Constant Comparison Analysis and Other Classroom Observation Activity 2011- 2012

Project READI Technical Report # 1

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Project READI operated as a multi-institution collaboration among the Learning Sciences Research Institute, University of Illinois at Chicago; Northern Illinois University; Northwestern University; WestEd's Strategic Literacy Initiative; and Inquirium, LLC. Project READI developed and researched interventions in collaboration with classroom teachers that were designed to improve reading comprehension through argumentation from multiple sources in literature, history, and the sciences appropriate for adolescent learners. Curriculum materials in the READI modules were developed based on enacted instruction and are intended as case examples of the READI approach to deep and meaningful disciplinary literacy and learning.

Background for the Study

The study draws on observations of middle and high school English language arts, history, and science classrooms observed during Year 1 of Project READI. The primary goal of the Year 1 observations was to facilitate rapid prototyping of Evidence-Based Argument Instruction Models (E-B AIMs) based on the kinds of texts, tasks, participation structures, and tools that appear to be engaging and challenging for students and that are associated with evidence of substantial engagement on the part of students with disciplinary literacies and reasoning with multiple sources.

Specific questions guiding classroom observation data collection and analyses for rapid prototyping were:

- *What features of disciplinary and literacy texts and tasks are associated with high student engagement and effort?*
- *What instructional tools and routines do students and teachers find useful in supporting evidence-based argumentation (E-BA)?*
- *What features of participation structures and discourse routines maximize student talk and engagement with texts and higher-level literacy tasks?*
- *What routines foster a classroom climate supportive of risk-taking and effort?*

To meet the goal of these observations, we collected evidence of the kinds of texts, activities, and classroom culture that are associated with disciplinary literacies and reasoning with multiple sources in literature, history, and science classrooms. Because we were interested in how texts, activities, and culture of the classroom manifest and reflect the content, tools, and practices specific to a particular discipline, a conscious decision was made to integrate the disciplinary focus into the definitions of these three elements:

1. *Texts* refer to the types of disciplinary texts used in the lesson, their instructional function in the lesson and the discipline, and the supports provided by the teacher. The term "text" is used broadly and refers to both traditional, as well as electronic texts, visual or verbal modes, oral or printed. Texts include cartoons, scripts, videos, and orally presented material.

2. *Classroom Activities* refers to the nature, quality, and purpose of the activities within the lesson and discipline, along with the types and degree of supports provided by the teacher for student completion of these activities.

3. *Classroom Culture* refers to the nature and purpose of the participation structures and routines within the discipline as well as the general classroom climate and norms.

In order to standardize the observed lessons and to ensure that we witnessed literacy practices, we asked to observe typical lessons "in which reading plays a central role."

We approached the observations with the understanding that many of the classrooms we would observe did not necessarily have established argumentation routines, or may only have emergent ones. However, we also reasoned that the observed lessons may have other disciplinary literacy practices that could potentially be building blocks for the rapid-prototyping work.

In the sections to follow, we describe this strand of Project READI's work, including instrumentation, observer training, data collection, and analysis. We then present findings that emerged from the initial constant comparison analysis of these data.

Methods

Instrumentation for Observations

Observation and analytic protocol. The observation and analytic protocol drew on a number of existing observation instruments and went through multiple iterations from July to November 2010. The modifications focused on clarifying the goals of the study with an emphasis on describing texts, classroom activities and classroom culture. Within each of the three components, guiding questions focused observer attention on features of the teaching and learning situation that we posited would be central to evidence-based argumentation, to guide researchers' observations, thinking, and initial interpretation of the lesson. Observed lessons were audio- and videotaped to capture classroom discourse (both whole class and small group). Whenever possible, researchers also gathered lesson artifacts, including copies of texts, handouts, and student work for subsequent analysis. (See Appendix A for Observation and Analytic Protocol.)

The majority of observer effort during observations was devoted to writing detailed field notes. Time codes were inserted about every two minutes or more often if there was something occurring of note. The goal of the field notes was to come as close as possible to a verbatim record of the lesson and classroom interactions.

Field notes focused on both teacher instruction and student participation and engagement during the observed lessons. Of particular interest were characteristics of classroom discourse. Specifically, the observation protocol was designed to capture:

- classroom discussion for evidence of student engagement in processes we hypothesized based on extant literature to be central to content learning and argumentation discourse;
- whole-class and small-group situations for a) teacher initiations (how teachers initiated an instructional conversation on discipline-based argumentation and provided information about argumentation), b) student uptake of teacher initiations (how students used and appropriated the information, models, and strategies the teachers provided and in what situations and how they integrated the teacher provided information, models, and strategies with previous learning, knowledge, and their own academic and social goals), and c) teacher and peer scaffolding, repairs, and revoicings of students' contributions and learning.

Following the observation, the majority of observer effort was devoted to writing an initial interpretation of each of the three lesson components (texts, classroom activities, and classroom culture) which drew primarily on field notes for supporting evidence, but also on teacher interviews and classroom materials.

Pre- and post-observation questionnaires. In addition to collecting observation data, information was also collected through pre- and post-observation questionnaires. The pre-

observation questionnaire focused on the lesson goals and information about the lesson to be observed. Whenever possible the texts and other materials that were used during the lesson to be observed were secured in advance and reviewed by the observer prior to the classroom observation. The post-observation questionnaire helped to further understand the lesson observed in relation to the three key aspects of teaching/learning situations of interest to the project: the texts, the classroom activities, and the classroom culture. These questionnaires were enacted as conversations (face to face or telephone) or via email. Throughout the process of data collection, observers made every effort to take a non-evaluative stance and assure teachers that we were there to learn from what they were doing.

Observer Training

There were several challenges to both the development of the observation protocol and to achieving a shared understanding across sites and observers regarding the observation purposes, procedures and protocol. One challenge was associated with the distributed nature of Project READI in the Midwest and on the West Coast. The second stemmed from the breadth of expertise and background experiences of the observers. The observation staff included former teachers of the three disciplines, graduate students with expertise in teaching and learning processes in the three disciplines, university-based faculty and research staff and WestEd research and professional development staff. We addressed the first challenge through a series of video-conference based meetings and phone conferences. The initial video-conference training session was key to establishing shared understanding and a common basis for proceeding with the observations. During this training session, the goals of the observations were clarified and then observers reviewed the draft observation and analytic protocol. Observers then watched videotapes of lessons and attempted to map what they saw onto the observation protocol. Sharing and discussion of the field notes resulted in both a deeper understanding of the protocol and in fine-tuning the protocol itself. Related to the second challenge, it was also clear that literacy and disciplinary expertise influenced which facets of the observed lesson were most salient. Recognizing the value of these multiple perspectives, each observation was conducted by two people—an observer with disciplinary expertise and an observer with expertise in literacy teaching and learning.

Throughout the data collection phase, observers continued to meet in order to ensure that questions and issues that came up regarding the protocol and observation procedures were addressed. These ongoing observer meetings—both cross-site (California and Chicago) and at each site — were important venues both for honing observation and analytic abilities and for collaborative meaning making around what we were learning from these classroom observations. They helped ensure that observed lessons were described in sufficient detail and that initial interpretations were supported with appropriate evidence. In addition to discussing observations and initial interpretations of individual lessons, we used these meetings to discuss questions, themes, and concepts that were emerging across observations.

Despite these efforts, initial interpretations of the lessons reflected the different orientations of researchers at each site. Interpretations by California researchers were grounded in extensive knowledge and experience of the Reading Apprenticeship framework and reflected greater emphasis on building blocks of evidence-based argumentation such as opportunities for students

to do the intellectual work of comprehending and engage in nascent argumentation in the service of negotiating meaning with individual texts and cross textually as the foundation for disciplinary E-BA with multiple sources. In contrast, Chicago researchers generally focused on discipline-specific reading and thinking, and on a more formal definition of argumentation. While cross-site meetings helped researchers at both sites to broaden the lens through which they observed and analyzed lessons, these tensions remained to some extent. Conversations across sites and researchers were both rich and, occasionally, contentious. However, both the development and evaluation of Evidence-Based Argument Instruction Models (E-B AIMs) benefited from argumentation around these dual perspectives.

Observation Sites and Teachers

Observations were conducted in classrooms located in the San Francisco Bay Area and the greater Chicago area. Identification of teachers/classrooms for observations followed somewhat different procedures and timelines in the two locations, so we describe them separately here.

San Francisco Bay Area Sites: From the WestEd network of teachers who had participated in WestEd's Strategic Literacy Initiative professional development, we identified experienced Reading Apprenticeship teachers in middle and high school whose literacy implementation in subject areas was believed to hold some promise to inform the development of new interventions (E-B AIMS). These teachers were invited to participate in classroom-based research with the aim of identifying features of instruction that were marked by high engagement and appeared to develop advanced comprehension skills. Because this sample included few science teachers, we identified additional science teachers, particularly at the middle school level, who had not participated in Reading Apprenticeship professional development but were known to be strong teachers of science.

We observed 15 teachers and 20 classes in 10 middle and high schools in the San Francisco Bay Area and California's Central Valley. The sample includes suburban and urban schools. Table 1 shows observations by month, subject area, and grade level. Because some classes were observed on more than one occasion, we observed a total of 42 lessons.

