composition.* Urbana, IL, National Council of Teachers of English.

Smith, M. W. (1989). Teaching the interpretation of irony in poetry. *Research in the Teaching of English, 23,* 254-272.

Smith, M. W. (1991). *Understanding unreliable narrators: Reading between the lines in the literature classroom.* Urbana, IL: National Council of Teachers of English.

Smith, M. W., & Hillocks, G. (1988). Sensible sequencing: Developing knowledge about literature text by text. *The English Journal*, *77*(6), 44-49.

Tan, A. (1989). Two Kinds. In *The joy luck club.* New York, NY: Putnam.

van den Broek, P. (1996). Causal inferences in the comprehension of literary texts. In R. J. Kreuz & M. S. MacNealy (Eds.), *Empirical approaches to literature and aesthetics.* Norwood, NJ: Ablex.

van Dijk, T. A., & Kintsch, W. (1983). *Strategies of discourse comprehension.* New York, NY: Academic Press.

VanSledright, B. (2002). Confronting history's interpretive paradox while teaching fifth graders to investigate the past. *American Educational Research Journal*, *39*, 1089–1115.

Vipond, D., & Hunt, R. (1984). Point-driven understanding: Pragmatic and cognitive dimensions of literary reading. *Poetics, 13*, 261-277.

Waggoner, M., Chinn, C., Yi, H., & Anderson, R. C. (1995). Collaborative reasoning about stories. *Language Arts, 72*, 582-589.

Warren, J. E. (2011). "Generic" and "Specific" Expertise in English: An Expert/Expert Study in Poetry Interpretation and Academic Argument. *Cognition and Instruction*, *29*, 349-374.

Wells, G. (2007) Semiotic mediation, dialogue, and the construction of knowledge. *Human Development, 50*, 244-274.

Wells, G., & Arauz, R. M. (2006). Dialogue in the classroom. *Journal of the Learning Sciences, 15*, 379-428.

Wolf, M. K., Crosson, A. C., & Resnick, L. B. (2005). Classroom talk for rigorous reading comprehension instruction. *Reading Psychology, 26*, 27-53.

Zeitz, C. M. (1994). Expert-novice differences in memory, abstraction, and reasoning in the domain of literature. *Cognition and Instruction, 12*, 277-312.

Supplementary Tables

INSERT TABLE S1 HERE

INSERT TABLE S2 HERE

INSERT TABLE S3 HERE

Table 1

Overview of Ninth Grade Symbolism/Coming of Age Module

Days	Instructional Focus/Activities	Texts, Graphic Worksheets	Purpose
1, 2	Elements of argument structure: State claims, connect evidence to claims with reasoning Discuss and write	Hillocks (2011) murder mystery scenarios	Introduce argument structure
3	Read and discuss immigrant experiences related to identity and living in two cultures	Excerpts from *An Immigrant Class* (Libman, 2004)	Gateway activity for theme: identity and coming of age
4, 5	Identify symbols in pop culture videos, song lyrics Write and discuss what a symbol is, what it makes you think of Discuss identification process: Why do you think it's a symbol?	Visuals of everyday symbols (e.g., flag) Video and lyrics: pop culture songs ("True Colors," "Bag Lady)" Video clips: *300; Spartan Races* Worksheet 1: Identify Symbols; Associative Interpretations	Cultural data set: Symbol identification; associative interpretation Metacognitive Focus on identification process: How do you know?

6-10	Close reading and annotating for plot, characters Identify symbols, associative interpretations	Excerpt from *When I Was Puerto Rican* (Santiago, 1993) Plot and Character Maps (PCM)	Read for textbase and situation model Identifying symbols
11, 12	Identify symbols, use associations and evidence in text to argue for interpretations and broader messages of the texts Discuss interpretations and messages	"Four Skinny Trees" (Cisneros, 1991) Worksheet 2: Identify Symbols; Interpret using associations and evidence from text	Symbol identification; interpret using associations and evidence in text. (What interpretative claims is there support for in the text?)
13, 14		"A Song in the Front Yard" (Brooks, 1963) Worksheet 2	
15	Discuss meaning of East Asian proverbs Watch and discuss You Tube video on East Asian mothers	Various East Asian Proverbs "Tiger Mom" You Tube video	Gateway activity: knowledge of East Asian culture, particularly mother-child relations
16-18	Close reading and annotating for plot, characters	"Two Kinds" chapter in *Joy Luck Club* (Tan, 1989)	Read for textbase and situation model

| 19 | Identify symbols, use associations and evidence in text to argue for interpretation; what does interpretation mean for character and world Discuss interpretations | "Two Kinds" chapter in *Joy Luck Club* (Tan, 1989) Worksheet 3: Identify; evidence from text and connections; implications for character and story world | Symbol identification; interpret using associations and evidence in text, focusing on patterns across extended texts and how interpretive claims help to understand character(s) and story world |
| 20, 21 | Write essay comparing symbols in two texts | Excerpt from *When I Was Puerto Rican* "Two Kinds" | Use argument structure to compare and contrast symbolic interpretations |

Table 2

Samples of Three Graphic Worksheets Used to Scaffold Symbol Identification and Interpretation

Sample 1: Introduction to Symbolism		
Symbol in Text	Associations I can make with the image, event, character, action, object, name, or place	What does the symbol represent?

