
The Chicago Teacher Network

Project READI Technical Report #26

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Citation for this Report: Fortune, A., George, M., Raphael, T., Emig, J. & Sullivan, M. (2016). *The Chicago Teacher Network*. Project READI Technical Report #26. Retrieved from URL: projectreadi.org

The authors would like to acknowledge the contributions of the following members of the Project READI WestEd team: Cynthia Greenleaf, Will Brown, Gayle Cribb, Irisa Charney-Sirott, and Gina Hale.

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Project READI was supported by the *Reading for Understanding (RFU)* initiative of the Institute for Education Sciences, U. S. Department of Education through Grant R305F100007 to the University of Illinois at Chicago from July 1, 2010 – June 30, 2016. The opinions expressed are those of the authors and do not represent views of the Institute or the U. S. Department of Education.

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.

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The READI Teacher Network was one of five strands of work comprising the overall project. The READI Teacher Network was across two sites: the WestEd Teacher Inquiry Network and the Chicago Teacher Network. The WestEd TIN was an ongoing network from WestEd's earlier work. The Network was a professional development context in which we engaged middle and high school teachers of literature, history, and science in building capacity to support adolescents' proficiency in disciplinary reading and reasoning. At the heart of the research within the Network was examining what teachers learn – and what they need to learn – to engage students in the high level, critical reading and thinking that is necessary for evidence-based argumentation. Effective professional development engages teachers in sustained, collaborative inquiry into instructional content and student learning (Darling-Hammond et al., 2009; Desimone, 2009). New approaches to instruction enter the classroom through teachers' deep understanding and ownership (Coburn, 2003). Drawing on these and design research principles (Brown, 1992; Cobb, et al., 2004), we engaged a Network of history, science and literature teachers in exploring evidence-based argumentation and effective pedagogy for building students' proficiency in disciplinary reading and reasoning. The design, initial activities and materials of the Chicago Teacher Network benefitted from the prior work conducted by one of our Project READI partners, WestEd's Strategic Literacy Initiative group (Greenleaf et al., 2004).

The work of the Chicago Teacher Network began by bringing together Project READI PIs and Co-PIs to talk with district curriculum directors for literacy/language arts, social sciences, and the sciences. Together an initial pool of teachers to invite to participate in a Teacher Network was generated. Subsequently six members of the district-level curriculum office (two each in literacy, science, and social sciences) participated in the two-day READI kick-off meeting held in August 2010. These individuals contributed key ideas regarding the key ideas that undergirded learning in their disciplines and initial thinking about the elements of the

interventions and the professional development that would need to accompany efforts to design and implement instruction in evidence-based argument. Several of these individuals subsequently attended and participated in meetings that continued to develop these ideas. Responsibilities to the district made it infeasible for these individuals to continue with this level of active involvement, however, we continued to include them in communications (email, telephone) regarding developments of the interventions; recruitment of sites, principals, and teachers; and logistics of basic studies. District staff assisted us in identifying teachers for the Chicago Teacher Network, for participation in the baseline classroom observations and/or basic studies.

Participants in the Network built upon and provided feedback and input to the design and basic cognitive studies teams. In designing professional development activities within and related to the READI Teacher Network, we emphasized the project's definition of complex comprehension as the capacity to engage in evidence-based argumentation using multiple sources (print and new media) in their disciplines. Activities – professional readings, discussions, curriculum analysis, lesson planning – focus on pedagogical practices that support students' learning, seeking to “bring about positive change in educational environments through creative, innovative, instructional interventions grounded in theory and guided by systematic data collection and analysis” (Reinking & Bradley, 2008, p. 5).

The Chicago Teacher Network began in fall 2011 (the second year of Project READI), led by the UIC research team consisting of Taffy Raphael (Co P.I.) and MariAnne George (Project Director), with support from doctoral student research assistants, Angela Fortune (cross-disciplinary English Language Arts; Literature), Mary Pat Sullivan (Literature), Jackie Popp (History) and Megan Hughes (Science). Participants in the Chicago Teacher Network represented three disciplinary foci and multiple middle and high school grade levels.

Participation during the first year of the Network involved 8 literature teachers, 3 history teachers, and 2 science teachers. One large urban school district (6 middle schools, 2 high schools) and two suburban districts (5 high schools) were represented. An additional four Project READI staff members (post docs, RAs) participated based on the activities and needs of the network, presenting or facilitating activities, maintaining high levels of communication across the strands of work, and engaging in documentation efforts (videotaping, fieldnotes).