Table 1. San Francisco Bay Area Classroom Observations

	2010						2011			
Class (grade)	Sept	Oct	Nov	Dec	Jan	Feb	March	April	May	June
English Language Arts (8)							X			
English Language Arts (7)							X			
Integrated ELA/Social Studies (8)	X	X	X							
Integrated ELA/Social Studies, 8	X	X	X							
English Language Arts (7)								X		
English Language Arts (7)								X		
English (9)						X		X		
English (9)	X	X	X			X		X		
English (9-10)						X	X			
English (11-12)					X	X		X		
English (12)	X	X	X			X				
English (12)							XX			
Government (12)					X			X		
History (9)						X		XX		
History (11)	X	XXX		XX						
RA Academic Literacy (9)				X						
Science (10)						XX				
Science (9-10)						X				
Social Studies (7)								X		
Social Studies (7)								X		

Chicago Area Sites: Teachers and schools for observations in the Chicago Area were nomi by Project READI team members who had worked with area schools and teachers. Team members nominated those (1) they knew to be engaging in instruction designed to foster disciplinary literacies in history, science, and /or literature; (2) who were participating in implementing Cultural Modeling practices; and/or (3) who were reported to have establishe classroom participation structures that supported high student engagement. We also solicite teacher nominations from the Chicago Public Schools district leadership in literacy, social sciences, and sciences. Our sample included urban and suburban schools. We observed a to 16 teachers and 24 classes in 6 middle and high schools in Chicago and an outlying area. Ta shows observations by month, subject area, and grade level. Because some classes were observed on more than one occasion, we observed a total of 37 lessons.

Table 2. UIC READI Classroom Observations

	2010			2011			
Class (grade)	Dec	Jan	Feb	March	April	May	June
Academy English (9)	XX						
Academy English (9)						XX	
Anatomy & Physiology (11-12)	X						
Chemistry (10)						XX	
Chemistry (10)						X	
English III (11)							
English II (10)						XX	
English II (10)		XX					
English III (11)						XX	
Global Studies Honors (9)		XX					
Global Studies I (9)	XX						
Honors Biology (9-10)	X						
Language Arts (7)						X	
Language Arts (8)						X	
Literature (8)			XX				
Literature (8)						XX	
Physical Science (9)				XX			
RA Academic Literacy, History (9)				XX			
Science (6)						X	
Science (7)						X	
Social Studies (6)						X	
Social Studies (7)						X	
Social Studies (8)		XX					
US History (11)			XX				

Data Collection

The IRB protocol for Project READI required that we send consent letters to principals at urban and suburban schools of interest. Within those schools from which we received signed principal letters, we then contacted teachers to ask them to participate. Once teachers consented to join Project READI, they were paired with observers in their discipline to schedule a visit. During this visit, observers explained the project to students, and disseminated student assent and parent consent forms. Once the consent and assent forms were returned, classroom observations were scheduled.

Approximately one week before the observation, teachers were emailed the pre-observation questionnaire. Teachers were asked about the learning goals of the lesson, including literacy goals; characteristics of the students in the class; and about any previous work students had done to prepare them for the content of the lesson. In addition, we requested permission to make copies of any materials used in the lesson for later analysis.

Following each observation, observers engaged the teacher in the post-observation conversation (using the post-observation questionnaire) to help them understand what they observed in relation to the three key aspects of a teaching/learning situation: the texts, the classroom activities, and the classroom culture. The interviews were conducted in person, by email, or by telephone, depending on teacher preference and availability.

Ideally, initial interpretations were written up as soon as possible after the observation and before the next observation. The initial interpretation analysis was time consuming and in order to take advantage of observation opportunities, observers did not always have a chance to complete the initial interpretation section of the observation and analytic protocol before the next observation. In that case, the detailed field notes allowed observers to revisit lessons in sufficient detail to capture and interpret what they saw.

Emergent Findings

Analytical Approach

As mentioned previously, initial interpretations of the lessons reflected the different orientations of researchers at each site. These different orientations also resulted in different approaches to the initial analysis of observation data at the two sites. Chicago researchers approached the analysis with a focus on discipline-specific reading and thinking from multiple text sources, and on a more formal definition of argumentation. Consequently, their approached to data analysis focused on “identifying segments that will be useful for E-B AIMs intervention development…where we see teachers and students engaged in some aspect of evidence-based argumentation with multiple texts in history, science, or literature in ways that we think will support students' disciplinary reasoning and interpretive reading” (S. Goldman, personal communication, June 9, 2011).

In contrast, the greater emphasis among California researchers on opportunities for students to do the intellectual work of comprehending and to engage in negotiating meaning as the foundation for disciplinary E-BA resulted in greater attention to nascent elements of argumentation from multiple text sources: "In general, we don't see multiple texts in use in very many classrooms. Nevertheless, some of the promising practices are taking place with single texts, with argumentation practices around them, or building blocks for argumentation present and practiced" (C. Greenleaf, personal communication, June 9, 2011). In an ongoing conversation with Chicago researchers, Co-Principal Investigator Cynthia Greenleaf of WestEd's Strategic Literacy Initiative argued "to look broadly rather than only at something we define, a priori, as EBA, so that we can capture developmental practices" (C. Greenleaf, personal communication, July 12, 2011). Analysis of California observations thus cast a broad net.

Consistent with this stance and with qualitative analysis methods, California researchers interwove data collection and analysis from the start to begin "to notice, and look for, patterns of meaning and issues of potential interest in the data" (Braun & Clarke, 2006, p. 15) related to evidence-based argumentation from multiple text sources.

In order to explain how features of instruction and classroom life mediate student engagement and learning from higher level disciplinary literacy tasks, in a preliminary analysis overlapping data collection, observations were scrutinized for dimensions of text use, classroom activities and classroom culture.

Below we present emergent findings from the subset of California observations, based on observer write-ups, memos, and analysis meetings in which observers shared what they were seeing and discussed emerging themes, puzzling or unexpected phenomena, research questions, etc.

Results

Promising Practices

In these classrooms taught by experience Reading Apprenticeship teachers we found many instances that could inform the design of E-B Aims, including tasks that engaged students in disciplinary thinking processes, routines that supported sustained intellectual engagement, collaborative structures that made available multiple perspectives and fostered interactive negotiation of meaning, and use of texts and tasks that provided rich affordances for argumentation.

Text use. Use of text for core subject area learning was prevalent, in contrast to lecture or other activities that side-step text, across all subject areas.

Discipline-specific uses of text were often the focus of classroom lessons.

> Framing questions, tasks, notetakers, and classroom discussion (in various participation structures) supported students to engage in discipline-specific reading

practices such as investigating primary sources to make an evidence-based decision/judgment, developing an interpretive stance toward a literary work and accumulating evidence to support this interpretation, determining the taxonomic category for types of volcanoes based on descriptive features, etc. Framing questions – why might writers choose to use poetic forms to communicate their ideas? How did governments convince young men to fight a war? – were key to orienting students to disciplinary inquiry practices and epistemologies.

Sets of multiple documents were frequently in use in or across lessons.

Texts were sometimes used simultaneously but more often sequentially. The use of multiple texts is a promising practice, and we observed different disciplinary goals for using multiple texts – all of which seemed promising. These included the following: reading multiple texts representing multiple genres to inform a single topic; reading multiple texts from the same genre with a common archetypal theme yet different historical contexts, structures, language, etc.; reading the same text in multiple modalities (listening, silent reading); reading and making intertextual connections between two unrelated texts.

Texts often went beyond textbook selections to primary sources, literature, visual texts, and authentic informational sources (newspapers, published articles), embodying complexity from which multiple perspectives could be identified and about which multiple perspectives could arise – a necessary condition for argumentation.

Close analysis of texts used revealed that each text presented its own challenges and affordances, but whether students engaged and learned or floundered depended in our observations on the nature of the task and support offered rather than task difficulty, per se.

Classroom Reading Practices. Close reading routines that involved in-class reading/rereading; strategies and tools for making thinking visible; collaborative discourse routines for articulating, documenting, and solving problems of comprehension; and text-based discussion were well established in many observed lessons.

While reading was often assigned for homework and merely referenced during in-class tasks, we saw regular in-class reading and work on comprehending in many classrooms. In most promising lessons, routines and space for making thinking visible were habitual and ongoing. In successful lessons, the first cycle of individual, group and whole class work frequently involved close reading of the text focused on making meaning and resolving comprehension difficulties, including odd phraseology, word meanings, references and connections within and beyond the text, and the like. In addition, these close reading routines were frequently a venue for generating bridging inferences and making connections to prior knowledge that moved students from a text-based to a situational model, and thus a deeper understanding of text.

Initiating metacognitive conversation by inviting students to share their confusions encouraged all students to participate (since all had valued resources in the form of complexities and confusions to share), and provided a venue for students to share and practice problem-solving strategies. Inviting confusions increased participation/equity by insuring that everyone had something worthwhile to contribute—whether a confusion or clarification. We saw that opportunities to share confusions increased student engagement even in an otherwise unengaging and lackluster lesson.

Close reading routines supported perseverance and engagement with complex texts.

Working collaboratively to understand complex text was not something students seemed to dread. On the contrary, we saw extended engagement and participation in this intellectually hard work when texts and tasks were aligned and when there were multiple opportunities for teacher and peer support. Engagement and learning were supported by multiple opportunities to read/comprehend challenging texts in different social and/or task contexts. Recursive cycles of individual, group and teacher-facilitated reading and thinking seemed to be especially effective for increasing engagement and learning, particularly in classrooms where collaborative meaning-making was supported by well-established protocols for group work, and teacher mentoring in disciplinary discourse.

Close reading routines supported interactive argumentation about meaning, given that texts were rich with possibilities and complex/challenging for students. We came to view interactive argumentation/inquiry into and negotiation of meaning as a key building block for discipline-based argumentation.

In our observations, close reading provided significant opportunities for E-BA in the form of interactive argumentation. Much of the rich argumentation we saw in these classroom—students generating claims, providing evidence, evaluating evidence, challenging claims, reconciling conflicting evidence, etc.—occurred in the context of close reading and work to comprehend text meaning. Close reading invited interactive argumentation as students proposed alternative understandings and interpretations and defended their readings and interpretations with evidence from the text. A significant amount of E-BA we observed took the form of interactive argumentation, rather than formal disciplinary argumentation.

We came to see close reading and this collaborative, interactive argumentation as an important building block for discipline-specific reading and argumentation tasks. When reading multiple texts, students needed time and support to make sense of individual texts before tackling cross-textual analysis, which places its own demands. Similarly, students needed an opportunity to read for meaning/content before they could focus on rhetorical/disciplinary features of texts, especially in the case of an unfamiliar genre or otherwise challenging text. We saw instances in which students halted their work in synthesis to clarify text meaning, going back to the text to work through various possibilities in order to make or refine a claim.