Sample 2: Interpreting Symbolism			
What I think is symbolic: Image, event, character, action, object, name, places	What the text says (page #)	Associations I can make with the image, event, character, action, object, name, or place	What do the words in the text and the associations I make lead me to think about what the symbol means?

Sample 3: Interpreting Symbolism—Two Kinds

What I think is symbolic (image, event, character, action, object, name, or place)	Thinking of the words in the text and the connections I make with the symbol, what does the symbol mean?	What does the symbol emphasize about Jing-mei as a person? What does it say about the type of person she is?	What does the symbol reveal about Jing-mei's experiences? What does it tell us about the world she lives in?

Note. Only the headers for each column and one row are shown for each sample. The students received each of these on an 8.5 x 11 in. sheet of paper.

Table 3

Quantitative Aspects of 3rd Period Classroom Discussions From Lessons at the Beginning, Middle, or End of the Module

Measure	Starting Point Day 4	Text Based Interpretations Day 12	Interpreting Longer Texts Day 19
Duration of Whole-Class Discussion	15 minutes	19 minutes	21 minutes
# Students Contributing to Discussion	6 of 14 students present	8 of 11 students present	10 of 14students present
Turns per student	Ali=7 Cal=2 Gus=1 Fay=1 Lyn=2 Eve=3	Ali=4 Cal=14 Max=3 Fay=1 Lyn=2 Rex= 2 Val=2 Eve=7	Abe=1 Ali=3 Cal=4 Lee=1 Gus=3 Fay=5 Pat=1 Tom=3 Val=2 Eve=3

Words per student	Ali=36	Ali=47	Abe=3
	Cal=~8	Cal=~148	Ali=~12
	Gus=1	Max=7	Cal=46
	Fay=1	Fay=3	Lea=6
	Lyn=4	Lyn=3	Gus=10
	Eve=15	Rex=29	Fay=56
		Val=~2	Pat=3
		Eve=~128	Tom=10
			Val=6
			Eve=16

Note. Names are pseudonyms for individual students. There were a total of 14 students in the class all of whom had consented to use of their data in the study.

Table 4

Interpreting Symbolism Worksheet for Four Skinny Trees Constructed During Whole Class Discussion

Class Worksheet 2: Interpreting Symbolism			
What I think is symbolic: Image, event, character, action, object, name, places	What the text says (page #)	Associations I can make with the image, event, character, action, object, name, or place	What do the words in the text and the associations I make lead me to think about what the symbol means?
Four skinny trees	*"Four skinny trees with skinny necks and pointy elbows like mine" (p. 1)* *"Four raggedy excuses planted by the city" (p. 1)*	• *Small* • *Weak* • *Really bad support; if there is a tornado or something, they will fall.*	• *The narrator feels like the trees.* • *The trees represent four unpopular friends.*

Table 5

Frequency Distributions Across Score Points for Each Dimension of Essays Administered Prior to and at the Conclusion of the Module

Dimensions of Literary Argument and Interpretation		Rubric Score Points[a]				
		0	1	2	3	4
Significant Shift Pre to Post						
Claims	Pre	2	4	3	13	
	Post		1	3	18	
Substance/ Function of Claims	Pre	13	9		n/a	n/a
	Post	6	16		n/a	n/a
Symbolism	Pre	22				n/a
	Post	9	7	5	1	n/a
No Significant Shift Pre to Post						
Evidence	Pre	6	16			
	Post	7	8	5	2	
Reasoning	Pre	8	14			n/a
	Post	9	8	5		n/a

Coming of Age	Pre	22			n/a	n/a
	Post	22			n/a	n/a
Organization	Pre	14	8		n/a	n/a
	Post	9	11	2	n/a	n/a
Synthesis	Pre	10	9	2	1	
	Post	11	6	2	2	

Note. Frequencies for each dimension are based on 22 consented students across the two sections for whom we had pre and post essays (12 from 3rd period and 10 from 4th period). Preliminary analyses compared the rubric scores given to each story on each dimension (except for Synthesis). In only 3 cases were there any differences in the scores on the two stories within a set. In those cases, we used the higher of the two scores. To compare pre to post module scores, Wilcoxon signed-ranks tests were calculated for each dimension on the rubric, as is appropriate with non-parametric data of this type. Trends were similar across the two sections.