Initial inputs for design of the network activities were based on the Reading Apprenticeship professional development model, which engages teachers in collaborative inquiry with texts, their own reading and sense making processes, and student performances during reading and sense-making tasks (Greenleaf & Schoenbach, 2004). Reading Apprenticeship professional development is subject-area focused and designed to address teachers' conceptual understandings as well as practical implementation needs. Two research questions guided the focus of PD sessions (across both sites- Chicago Teacher Network and WestEd Teacher Inquiry Network): 1) What do teachers learn about how to support evidence-based argumentation in their disciplines, as evidenced in their written reflections and discussions? 2) How do they envision and sequence pedagogical support necessary for multiple-source argumentation? The focus of the Chicago Teacher Network Year one's PD sessions is described below.

Chicago Teacher Network Professional Development Focus, Fall 2011 through Spring 2012

The Teacher Network was key to providing professional development and collaborative work opportunities around complex comprehension in the three disciplines (history, literature, science) that extend beyond, and in turn, inform teacher participation on the intervention teams. The focus of the Teacher Network was aligning pedagogical practices that support students'

learning with the agenda of federal and state policies that emphasize high-level thinking and evidence-based argumentation using multiple sources (print and new media) as reflected in the Common Core State Standards. The substantive emphases of the first four sessions of the Chicago Teacher Network were embedded in the following overarching question:

What do teachers need to know and be able to do to engage in the kind of thinking, pedagogical practices, and curriculum development represented in the Common Core State Standards?

Session One: November 17, 2011

Understanding the Content and Intent of Common Core State Standards

The first session included activities to develop deep understanding of the underlying intent of Common Core State Standards (CCSS), specifically as the content relates to learning to use and convey knowledge effectively in the three disciplinary areas. Through examination of standards documents and in-depth conversations within and across disciplinary teams, we engaged in discussion around the relationship between evidence-based argumentation and current state and federal policy, developmental trajectories from 6th through 12th grades (in terms of goals), and expectations within grade bands across CCSS strands.

Session Two: January 26, 2012

Engaging in Close Reading of Complex Texts

The second session included activities focused on strategic reading processes with a specific emphasis on the process of Close Reading. With the guidance of the WestEd Teacher Inquiry Network leaders who joined us on site for the full-day session, we engaged in capturing our individual reading processes and participating in close reading of disciplinary texts both within and across disciplinary teams.

Session Three: February 23, 2012

Text Complexity in Disciplinary Learning

The third session focused on the investigation of text complexity. Led by Project READI's Principal Investigator, Susan Goldman, we engaged in inquiry into aspects of text complexity and the role of text complexity in Common Core State Standards. An additional focus of session three included activities in which we used text to support claims with an emphasis on using multiple sources and moving beyond conventional text.

Session Four: April 19, 2012

Applying Core Ideas to Lesson/Unit Development

Session four was centered on a culminating activity using a framework for lesson study in which teachers applied, shared, and discussed their integration of ideas from across the three Network sessions. Teachers described (both in writing and through discussion) an opportunity in which they've engaged students in a form of argumentation using disciplinary text(s). Discussions, examining the role of high expectations and rigorous standards, and use of close reading that considers features contributing to the complexity of the text, occurred within and across disciplinary groups.

Teacher recruitment continued into 2012-2013 to fill slots in disciplinary areas and grade levels. We recruited teachers in three primary ways: 1) inviting teachers with relevant background that we have established working relationships with, through previous research and service projects, (i.e. Partnership READ), 2) classroom observations conducted during 2010-2011 academic year that revealed qualified, interested teachers, and 3) networking with teachers currently attending meetings to solicit recommendations for colleagues.

Year Two of Chicago Teacher Network

Participation during the first year of the Chicago Teacher Network involved mainly design team teachers (7) along with a few additional teachers representing primarily literature (5 literature, 1 history). For year two, we added 6 new CPS teachers, 5 of who were design team members in science and literature. Thirty-six teachers confirmed their intent to attend our second year of the Chicago Teacher Network balanced across the three disciplines (science, history, literature) and the three grade bands (6-8, 9-10, 11-12).

The thirty-six participants included a cohort of teachers from the same school district. In order to grow our network, we recruited one suburban middle/high school district interested in sending a cohort of disciplinary teachers from grades 6 through 12. This district's participation provided an opportunity to support teachers and their schools, with a subgroup of teachers representing the three focal disciplinary areas joining the Teacher Network, then serving as a resource team for the district's work in creating a staircase curriculum toward complex comprehension across disciplines from 6th through 12th grades. We believe this added a useful component to the Network, allowing breadth through the multiple districts represented as well as depth by substantive numbers of teachers participating from a single district. This cohort of teachers attended a two-day Summer Institute during the summer and joined returning Teacher Network participants in September for five days of PD during the school year. We describe the focus of the Summer Institute sessions in which this cohort of teachers participated below.