Close reading frequently but not always involved features of discipline-specific literacy such as particular reasoning processes and interpretive practices valued in literature and history.

> The goal of engaging in discipline-specific literacy practices and argumentation was served by close reading routines that engaged students habitually in (socialized them to) making meaning with texts and solving text-based problems in collaborative groupings and discussions of various kinds. Overall, open-ended tasks supported student grappling, inquiry, agency and learning – these often but not always included students using note takers and material support to compare, contrast and synthesize across texts.

Close reading routines established a culture of inquiry into meaning where sense-making was the dominant way of working with text.

> In our observations, we saw teachers cultivate what we might call inquiry orientations to text and learning. In these classrooms teachers supported active student agency in learning by facilitating open ended discussion that explicitly invited students to think, work, talk, and question. These discussion moves included re-voicing student ideas, turning questions back to students, probing for how students know, non-evaluative responses that acknowledge student contributions and effort, rather than helping or hinting so students get the "right" answer. In the inquiry culture fostered by these "rules for talk", students showed high levels of engagement and perseverance in intellectual work and demonstrated pride in their ability to solve problems and make sense of challenging text.

Multiple readings of texts occurred in many lessons as students engaged in close reading and tasks involving synthesis or analysis, which drove them back to the text.

> Note-takers/material supports played a key role in supporting students to compare, contrast, synthesize across texts. These tools were necessary but not sufficient; absent routines for close reading and established classroom culture around collaborative sense-making, students were ill prepared to use these tools to deepen their comprehension of texts.

In classes where close reading/collaborative sense-making routines were well established, students moved flexibly from synthesis or analysis tasks to clarifying text meaning as needed to carry out these tasks.

Students were often asked to identify and share their confusions, connections, and questions during first encounters with texts. Such open ended invitations gave all students something to contribute to a conversation, centered student attention on text-based problem solving, and built a classroom culture in which students expected to work to make sense of texts and that their collaborative efforts would pay off in greater comprehension.

> For example, collaborative meaning-making structured around open-ended tasks accommodated the needs of diverse students (i.e., differentiated instruction) because they were able to solve their own, sometimes idiosyncratic problems of comprehension with the support of others in the class as a foundation for further work with text. These tasks also permitted group members to move between the roles of asker and answerer, seeker and giver of help, challenger and defender, as students practiced disciplinary reading and tackled new concepts, vocabulary, discourses, and thinking.

Lessons where students demonstrated high levels of engagement and learning were characterized by high challenge and high support, which could take many forms.

> Classrooms with high engagement and learning had well-establish routines for reading, discourse and task organization. In these classrooms, instructional support provided by well-established reading and discourse routines played as great of a role as direct instruction. Some of the routines included ongoing and habitual space for making thinking visible; ongoing development of students' repertoire of shared comprehension strategies that they could use flexibly in the service of making meaning (both independently or with teacher support); collaborative meaning making as a primary mode of working with texts; and significant opportunities for student talk in pairs or small groups to learn and practice disciplinary reasoning, concepts and vocabulary.

> **Missed Opportunities**

Within our observations we also noted missed opportunities that were instructive for our design work.

Close reading of texts did not always lead to or support discipline-specific reasoning or literacy practices, even if it supported content learning goals.

We saw instances in which students were asked to do cross-textual reading tasks, but not instructed in *how* to do it.

> Teachers often did not recognize the challenges of synthesizing across texts, and even teachers who provided thoughtful support for reading single texts may have assumed that close reading/comprehending of individual texts is sufficient preparation for intertextual analysis. Teachers frequently delegated multi-textual analysis to a common note taker without modeling or explicitly guiding the reasoning processes needed to do the work. We concluded that while material support provides some assistance in intertextual analysis, it generally is not sufficient.

We saw some cases of mis-alignment of tasks with particular texts that did not seem productive.

> In some lessons, students were assigned specific reading comprehension strategies or tasks (e.g., to fill in a worksheet or notetaker) that failed to support deeper comprehension or disciplinary reasoning because: they were not aligned with text affordances or challenges; there was a mismatch between the task and the affordances of the text. We also saw instances in which tasks or teacher directions narrowed possible solutions. In these comparatively closed tasks we saw reduced student engagement and participation and reliance on teacher "help" to complete tasks. Teacher-generated reading and comprehension strategies resulted in pro forma approach and low engagement. When this was the case, students did not realize the benefits of comprehension-supporting strategies and we think are unlikely to appropriate or use strategies spontaneously or in other contexts, independent of classroom assignment.

When close reading routines were not in place, students floundered with texts and tasks.

> Without metacognitive and collaborative sense-making routines, students relied on teacher interpretation and authority, showing little agency in the face of challenge**.** We saw instances in which reliance on teacher authority undermined student agency as well as learning. We saw other instances in which teachers curtailed student sense-making too soon due to time pressures or undermined student sense-making by providing "the answer" after students had invested considerable effort. This would likely deter students from marshaling such effort in the future, knowing they could rely on the teacher to provide answers.

Other missed opportunities sometimes occurred in classroom talk in the form of routines that foregrounded individual thinking rather than interactive negotiation of meaning.

> At times "discussion" of text assumed the form of sharing out what individuals or groups did or thought, rather than collaborative meaning-making and interactive negotiation due to lack of time and/or lack of protocol, routines, or support for collaborative meaning making and instructionally focused conversation.

Teachers sometimes believed themselves to be engaged in evidence-based reasoning with text when in fact they were simply testing students' comprehension of a text.

> There were instances where teachers used the language of argumentation in observation interviews and with students in classroom lesson, but "claims" were actually teacher generated factual questions, and "evidence" was information from the textbook students used to answer these questions.

Implications for Design of Interventions

The classroom observations have many implications for the design on the interventions.

Teachers need helpful tools and instructional approaches for supporting student reasoning across texts.

Close reading is integral to evidence-based argumentation.

> Much rich argumentation takes place in the context of negotiating meaning with texts as interactive argumentation. It is clear that classroom reading routines play a key role in supporting text-based discussion, thinking, and argumentation. Students need an opportunity to read for meaning/content in order to reason about the rhetorical/disciplinary features of texts, disciplinary language, and concepts or to work with texts to conduct discipline-shaped inquiries (such as sourcing and corroboration in history).

The intervention design can also benefit from practices and routines for building student engagement and investment in the rigorous work of making sense of complex texts and of disciplinary reasoning tasks.

> In particular, a disciplinary stance that privileged open ended inquiry (and provided tools and support for this inquiry) over information/facts increased student engagement, learning, and effort. We observed that teacher uptake (revoicings), and use of student contributions to shape class discussion encouraged students to ask questions above and beyond instruction. Likewise, facilitation and tasks that leveraged student connections increased engagement and understanding. In contrast, when students' prior knowledge, experience, literacies and interests were excluded from work with text or text discussions—for example, by limiting opportunities for asking questions or making observations or dismissing student prior knowledge, experience or thinking—students disengaged/disinvested and their participation took on a pro forma (doing school) quality.
>
> Significant opportunities for student talk in pairs and/or small groups should be built into the intervention as a means of support for students to learn and practice collaborative meaning making, disciplinary practices and concepts, and academic language/discourse.

Designers should build in opportunities for students to pursue their own questions about texts, considering the benefits of open ended inquiry tasks in comparison with predetermined, thus closed, inquiries.

> The observations raised questions about the implications of having students generate a claim (e.g. based on prior knowledge), followed by reading to inform the claim, versus generating a claim based on their close reading of text(s) with a more open ended inquiry frame. Might finding evidence to support a pre-existing claim act similarly to a misconception and interfere with the development of accurate mental models from text, as per the role of misconceptions in science learning? Likewise, what is the impact on disciplinary reading, learning and E-BA of having students build a case around a teacher-generated argument or claim, rather then generating their own—and under what circumstances would each option best support student learning?

Students' authentic questions that arise from engagement with texts and ideas very often dovetail with important disciplinary learning at the secondary level. Designs should capitalize on this resource explicitly to drive engagement and deepen interactions and learning rather than curtail opportunities for students to raise the curiosities, conundrums, and confusions they experience with learning materials by directing student work prematurely toward specific questions/tasks/procedures.

Thematic Analysis

Analytical Approach

We subsequently engaged in a more systematic constant comparison analysis of the California lessons. The analysis was based on field notes, lesson artifacts and teacher interviews, and did not include audio- or videotapes of observed lessons.

We used an iterative approach to analyzing these data. Using a combination of inductive and theoretically-driven analysis, moving back and forth between the entire data set of field notes and lesson artifacts, coded extracts of data, and emergent analyses, we iteratively identified a set of categories and codes related to the teaching and learning of argumentation.

Initial coding and analysis utilized a "start list" of broad descriptive categories reflecting the conceptual framework and research questions articulated in the Project READI proposal (Miles & Huberman, 1994): lesson architecture, texts and text characteristics, tasks and task support, classroom culture, and student behavior. Within these broad categories, we approached the analysis using open and axial coding from grounded theory research.

Through repeated readings of field notes and other lesson artifacts and teacher interviews, researchers acquired a deep understanding of the instructional moves and interactions related to texts, tasks and classroom culture in each of the 42 observed lessons. The analysis did not include coding of audio- or videotapes of observed lessons. Using a combination of inductive and theoretically-driven analysis, observations were coded for dimensions of text use, tasks and classroom culture, including quality of inquiry tasks, participation structures, types and patterns of discourse and indicators of student knowledge, processing skills, and dispositions. We also identified segments of lessons involving instruction and engagement in promising texts, tasks and literacies for future in-depth analysis. Extracts of data were transferred to a coding notetaker. (See Appendix B for coding manual and Appendix C for coding notetaker).

This analysis yielded a set of themes and operational definitions, presented below.