[a]The number of score points depended on the dimension and n/a in a cell indicates that this score point did not exist for that dimension.

Table S1

Readability Levels for Module Texts

Measure	A Song in the Front Yard	Four Skinny Trees	When I Was Puerto Rican	Two Kinds
Word Count	164	198	3372	4618
Flesch Reading Ease	100	89.24	82.12	81.26
Flesch Kincaid Grade Level	1.13	3.54	5.14	5.20
Lexile Rating	730L	690L	≈810L	≈910L

Table S2

Readability Levels for Pre/Post-test Texts

Measure	The Butterfly	Eleven	We Were the Mulvaneys	Flowers
Word Count	991	1,266	629	566
Flesch Reading Ease	88.5	80.8	77.09	80.99
Flesch Kincaid Grade Level	3.43	6.76	6.85	5.76
Lexile Rating	610L	1030L	1080L	1070L

Table S3

Essay Scoring Rubric

Claims	
0	description or summary, restates the question; claim/s provided, but not accurate in terms of being supportable by the stories
1	at least one accurate claim provided
2	more than one accurate claim provided
3	more than one accurate claim provided; claims support or are connected to one another
4	more than one accurate claim provided; claims support or are connected to one another and include nested claims or counterclaims

Function of Claims	
0	summarizes the story or stories; or re-states the question without further description of character, social world, or effects of language
1	describes the internal state of a character or characters; or describes the social world of the text or texts
2	examines how the language of the text functions to explain a character's internal state (i.e. how the language helps the reader to understand the character or characters) and/or social world of the text

Evidence	

0	no evidence provided (either because student did not support claims with evidence or because student had no claims); only inaccurate evidence provided (inaccurate = evidence contradicts the events of texts or reveals a misreading of the text)
1	one piece of accurate evidence provided in attempt to support at least one claim (that is, evidence does not contradict events of text, is not a misreading of literal text); may include personal or real world knowledge, but is also text-based
2	more than one piece of accurate evidence provided in attempt to support claim/s; may include personal or real world knowledge, but is also text-based
3	more than one piece of accurate, related evidence provided; of that evidence, at least two pieces are connected in that they support the same claim
4	comprehensive evidence that identifies and weighs competing textual evidence (i.e., counterclaims)

Reasoning

0	no discussion of why evidence supports the claims
1	At least one implicit warrant. Claims and evidence could be logically connected through an appeal to cultural or literary norms but connection is implicit.
2	In at least one instance, claims and evidence are explicitly warranted, and the warrant uses some appeal to cultural norms. May include implicit warrants as well.
2.1	In at least one instance, claims and evidence are explicitly warranted, and the warrant uses some appeal to literary norms. May include implicit warrants as well.

Symbolism

0	makes no attempt to attribute symbolic significance; student does not identify a target in the text that is symbolic; includes statements or claims about meta-functions of images
1	identifies a symbol (e.g. the sweater in "Eleven") but does not discuss its effects
1.1	identifies a symbol and discusses effects not supported by the text
2	identifies at least one target in the text that is symbolic; student constructs an abstract proposition in interpreting the target (i.e. image, event, object, state of mind, action, etc.) in the text or texts; the interpretation remains local to the text
3	identifies a target in the text that is symbolic; student constructs an abstract proposition in interpreting the target that includes but also goes beyond the immediate world of the text

Coming of Age

0	no discussion of the development or evolution of the character or characters in terms of some criteria for coming of age
1	discusses the development or evolution of the character or characters in terms of some criteria of coming of age
2	discusses the development or evolution of the character or characters in terms of some criteria of coming of age and connects what the character has learned or how the character has changed to the symbolism in the text

Organization of Ideas

0	response has no clear organization

1   response has some organizational framework (e.g., response first talks about text A and then text B, or moves chronologically through text/s)

2   well organized; connections among either paragraphs or sections of paragraphs are made explicit (e.g. with phrases like "also," "but," "in contrast," etc.)

	Synthesis
0	no connection between stories; stories are analyzed or discussed separately
1	surface connection
2.1	explicitly compares or contrasts claims about characters or social worlds across stories
2.2	explicitly compares or contrasts claims about symbols across stories. Supporting evidence may not be in place.
3.1	explicitly compares or contrasts claims (or claims plus evidence) along with evidence or reasoning about the comparison/contrast
3.2	explicitly compares or contrasts symbols with evidence or reasoning about the comparison/contrast