Results

Themes

Through this process, we identified 8 broad themes that represent malleable factors mediating student engagement and learning from higher level literacy tasks: 1. texts, 2. close reading, 3. argumentation and 4. disciplinary knowledge building tasks, 5. teacher support for learning, 6. instrumental support for learning, 7. epistemological framing and 8. participation structures. In addition, we identified two themes related to student performance—9. student engagement and 10. student learning. Themes capture both promising practices and missed opportunities, cases where lesson features have the potential to foster engagement and learning, but fail to do so.

Definitions of these themes are found in Table 1.

Table 1. Themes from Initial Constant Comparison Analysis

Theme	Definition
Features of instruction and classroom climate	
Texts	Features of texts and text use including: a. Texts and text properties b. How texts are used c. How texts are used in relationship with other texts
Close reading	Interactive negotiation of meaning at the local and global levels to unearth and evaluate possible meanings, individually or collaboratively. Characterized by approaching texts to understand vs. to find information. *Missed opportunities are tasks with the potential to foster close reading because there are possible supports for unearthing and evaluating possible meanings, but features of task and/or classroom life fail to elicit these.*
Argumentation	Making a claim or assertion that is supported by evidence that connects to the claim in a principled way. Involves consideration/deliberation of multiple possibilities and/or viewpoints. *Missed opportunities are tasks with the potential to foster argumentation because there are multiple possible understandings to negotiate, but features of texts, task and/or classroom life fail to elicit these.* Identify emphasis of argumentation: a. Arguing to learn: Argumentation as a tool for the construction and understanding of disciplinary knowledge and practices b. Learning to argue: Explicitly teaching language, structure and principles for argument and asking students to apply the structure to learn disciplinary argument
Disciplinary knowledge	Discipline-specific epistemologies and inquiry practices in reference to the overarching frameworks, concepts and themes of the disciplines. *Missed opportunities are tasks with the potential to foster disciplinary knowledge, but features of task and/or classroom life fail do this.*
Teacher support for learning from texts and higher level literacy and disciplinary knowledge tasks	Teacher modeling, guidance and support for learning and practicing meaning-making about text, argumentation and disciplinary knowledge. *Missed opportunities are instructional moves with the potential to support learning, but that fail do this.*
Instrumental support for learning from texts and higher level literacy and disciplinary knowledge tasks	Routines, tools and strategies that support learning, such as metacognitive reading routines (e.g., Talking to the Text/annotating, think aloud), notetakers (evidence/interpretation, disciplinary notetakers), etc. *Missed opportunities are routines, tools and strategies with*

	the potential to support learning, but that fail do this.
Epistemological framing	Signals communicated by teacher and students through tone of voice, word choice, interactions, routines, and explicit instructions and comments that convey understandings and expectations of a task or activity (e.g., "doing science" vs. "doing the lesson" (Jiménez-Aleixandre, Rodríguez, and Duschl, 2000)). Identify framing that instantiates a(n): a. *Procedural display orientation* that positions tasks and texts as information vs. inquiry, and promotes and rewards "doing school" over reading and learning for understanding b. Inquiry orientation that positions tasks and texts as inquiry, and promotes and facilitates students construction, representation and evaluation of knowledge
Participation structures	*Structural arrangements of interaction*, including interactions, routines, and explicit instructions and comments that create expectations for participation in individual, partner, group and whole class settings (Philips, 1974). Identify participation structures that: a. Communicate that the teacher vs. students has authority to set the topic, direct conversation, evaluate ideas—i.e., to do the work of sensemaking b. Support student ownership, agency, engagement and participation, and convey authority to students to shape the topic and conversation, evaluate ideas—i.e., to do the work of sensemaking
Indices of student engagement and learning	
Student engagement	Evidence of engagement and effort in relation to reading, argumentation and disciplinary knowledge building, including persistence and grappling, student ownership, agency and extended instructionally focused student talk. *Missed opportunities are evidence of lack of agency, engagement and participation*
Student learning	Evidence of reading comprehension, argumentation and disciplinary knowledge building reflected in construction, representation and evaluation of knowledge, and appropriation and use of disciplinary language, literacies, thinking and reasoning dispositions, skills and knowledge. *Missed opportunities are evidence that the enactment of the lesson does not result in reading comprehension, argumentation and disciplinary knowledge building*

Operational Definitions of Target Literacies

The analysis of these classroom observation data also generated operational definitions of the three literacies that are the focus of our study: close reading, evidence-based argumentation and disciplinary knowledge. These operational definitions are presented below.

Close Reading: Operational Definition

What is close reading?
Close reading is a form of interactive argumentation, an active negotiation with text — at local and global levels — to unearth and evaluate possible meanings.

Close reading reflects the basic understanding and attitude that reading means comprehending, interpreting, analyzing, and critiquing texts (Norris & Phillips, 2003).

What range of skills or strategies may be used when reading closely?

1. Engaging in discipline-specific epistemologies and strategies.

2. Relating what is read in one part of the text to other parts of the text, to other texts, to what one already knows.

3. Knowing when to back off and when to dig in to understand a particular portion of text (depending on whether it helps understanding or helps answer questions)

4. Answering who, what, where, when, why, how questions.

5. Noticing author's use of language and differences in language with other subject matter discourses or informal discourse.

6. Entertaining conjectures and hypotheses regarding inquiry questions.

7. Identifying evidence that will answer questions (and relating that to perspective).

8. Interpreting words and sentences in light of disciplinary discourse.

9. Determining word meaning through a) breaking down words into meaningful parts; b) relating unknown parts of words to known; c) using context to determine meaning; d) consulting glossaries and dictionaries, etc.

What does it look like when students are engaged in close reading? (Observable behaviors)

1. Students are talking to each other about their interpretations of the text, entertaining hypotheses about what the text means and resolving difficulties in interpretation at the word level and beyond.

2. Students are referencing and cross-referencing the text in these discussions, pointing to particular places in the text, reading particular words and sentences from the text, etc.

3. When students are reading alone or with others, they are annotating the text, taking notes in other forms, circling words, marking points of confusion, etc.

4. Students share their unique questions regarding the text (in addition to grappling with any instructional questions that are meant to guide the reading).

5. Students' annotations and discussions may reflect discipline-specific as well as generic reading comprehension and fundamental literacy skills, strategies and dispositions (Norris & Phillips, 2003).

6. Students' annotations include a focus on elements in the skills and strategies section.

7. Students reveal how they are arriving at their understandings of texts, in their talk or written work.

8. Students are working to make connections/distinctions within and/or across texts.

9. Reading tasks are framed as inquiry into meaning by students.

Argumentation: Operational Definition

What is argumentation?

Argumentation is making a claim or assertion that is supported by evidence that connects to the claim in a principled way.

Argumentation involves consideration/deliberation of multiple possibilities and/or viewpoints.

Types of argumentation

Approaches to argument include both a formalist orientation concerned with learning to argue, and argumentation as an embedded social practice in the service of knowledge building, or arguing to learn (Cavagnetto, 2010; Driver, et al., 2000; Newell, 2011; Reisman, 2011):

1. Arguing to learn: Argumentation as a tool for the construction and understanding of disciplinary knowledge and practices

2. Learning to argue: Explicitly teaching language, structure and principles for argument and asking students to apply the structure to learn disciplinary argument

Why this distinction is important: Reznitskaya, et al. (2007) found explicit instruction in argument structures and principles did not have the intended impact of supporting argumentation. The researchers speculated that "awareness of the rules, and the attempts to apply them, might have interfered with students' ability and motivation to generate more argument-relevant statements, resulting in negative transfer" (p. 467). Likewise, in a study of argumentation in science where students argued from short evidence statements provided by the researchers rather than in the context of close reading, insufficient content knowledge limited fruitful argumentation (von Aufnaiter, et al., 2008.)

What skills or strategies may be used in argumentation?

1. Close analysis of text/data.

2. Depending on the type of source, students may be identifying the claims made in the source and critically appraising the strength of evidence and warrants for those claims

3. Generating inquiry questions from text/data.

4. Entertaining multiple conjectures and hypotheses regarding inquiry questions.

5. Identifying evidence that will answer inquiry questions.

6. Evaluating the reliability and validity of evidence.

7. Evaluating claims arising from different sources of evidence.

8. Developing a position based on evidence.

9. Grappling with complexity, and making reasoned judgments about which conjecture/hypothesis/claim is most convincing in light of competing claims and conflicting evidence.

10. Analyzing, evaluating, critiquing, and synthesizing multiple perspectives and sources.

11. Constructing, elaborating, and testing knowledge through communicating understandings to others.

12. Viewing argument as an inquiry process, and revising a claim or changing one's mind when new evidence comes to light.

13. Articulating reasons and justifying points of view, and listening to the reasons and justifications of others.

14. Learning and practicing the language and structure of evidence-based argumentation in oral and written discourse.

What does it look like when students are engaging in argumentation? (Observable behaviors)

1. Argumentation tasks are framed as inquiry into multiple possibilities (e.g., asking students to find "evidence" to support a fact is not argumentation)

2. Students are reading with attention to evidence and interpretation (e.g., generating questions about a text, proposing quotes for small group or whole class discussion, continuously revising a KWL chart as they read multiple texts on a topic)

3. Students are presenting reasons and evidence to back up their statements as they negotiate text meaning during small group or whole class collaborative meaning-making

4. Students reveal how they arrive at their position or solution

5. Students are going beyond offering opinions by giving reasons and justifying points of view

6. Students are defending their beliefs or conclusions with evidence, warrants, and rebuttals

7. Students are referencing and cross-referencing, examining and re-examining the text/data in these discussions, pointing to particular evidence that supports a claim, rebuttal or counter-claim

8. Students are challenging one another with counterarguments that refute competing claims or solutions

9. Students are evaluating claims arising from different sources of evidence

10. Students are working to make connections/distinctions between multiple possible claims or solutions

11. Students are persuading one another of their ideas, using evidence, warrants, backings, and rebuttals

12. Students are working to reach consensus by making their reasons and thinking visible

13. Student writing or talk contains indicator words/phrases that mark arguments (e.g.: If/then statements, I think ___ because, I think…, I don't think…, I agree, I

disagree, because, probably, most likely, almost certainly, maybe, perhaps, thus, therefore, consequently, What if…, How do you know that?)

14. Students are asking one another questions about their puzzlement, beliefs, related disciplinary knowledge, explanations, and opposing viewpoints.

Disciplinary Knowledge: Operational Definition

What is disciplinary knowledge?
Discipline-specific epistemologies and inquiry practices in reference to the overarching frameworks, concepts and themes of the disciplines.

Disciplinary knowledge includes discipline-specific:

1. Beliefs, values and commitments about the nature of what counts as knowledge.

2. The practices of engaging in inquiry.

3. Ways of evaluating claims and evidence.

4. Ways in which member of the discipline interpret the world (overarching frameworks, concepts and themes).

5. Prototypical ways of structuring and presenting knowledge.

6. Discourse structures and strategies.

What does it look like when students are constructing disciplinary knowledge? (Observable behaviors)

1. Students are learning and practicing interpretive practices of the discipline:
- English: Students are reading with attention to literary themes and structural devices employed: plot structures, character types, imagery, point of view, symbolism
- History: Students are evaluating competing narratives, interpreting past actions in the context of patterns, beliefs and values existing at the time
- Science: Students are developing coherent, logical explanations, models or arguments from evidence, advancing and challenging explanations, comparing/integrating across sources, evaluating sources and evidence

2. Students are learning and practicing disciplinary reading and thinking strategies:
- English: Students' reading is guided by discipline-specific skills, e.g., from the Hillocks taxonomy or Rabinowitz strategies
- History: Students read with attention to sourcing, contextualization, corroboration, questioning inclusiveness, questioning coherence
- Science: Students read to formulate questions for investigation, find evidence to support and/or refute their own or others' explanations with data, learn about methods of inquiry that they can use in their own investigations; learn about how

scientists think about the natural world, how they shape inquiries, and how they interpret evidence.

3. Students are learning and practicing distinctive oral and written discourse structures and practices (e.g., conventions, grammatical structures, technical and specialized vocabulary, rhetorical structures, argumentation practices):

- English: plot structures, character types (trickster, tragic hero, anti-hero), imagery (e.g., metaphor, simile, parallel and contrasting description), narrative voice, figuration (e.g., symbolism, satire, irony)
- History: conventions of chronology, periodization, conventions of argumentation in oral and written forms (e.g., one-sided, two-sided, multi-sided), oral argument formats (debates, discussions, conversations), word choice as signals of author's perspective
- Science: Students are text structures (e.g., cause/effect/correlation, problem/solution/findings, proposition/support), multiple representations (e.g., diagrams, equations, charts, simulations), genres (e.g., bench notes, field notes, journals, logs, press releases, science fiction), distinctive grammatical structures (e.g., nominalizations, passive voice), discourse signals of certainty, generalizability, and precision, signals of rhetorical and logical relations among ideas, argumentation

4. Students are learning and practicing general concepts and themes of the discipline:

- English: Moral and philosophical content, archetypal themes, types of texts, rhetoric of literature
- History: Categories of historical study, basic systems, relationships among phenomena, change over time, historical themes
- Science: Evolution, scale, equilibrium, matter and energy, interaction, forum and function, models and explanation, evidence and representation

Scholarly Presentations

A paper based on results from these analyses of classroom observation data was presented at the annual meeting of the Literacy Research Association 2012 conference:

Litman, C., George, M., Greenleaf, C., Charney-Sirott, I., & Sexton, U. M. (November, 2012). Evidenced-based argumentation as a scaffolding for advanced reading comprehension. Paper presented at the annual meeting of the Literacy Research Association. San Diego, CA.

This paper explores how E-BA in the disciplines through close reading and analysis of text might potentially provide the scaffolding that struggling readers need to progress rapidly beyond basic literacy skills. The analysis focused on reading as a venue for the enactment of interactive argumentation (Chinn & Anderson, 1998), as well as a source of questions that lead to serious disciplinary arguments (Hillocks, 2010). Much rich argumentation takes place in the form of interactive argumentation during close reading

and collaborative meaning-making as students negotiate meaning (Chinn & Anderson, 1998). Multiple close readings of a text support students in moving to more elaborated meanings required for mature E-BA. Students benefit from an initial reading for meaning, followed by subsequent readings focused on interpretive practices of the discipline. The importance of close reading for E-BA echoes Reisman (2011), who documented greater impact on historical thinking from instruction in close reading and sourcing than corroboration and contextualization, strategies involving synthesis of multiple texts. A major finding is the importance of attending to building blocks of E-BA as well as to examples of mature E-BA activities. While E-BA is easily recognized in a debate assignment or when a teacher asks explicitly for evidence during a classroom discussion, the roots of E-BA are likewise present in reading and discussion activities that require students to read with attention to evidence and interpretation, such as generating questions about a text, proposing quotes from reading materials for small group or whole class discussion, continuously revising a KWL chart as students read multiple texts on a topic, evaluating a source, or generating an essay topic and defending its importance with quotes from the text. These building blocks are often not framed by teachers in argumentation language.

Observations also revealed a close relationship between reading and E-BA. Finally, classroom culture strongly influences the appropriation of argumentative knowledge and strategies. In classrooms where teacher support focuses on supporting student agency, students show high levels of engagement and perseverance and demonstrate pride in their ability to solve problems and make sense of challenging text. Classrooms with high engagement and learning have well-established routines to support significant student-student interaction and full participation in academic literacies. These routines play as great a role as teacher direct instruction in fostering argumentative discourse. Themes also emerged that inform our understanding of trouble spots for teachers attempting to engage students in disciplinary reading and argumentation. We found that teachers sometimes assimilate the language and structure of argumentation into a procedural display orientation that positions tasks and texts as information rather than inquiry (Jiménez-Aleixandre, Rodríguez, and Duschl, 2000), such as IRE patterned interactions. During one social studies lesson a teacher quizzed students about what led to the establishment of the three branches of the federal government, saying, “Feel free to find evidence in the text.” Later, the teacher asked a student to explain checks and balances, again telling the student to “look for evidence in the textbook.” While the teacher used the language of argumentation, she was in fact directing students to fill in the blank, absent any claim. By requiring students to analyze, interpret, integrate, critique and evaluate information within and across multiple sources, curricular reforms emphasizing evidence-based argumentation can potentially support all students to achieve high levels of academic literacy. Alternatively, in the absence of support for advanced reading comprehension and critical literacy skills, the emphasis on argumentation risks escalating Matthew effects on literacy (Stanovich, 1986), increasing the gap between students who can make critical judgments about text and their less proficient peers. The results of this study suggest that E-BA can produce improved engagement and learning for students when it is accompanied by support for reading.

Next Steps: NVivo Analysis

Results from this phase of analysis informed the next iteration of analysis using NVivo software.

The NVivo analysis is being conducted by researchers at the California site. The analysis will be conducted by Irisa Charney-Sirott, Cindy Litman and Ursula Sexton, each of whom participated in the initial coding, under the guidance of Cynthia Greenleaf. All three researchers have received training in NVivo and will have completed both Basic and Advanced Workshops by May.

These researchers met for two days in March to plan the NVivo analysis, and made significant progress in achieving multiple goals, including anticipating and solving technical issues, creating a shared understanding of key constructs such as close reading, argumentation and disciplinary knowledge, and identifying and prioritizing research questions and creating a strategy for next steps.

Research Agenda

The next iteration of classroom observation data analysis using NVivo software will refine our understanding of factors that mediate the development of advanced levels of reading comprehension and argument literacy. This analysis will draw on the full corpus of data, including audio- and videotapes of the lessons. The 10 themes identified in the initial analysis will provide the starting place for this second phase of the classroom observation analysis. The analysis will provide a more systematic look at features of texts, tasks, and instruction that distinguish, support and undermine engagement and learning from high level literacy practices in the core disciplines of English, history and science. One strategy is to work backward from segments of productive close reading, argumentation and disciplinary knowledge building—and from missed opportunities—identified in the initial analysis to identify features of texts, tasks, epistemological framing and participation structures that support engagement and learning.

Several specific inquiry questions emerged from our preliminary analysis for in-depth analysis in this next phase of the classroom observation work. These focus on interactions between texts, tasks and classroom culture:

A key research question focuses on the relationship between close reading and evidence-based argumentation. The importance of close reading for E-BA was a major finding of our initial analysis and echoed Reisman (2011), who documented the impact of instruction in close reading on students' historical thinking. The next phase of our analysis will examine the contributions of text-based problem solving to evidence-based argumentation and disciplinary learning (Norris & Phillips, 2003). To this end, we will compare episodes that evidence student engagement in close reading to those that don't, as well as comparing specific features of close reading tasks, to glean an understanding of what supports and undermines student investment in such sensemaking with texts.

We will also explore the relationship between multiple readings of a text and advanced reading comprehension, E-BA and disciplinary learning. Our preliminary findings suggest that multiple readings support students in moving to more elaborated meanings required for mature E-BA. Students in observed lessons appeared to benefit from an initial reading for meaning, followed by subsequent readings focused on interpretive practices of the discipline. We will examine lesson architecture to identify lessons that embed multiple readings of a single text and compare those with lessons involving single readings in order to identify reading sequences and associated tasks that best support high levels of literacy engagement and learning.

We will also examine features of texts, tasks and classroom culture that mediate E-BA with multiple sources. Our preliminary analysis corroborates findings from text processing and disciplinary reading research suggesting that learning from multiple texts requires reading and thinking processes beyond those required to comprehend single texts (Goldman, 2009; Wineburg, 1994). We found that students who successfully comprehended single texts often floundered when the task required them to synthesize multiple sources. At the same time, our data suggests that teachers largely failed to appreciate the additional demands on readers to process, analyze, evaluate and synthesize material from multiple sources. Although we documented tasks that drew on multiple sources, support for reading was largely focused on comprehending single texts. When teachers did provide support for learning from multiple sources, this tended to be in the form of a common notetaker for texts read sequentially. In other words, tasks and instruction framed synthesizing across texts as a product of close reading of single texts that did not require additional explicit support. The next phase of our analysis will further examine the use of multiple texts, including sequences, purposes and instructional supports for analyzing, evaluating and synthesizing multiple sources to identify obstacles and supports for reading multiple texts in the service of argumentation and disciplinary knowledge building.

Another inquiry will focus on the relationship between argumentation, close reading and content knowledge. While some research suggests that content knowledge constrains argumentation (von Aufschnaiter, et al., 2008), other studies have found that argumentation builds content knowledge (Reisman, 2011). One difference between these studies is the role of reading in the argumentation task. Our preliminary analysis suggests that argumentation builds disciplinary knowledge when close reading and rereading of texts/data is a feature of the argumentation task. Our NVivo analysis will explore features of argumentation tasks, texts and instruction that contribute to reciprocity among these three elements of literacy—reading, argumentation and disciplinary knowledge.

The preliminary analysis also prompted an interested in the role of framing—both ways that teachers and students communicate understandings and expectations of a task or activity through interactions, routines, and explicit instructions and comments (Berland & Hammer, 2012; Jiménez-Aleixandre, Rodríguez, and Duschl, 2000; Philips, 1972), and how these understandings and expectations affect student engagement and learning in reading, argumentation and disciplinary knowledge building tasks. In particular, we are interested in how tools, routines, interactions and participation structures (i.e., *structural*

arrangements of interaction that communicate expectations for participation) as well as explicit task instructions and features may convey intended and unintended expectations and consequences that support or undermine student engagement and learning. Our analysis of framing will focus on ways teachers frame literacy learning opportunities that affect student engagement and learning of advanced literacy skills and dispositions.

In addition to these inquiries, general research questions include:

What purposes do texts serve?

What texts are being used and what are their properties?

How are texts used? In relationship with other texts?

What are students being asked to do with text?

How are texts and reading framed by teachers and tasks?

How are students framing texts and reading?

What are the properties of texts that provoke close reading?

What is the relationship between text properties and use and argumentation?

What instructional supports foster close reading and argumentation? With multiple sources? In discipline-specific ways?

What instructional supports foster analysis, evaluation and synthesis across multiple sources and perspectives?

What forms of disciplinary knowledge are represented in classroom instruction?

What commonalities and differences related to the 10 themes emerge in relationship to reading and argumentation in the core disciplines of English, history and science?

Significance of this Work

While the major focus of the targeted in-depth observations of classrooms conducted in Year 1 of the study is to facilitate rapid prototyping of Evidence-Based Argument Instruction Models (E-B AIMs) and professional development interventions, the classroom observation research has expanded beyond this focus, by both informing E-B AIMS and professional development design, and by responding to the call for "research that integrates a cognitive perspective and a social perspective to study the teaching and learning of argumentative reading and writing in educational contexts…" (Newell, et al., 2011, p. 297):

> Perhaps most obvious is that although there are research programs emphasizing argumentative reasoning and the modeling of argumentative reasoning (Kuhn, 2005; Reznitskaya & Anderson, 2002), those instructional programs do not address the teachers' use of specific instructional methods in promoting the development of students' argumentative reading and writing over time and the features of classroom life that impede or facilitate students appropriation of argumentative knowledge and strategies…
>
> Because there are so many arguments that are important to our social, cultural, academic and professional worlds, reading and writing arguments are, in turn, a matter of developing an understanding of what is appropriate, why, when, and to and from whom, to make a contribution to those arguments in effective and compelling ways. We believe that educational contexts and dedicated, well-informed practitioners are keys to furthering students' opportunities to acquire such knowledge or argumentative reading and writing. Yet, research has an important role to play in enhancing and sometimes changing teaching and learning; this requires an imaginative and thoughtful blending of the cognitive and social perspectives. (Newell, et al., 2011, 297-298).

The wealth of data generated by the classroom observations, in combination with the broader READI research agenda and resources, can potentially achieve a blend of cognitive and social perspectives that can advancing our understanding of argument literacy in significant ways.

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APPENDIX A

Observation and Analytic Protocol
Reading for Understanding

Observer:	Date:
Teacher:	School:
Course:	Grade Level(s):
Period:	Start Time: _____ End Time:_____
Number of Students in Class:	Males: _____ Females: _____
Race/Ethnic Composition of Class:	

Note:

- Be sure to collect all instructional material used or referenced in this lesson, including copies of all texts, handouts, task directions, etc.
- Arrange to copy a sample of student work produced during the lesson

I. The Physical Environment

On a separate document, draw and describe the physical environment of this classroom. Include details of seating, what is on the walls, and location of classroom resources such as white boards, computers, books, etc.

II. Narrative Description of Lesson

1. Field Notes

Using Inqscribe, type field notes describing all activities and interactions with as much detail as possible to capture the teaching and learning in this lesson. Your notes should indicate who is speaking (e.g., teacher, student, etc.). Try to use numbers to differentiate students, e.g., S1, S2, etc.

Be sure to:

- Insert time codes about every two minutes or more often if there is something worth noting.
- Insert time codes whenever there is a shift in activity, roles or responsibilities, or grouping structure. This is often signaled by teacher instructions.

- Indicate when there is good dialogue happening that would be important to transcribe and note why.

2. Quick Impressions

Below, describe what stood out for you about this lesson from the standpoint of evidence-based argumentation, disciplinary learning, use of texts, student engagement or the like.

III. Moving from Description to Initial Interpretation

The **initial** interpretation should identify and index observations that might potentially inform the design of our evidence-based argumentation instruction modules (E-B AIMs) in each discipline. The E-B AIMs deal with three key aspects of a teaching/learning situation: the texts, the classroom activities, and the classroom culture. What we mean by text, classroom activities, and classroom culture is discussed in the following sections. Disciplinary practices and content should be described under the relevant text, activities, or culture category. Teacher-student interactions, including classroom dialogue and participation structures, are of great interest but there is no separate category for these because they should be considered in the context of text, classroom activities, and classroom culture. For each key aspect there are a set of guiding questions. These are not meant to be answered one at a time but to guide your thinking and initial interpretation. Note that any one lesson may provide evidence for only a subset of aspects of the design of the E-B AIMs.

In your initial interpretations you should refer to portions of the lesson and field notes (using time codes) to support your interpretation. Indicate when you are drawing on information from the interview or examination of the materials instead of from observation. You might have conjectures, hypotheses, or questions about things you observed. Use italics for indicating this kind of information.

I. Texts

The focus here is on the types of texts within the discipline, their function, and the supports provided by the teacher. The term "text" is used broadly and refers to both traditional, as well as electronic texts, visual or verbal modes, oral or printed. Texts include cartoons, scripts, videos, and orally presented material.

Guiding Questions:

- What types of texts were in evidence? Were other texts mentioned/discussed that students previously read or knew about? What were these texts and how were they brought into the lesson?
- Did the teacher provide modeling and support for student talk and collaborative meaning-making for texts read during the lesson? If so, how?

- Were students supported to read and understand single and/or different genres within the discipline? If so, how?
- Were multiple texts in evidence during the lesson? Is so, how were the texts introduced to students, and used? What was the sequence of texts? Did the type and sequence of texts appear to support student engagement and learning in discipline-specific ways? If so, how and why; if not why not?
- Did students draw on multiple text sources to engage in disciplinary argumentation practices? Did the teacher model or provide support for engagement in these practices? If so, how? Did the teacher provide support and opportunities for student talk and collaborative meaning-making with texts? If so, how?

Remember to index your initial interpretations to the field notes/video using time codes.

II. Classroom Activities

The focus here is on the nature, quality, and purpose of the activities within the discipline along with the types of supports provided by the teacher.

Guiding Questions:

- What was the task, what was its function or purpose, how and when was it introduced? Was there more than one task? If so, what were the features of each task? How were the different tasks related to one another, if at all?
- Did the task support development of evidence-based argumentation or some aspect of it in the discipline? If so, how? Did the task support disciplinary vocabulary, concepts and principles? If so, how?
- What kinds of thinking and analytic practices of the discipline did the task call forth? Did the teacher provide task support and/or problem-solving strategies specific to the discipline? If so, how?
- Did the task engage students in oral and written communication practices of the discipline? If so, how?

Remember to index your initial interpretations to the field notes/video using time codes.

III. Classroom Culture

The focus here is on the nature and purpose of the participation structures and routines within the discipline as well as the general classroom climate and norms.

Guiding Questions:

- What were the participation structures?
- How, if at all, did the participation structures and discourse routines
  - contribute to high levels of disciplinary competency through student engagement, risk-taking, and effort? If so, how?
  - help students to access and build on both general and discipline-specific prior knowledge and skills? If so, how?
  - help students learn the ways in which evidence based argumentation is created, communicated, and evaluated within that discipline? If so, how?
  - help students engage in the academic discourse of the discipline, in both oral and written modes? If so, how?
  - promote student initiative, participation and engagement?

Remember to index your initial interpretations to the field notes/video using time codes.

APPENDIX B

READI Coding Manual

OVERVIEW OF CODING

Scope and purpose of analysis

In this pass through the data, we will analyze and code every lesson. Coding—in the form of brief interpretive statements with supporting evidence— will focus on identifying and describing:

- Promising lessons
- Promising texts
- Promising tasks
- Promising tools
- Promising participation structures
- Promising discourse moves
- Promising literacy practices
- Promising argumentation practices
- Promising disciplinary practices

Practices are promising because:

- They center around rich textual resources
- They require and support intellectual work
- They reflect disciplinary thinking and reasoning/literacy/argumentation practices
- They support student engagement/participation/ownership/independence

Procedure

First read-through

Begin by reading all available texts and supporting materials (e.g., notetakers, task instructions, teacher interviews). Familiarity with these materials will help you interpret what you see in the field notes.

Next, read both sets of field notes to get the most complete picture of the lesson possible. Using a very broad lens, scrutinize the data for features of texts, tasks, interactions, instructional moves, and student behavior that reflects theoretically important categories or themes.

Ask yourself questions to help you interpret what you see and that may lead to emergent codes:

Given a set of classroom texts, tasks, resources, and practices, ask yourself:

- What are teachers/students doing? What are they trying to accomplish?
- How, exactly, do they do this? What specific means/strategies do they use?
- How do class members talk about, characterize, and understand what is going on? What assumptions are they making?

- To what extent are they engaged in reading and reasoning with disciplinary texts? How am I gauging that?
- What do I see going on here? What did I learn from these notes?

Alternatively, when teachers and students seem to be engaged productively in reading and reasoning with disciplinary texts:

- What texts, tasks, resources, and practices assist them in doing so?
- What features of student behavior and interaction am I using to identify productive engagement in reading and reasoning?

As you read these materials, annotate your thinking (e.g., using Word's comments feature) to flag and capture your questions and thinking about emerging patterns, interrelationships and tentative interpretations with potential design implications/elements for the E-B AIMs intervention.

If two sets of field notes are very different and coder was not present during the observation, coder will need to watch the video to get a better understanding of what happened during the lesson before coding.

Filling out the coding chart

After you have read and annotated the field notes and lesson materials, move systematically through the coding chart, one category/cell at a time. Scrutinize your field notes and annotations for information related to the category under consideration. You may have to look back to other data sources—texts, and other supporting materials. Write a brief interpretive statement with supporting evidence that identifies promising practices related to that category/cell.

You will not have an entry for every cell. If something is not present, unknown or NA, or if there is insufficient evidence for you to make an informed judgment, leave the cell blank.

For lessons/segments of lessons that are not promising, record practices or missed opportunities with possible design implications for E-B AIMs.

A word about the draft a priori codes

The list of draft a priori codes under each broad category can alert you to theoretically significant features and affordances of texts, tasks, culture, and student behavior, and language to describe them, as you code the observations. It is not intended, however, that analysis of the observations should conform to these codes or that the codes should in any way replace thoughtful consideration and inquiry. Be alert for emerging codes with design implications/elements for E-B AIMs intervention. Record these and any questions in section VII., Parking Lot.

Design implications for E-B AIMS intervention

At the end of each section, write a summary statement with supporting evidence of features and affordances of that aspect of the lesson with design implications/elements for E-B AIMS intervention.

I. LESSON CONTEXT AND ARCHITECTURE

Use this section to provide an overview of the class and lesson.

A. Class Context

Describe student characteristics/demographics, class size, track, and any other contextual factors that influence or support the interpretation of the lesson.

B. Lesson Architecture

Provide a brief overview of the lesson, including the sequence of texts, tasks/activities, participation structures, and the articulation (or lack of articulation) between them. *If the lesson extends across multiple days, describe the lesson architecture across both days.*

Use this section to capture patterns or routines seen across multiple days—e.g., multiple lessons structured around essential questions (implicit or explicit), or texts read and discussed sequentially on separate days that are synthesized in a culminating task. Note whether this information is from field notes or teacher interviews.

Note: If there is coherence across two days of observations (e.g., the bell interrupts the task, which is picked up the following day), the coding should utilize a single notetaker that notes how the teacher built the coherence between the lessons. If lessons involve different tasks and foci, they should be analyzed using separate notetakers – one for each observation. Significant lack of coherence/continuity between days should generally be noted under missed opportunities.

C. Design Implications for E-B AIMS Intervention

Briefly summarize design implications/elements for E-B AIMs intervention from the lesson architecture and design.

II. TEXT CHARACTERISTICS

In general, this section catalogues characteristics of texts themselves, although it also documents how texts are selected and used in conjunction with one another.

A. Texts Used

What to include**:** Teacher-generated materials are considered texts only when they directly teach content—such as teacher-written articles or lecture presentations. Do not include teaching aids such as worksheets or organizers, whose primary purpose is to support content area reading and learning. These are *material supports* and should be discussed in section III., Tasks, under *Routines, strategies, tools (material supports, comprehension-supporting routines, strategies and tools)*.

Student-generated texts are generally evidence of student engagement and learning rather than texts, unless they are used as public documents as the focus of instruction (e.g., white board solutions).

Use a separate row for each text used or referred to (i.e., add a row for each additional text).

Enter complete text reference, where possible, and time codes indicating when texts were used or referred to in the first column. Also note how much of the text was used—an excerpt or whole text. Indicate approximate text length when possible.

B. Other Texts Referred to by Teacher, and
C. Other Texts Referred to by Students
Include here any texts that were not explicitly used in the lesson, but were referred to by the teacher or students. Record all available information about each text referenced, including genre (e.g., popular culture film), assignment (text previously assigned/read, outside-of-school text), etc.

Source
Use the following guidelines to determine whether a text is a primary or secondary source. In addition to distinguishing primary and secondary sources, write a brief description that captures important distinctions among texts, e.g., interpretive documents that cite sources, versus more homogenized texts like textbooks.
Literature

- Primary: Contain raw, original, noninterpreted and unevaluated information (literature, film, plays, performances, poems, diaries, correspondence)
- Secondary: Digest, analyze, evaluate and interpret the information contained within primary sources (literary criticism, author biographies, literary guides, encyclopedias, textbooks with teaching aids in the form of elaborations, glossaries, historical context, etc. that relieves students of some layers of decision-making and interpretation)

History

- Primary: Artifacts, documents, recordings, or other sources of information that were created at the time under study
- Secondary: Use primary and interpretive documents as evidence in creating a historical interpretation

Science

- Primary: Original materials that have not been filtered through interpretation or evaluation by a second party (empirical data, conference papers, interviews, laboratory notebooks, patents, a study reported in a journal article, a survey reported in a journal article, technical reports)
- Secondary: Contain commentary on or a discussion about a primary source (review articles, magazine/newspaper articles, and books)

Challenges/affordances
Describe any characteristics of the text itself that present special challenges/and or learning opportunities for students (e.g., passages in foreign language, archaic language, irony, rich figurative language, unfamiliar text structure, challenging graphic). Identifying text challenges and/or affordances is a reasoned judgment made by reading the text. In addition, your judgment may draw on data from instruction or student talk/behavior that provides *corroborating evidence* of challenges or affordances (e.g., teacher explicitly identifies or offers support for a particular textual challenge, or students struggle with dialect or vocabulary).

Assignment
Indicate whether the text was assigned by the teacher to the whole class or to a subset of students, or selected by student(s) (e.g., for SSR, expert groups, cases, science in the news articles, biographies). Also indicate student choice within a teacher-selected text set or text (e.g., *In your pairs, choose two you want to read and make observation notes about*).

Sequencing/coincidence of multiple texts
1. Sequential
2. Simultaneous

Briefly describe <u>all the ways</u> texts are used simultaneously and sequentially (e.g., *briefly simultaneously, but otherwise sequentially*, *texts used sequentially, but use of single notetaker or essential question supports students in making intertextual connections*). You will elaborate on social and material supports for reading and comprehending single and multiple texts in section III. Tasks.

When coding sequencing of texts, consider both reading *per se* and comprehending activities. For example. when an assigned text read outside of class (e.g., as homework) is referenced in conjunction with a text read in class, this should be considered simultaneous presentation. Capture details in a brief narrative description in the notetaker box.

The degree to which the lesson supports students to think intertextually—including mentally invoking texts— is important and needs to be captured. Be alert for this element of the lesson, which may appear in dimensions of text, task (teacher support, student collaboration, routines), classroom culture, and student behavior.

A. Design Implications for E-B AIMS Intervention
Briefly summarize design implications/elements for E-B AIMs intervention from the texts used in the lesson.

III. TASKS
<u>Analyze each task separately—duplicate the table for each task</u>.

What is a "task?" A task can be a single activity/episode or series of activities/episodes unified around a common focus (e.g., reading multiple texts in a variety of participation

structures to answer an essential question or inform a debate, etc.). Task boundaries can be fuzzy. In making a decision about whether to code segment of instruction as a separate task, look for significant shifts in what the activities asks students to know and do, and in the texts and supports required for them to learn and do those things. When tasks within a lesson involve different texts, require significantly different supports or ways of thinking and learning—even if they contribute to the same long-term culminating learning goal or activity— code them as separate tasks.

For example, students studying the Japanese American internment engage in a lengthy period of watching, notetaking and discussing home movies from the internment camps. After writing their concerns about the internment , the lesson shifts gears and students read and annotate a time line of important dates in Japanese-American history. While both segments are leading students toward a deeper understanding and essential question about the justice of the internment, significant shifts in texts and focus suggest that these should be code as separate tasks.

On the other hand, students are doing close readings of historical posters from countries on both sides of World War I to consider the question of how countries used propaganda to persuade men to join the war. The period-long task moves recursively from partner to whole class discussion and back to partner work, and from poster to poster. At the end of the period, students write answers to the essential question. Because the nature of the texts and task remain constant, this should be coded as a single task.

If students engage in the same task across two days of observations (e.g., the bell interrupts the task, which is picked up the following day), code as a single task, noting how the teacher built continuity between days (e.g., by having students briefly revisit notes at the beginning of class, or recapping the previous day's lesson). If lessons involve different tasks and foci, they should be analyzed using separate notetakers – one for each observation.

Bell-ringer or opening activities are generally their own task and should be analyzed separately if they have promising features or affordances (e.g., connect the lesson to students' prior knowledge, experience, or language). Do not analyze stand-alone bell ringers or similar tasks that do not have potential design implications. However, do include them in the lesson architecture section, and note that they are unrelated to the content of the lesson.

A. Task Description, Design, and Duration
Write a brief description of the task goals, activities, participation structures, sequence, steps.

B. Task Features and Affordances

Categories of knowledge
Parse the task into the following categories of knowledge, if present:

- **Making meaning with texts**: Reading and comprehending, including oral and written discourse around texts

- **Disciplinary literacy practices**: Discipline-specific literacies from the Core Constructs (e.g., epistemologies, strategies, disciplinary text/discourse structures, conventions)

- **Disciplinary vocabulary, concepts, themes, principles**: Discipline-specific content from the Core Constructs (e.g., disciplinary frameworks, concepts, themes)

- **Disciplinary reasoning/argumentation**: Under disciplinary reasoning and argumentation include both explicit and implicit argumentation:
    - Embedded or *interactive argumentation:* "[D]iscussions in which participants present reasons and evidence for different positions. These discussions usually take the form of a conversation rather than a formal debates…[A]rgumentation represents a collective search for reasons and evidence that sometimes leads [students] to change their minds" (Chin and Anderson, 1998). These discussions occur in the context of task that are not explicitly framed as argumentation as students negotiate meaning in literature (Commeyras, 1990; Great Brooks Foundation, 1987; Waggoner, Chinn, Anderson, & Yi, 1995), social studies (Onosko, 1990; Pontecorvo & Girardet, 1993; Swartz, 1987), mathematics (Putnam, Lampert, & Peterson, 1990), and sciences (Cavalli-Sforza, Lesgold, & Weiner, 1992; Inagaki, 1981).
    - Explicit argumentation: task explicitly framed in the discourse of argumentation—e.g., debate, simulations/role plays, etc.

In cases where interactive argumentation occurs in the context of making meaning with texts, code under each category.

Within each category of knowledge, scrutinize the data for evidence of:
- **what the task helps students learn/ do**, both explicitly and implicitly. Use the Core Constructs documents to help you identify categories of knowledge and language to describe them.

Categories of support
Also scrutinize the data for social and material supports that contribute to high levels of engagement and learning. For each category of knowledge, identity features and affordances of teacher support, student collaboration, and material support, where present, that help students accomplish the task:
- **Teacher modeling/support**: The nature of teacher formal/informal modeling, guided practice, questioning/facilitation strategies, etc.

- **Student collaboration**: The nature of partner and group work, whole class collaborative meaning-making

- **Routines, strategies and tools**: Materials and tools that support content learning —e.g., graphic organizers, notetaking routines/strategies, discourse frames, comprehension-supporting strategies, etc.

What to enter in each cell
In each cell for which you have evidence, write a brief interpretive statement (your interpretation of what you see in terms of this category), and briefly note evidence that supports your analysis in the form of salient snippets, quotes, time codes from the field notes/materials. For lessons/segments of lessons that are not promising, consider how/why the lesson is not promising in relationship to these same categories with design implications for E-B AIMs intervention. Enter only those promising aspects or missed opportunities.

What to do with missed opportunities
For coding missed opportunities, note instances of practices that undermine student engagement, effort, or disciplinary learning with design implications for E-B AIMs intervention, e.g., misalignments between text, task, and classroom culture—impoverished texts coupled with worthwhile tasks, rich texts presented with insufficient support, material support that does not align with task instructions, etc.

For example, in a lesson inspired by the memoir *Red Scarf Girl*, the teacher wanted students to engage in close reading of historical photographs from the Cultural Revolution by systematically observing and interpreting what they saw without drawing on their background knowledge from the memoir, which they were reading as homework. However, the teacher passed out a double entry notetaker that anticipated the next step and asked students to record observations about the photographs and connections to Red Scarf Girl. The notetaker undermined what the teacher wanted students to learn and do and forced the teacher to suppress connections students wanted to make to the book. When the teacher asked students later in the lesson to make connections between the photographs and book, they were noticeably unforthcoming. The misalignment in this potentially worthwhile lesson between purpose, text, task, and support has design implications for the E-B AIMs intervention.

Identifying missed opportunities is a judgment call. Look for evidence from student behavior (e.g., decrease/increase in engagement, unresolved confusion, appropriation of disciplinary language/concepts, etc.) to inform your decision. Puzzles over task features and affordances (e.g., when an apparent missed opportunity is accompanied by evidence of student learning, for example) may be framed as inquiries (e.g., *Under what circumstances*….)

Repeat this analysis for each task.

B. Design Implications for E-B AIMS Intervention

After completing your analysis of the task(s), write a brief summary of design implications/elements from the tasks in this lesson.

IV. CLASSROOM CULTURE

A. Features and Affordances of Classroom Culture

As you analyze a task, look for participation structures, discourse routines, expectations, and routines for making thinking visible that encourage participation, engagement, and learning. Under section V., Classroom Culture, write brief interpretive statements to capture these practices, and corroborate with salient snippets, quotes, time codes from field notes. Keep a cumulative record of practices that build a classroom culture that supports engagement and learning.

Participation structures

Use this category to describe how participation structures in the lesson support engagement and learning

Discourse Routines, Supports and Characteristics—features of teacher talk patterns, classroom discourse patterns, student talk patterns.

This category describes participants' roles, and features, routines, and supports that facilitate student participation, engagement and learning in classroom discourse

A. Design Implications for E-B AIMS Intervention

V. STUDENT BEHAVIOR AND AGENCY

A. Evidence of Student Engagement and Learning

As you analyze a task, student behavior will help you assess whether a practice is promising, and how/why. Note student behavior indicative of engagement and learning. Describe this using brief interpretive statements along with supporting evidence and time codes in section VI., Student Engagement and Learning. Make a cumulative record of student behaviors that provide evidence of student engagement and learning.

B. Design Implications for E-B AIMS Intervention

After completing your analysis of classroom culture, write a brief summary of design implications/elements of classroom culture for the E-B AIMS intervention.

VI. Summative design implications/elements for E-B AIMs intervention from the lesson

Looking across the entire analysis, consider how this lesson and the relationship among features/elements of the lesson might potentially inform the E-B AIMs intervention.

VII. Parking Lot

Use this space to record questions, issues, emerging codes, etc., that surfaced during your analysis of the lesson.

APPENDIX C

READI Classroom Observation Coding Scheme
July 12, 2011

THE CODING SYSTEM IS DESIGNED TO IDENTIFY:
Promising lessons
Promising texts
Promising tasks
Promising tools
Promising participation structures
Promising discourse moves
Promising literacy practices
Promising argumentation practices
Promising disciplinary practices

PRACTICES ARE PROMISING BECAUSE…
They center around rich textual resources
They require and support intellectual work
They reflect disciplinary thinking and reasoning/literacy/argumentation practices
They support student engagement/participation/ownership/independence

*****FOR LESS PROMISING LESSONS AND PRACTICES, NOTE MISSED OPPORTUNITIES WITH POTENTIAL DESIGN IMPLICATIONS FOR E-B AIMS.**

I. LESSON CONTEXT AND ARCHITECTURE
A. Write a brief description of the class context—student characteristics/demographics, class size, etc.
B. Write a brief description of the lesson architecture—sequence of tasks, activities, etc.
C. Design implications/elements for E-B AIMs intervention from the architecture of this lesson.

II. TEXT CHARACTERISTICS						
	Text characteristics, challenges and affordances					
Text references (reference, note time codes)	Media 1. Traditional print 2. Radio, TV, video 3. Hypermedia/ Internet	Source 1. Primary 2. Secondary	Genre (from Core Constructs documents)	Challenges/ Affordances (e.g., disciplinary vocabulary, linguistic features, rhetorical	Assignment 1. Teacher assigned 2. Student choice (e.g., for SSR, expert groups,	Sequencing/coincidence of multiple texts 1. Sequential 2. Simultaneous

	4. Artifacts			features)	cases, science in the news articles, biographies)	
A. Text used:						
B. Other texts referred to by teacher:						
C. Other texts referred to by students:						
E. Design implications/elements of texts used in this lesson for E-B AIMs intervention						

*****DUPLICATE THE FOLLOWING TABLE/ANALYSIS FOR EACH TASK**

III. Tasks					
A. Write a brief description of the task, activities, sequence, steps, etc.					
B.	**Task features and affordances**				
	Knowledge and skills (what task helps students learn/ do. May be drawn from Core Constructs)	**Teacher modeling, support (social support from the teacher in the form of modeling, guided practice, questioning/ facilitation strategies)**	**Student collaboration (social support from peers)**	**Routines, strategies, tools (material supports, comprehension-supporting routines, strategies and tools)**	**Missed Opportunities/ Inquiry Questions**

Meaning making with texts					
Disciplinary literacy practices and content					

Disciplinary vocabulary, concepts, themes					
Disciplinary reasoning and argumentation					
Other (describe)					

C. Design implications/elements of task for E-B AIMs intervention

Write a brief interpretive statement with supporting evidence of how features and affordances of tasks in this lesson contribute to or undermine high levels of engagement and learning. Be sure to include how features and affordances of multiple text use in this lesson contribute to or undermine high levels of engagement and learning.

IV. CLASSROOM CULTURE

A. Features and Affordances of Classroom Culture		Missed Opportunities/Inquiry Questions
Participation structures		
Discourse Routines, Supports and Characteristics (features of teacher talk patterns, classroom discourse patterns, student talk patterns)		
Implicit/explicit expectations communicated to students (e.g., through interactions, norms and policies)		
Routines for making thinking visible and public		
B. Design implications/elements for E-B AIMs intervention of classroom culture in this lesson *Write a brief interpretive statement with supporting evidence about how features and affordances of participation structures, discourse routines, and expectations (implicit/explicit) contribute to high levels of engagement and learning :*		

V. STUDENT BEHAVIOR		
A. Evidence of student engagement and learning **B.** Note: Some items from Evidence of Student Engagement and Learning may also comprise student collaboration codes		**Missed Opportunities/Inquiry Questions**
Student appropriation of disciplinary language, literacy, thinking and reasoning (agency)		
Student persistence and grappling		
Student focus during independent or collaborative work		
Student ownership/value/choice		
Extended student talk		

B. Design implications/elements for E-B AIMs intervention from the student behavior and agency visible in this lesson *Write a brief interpretive statement about student behaviors that serve as indicators of high levels of engagement and learning in discipline-specific ways:*

VI. Summative design implications/elements for E-B AIMs intervention from the lesson *Write a brief interpretive statement(s) describing learnings with design implications/elements for E-B AIMS, drawing on interrelations among text, task, culture and student behavior*

VII. Parking Lot Emerging codes, questions, inquiries