Summer 2012 Institute: August 15th and August 16th

The Summer Institute supported teachers new to the Chicago Teacher Network. The two-day session was an intense version of the content from the Year one PD sessions. It included analyzing Common Core State Standards in light of current goals, close reading of complex text,

analyzing text for potential challenges and applying these to creating goals and tasks, selecting texts for teaching evidence-based argumentation.

Summer Institute Day One

Project READI Overview

Teachers completed the 2012-2013 Teacher Network Survey that was administered at both UIC and WestEd. The morning included an overview of the grant, focusing on the role of teachers and the teacher network. Key points included:

- The overall purpose of the project (big picture)
 - What would a 12th grader need to know and be able to do to achieve high levels of success?
 - How do we help students achieve this?
- Disciplinary knowledge
 - Standards of excellence (and connection to CCSS)
 - High quality instruction
- Project READI
 - Effective use of evidence in argumentation
- Project READI Strands of Work
- Role of the Teacher Network
- Core Constructs in the three disciplines
 - Epistemology
 - Inquiry Practices/Ways of Reasoning
 - Overarching Concepts, Themes, Frameworks
 - Information/Representation/Types of Texts
 - Discourse/Language Structures

A Brief Window into the Design Team

Two of our teacher design team members shared their experiences as design team participants and teacher network members. The teachers talked about their part in helping to

design modules, implementing modules within their classrooms, reflections on student learning and their own practice(s), and their role in the feedback loop between the teacher network and the design teams.

High Standards and Link(s) to the Common Core State Standards

Teachers participated in their discipline team in a variety of activities centered around the CCSS: 1) responding to a column in the Washington Post; 2) examining and discussing CCSS horizontally looking at what each strand includes, how it becomes more demanding as it moves across grade levels, where students need to be at the end of the strand; 3) examining the CCSS vertically by grade levels – what would a student in your grade level need to be able to do to be considered a proficient, successful learner; and 4) identifying key points in the explicit and implicit definition of literacy in the standards.

Close Reading

Drawing from activities WestEd facilitated with the UIC Year one Teacher Network, we engaged teachers in doing “close reading” or having metacognitive conversations while reading. All teachers read *Father’s Butterflies* by Vladimir Nabokov first to construct meaning. The next 5 minutes was spent capturing their reading process in which they were engaged. Each discipline group charted the reading strategies they used to construct meaning then shared across disciplines noting similarities and differences. A whole group discussion led into implications for support teachers can and should provide for students.

Wrap-Up

For Day 2 of the Institute, teachers were asked to bring in a short passage that:

- Is complex for their students
- Is important to an upcoming unit/lesson set/lesson
- Provides an opportunity for students to make a claim/take a stance

Summer Institute Day Two

Text Selection Considerations: What makes text complex?

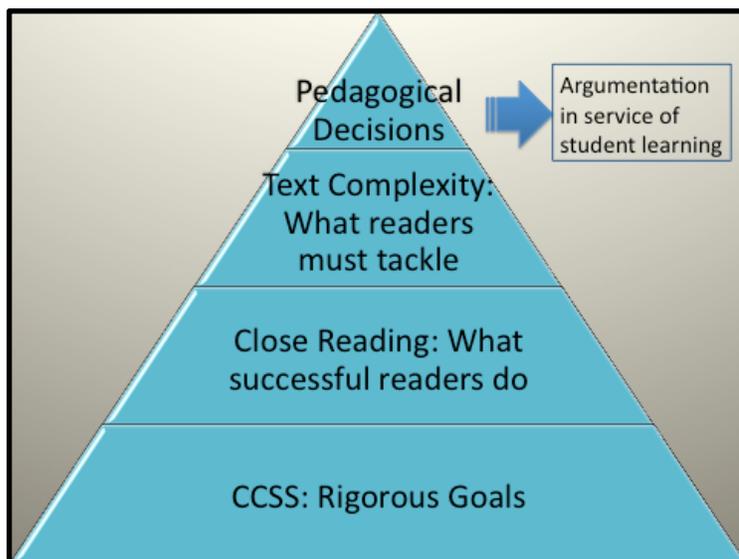
Susan Goldman, READI's principal investigator and Carol Lee, co-principal investigator, presented research about text complexity linking it to the CCSS, qualitative dimension, quantitative dimension and reader and text dimension. Susan laid the groundwork for the teachers to engage in close reading with complex text in the following segment of the day.

Engaging in Close Reading with Complex Text: Application to your disciplinary area

Susan and Carol facilitated activities having teachers read text within their discipline and across disciplines reflecting on dimensions of text complexity (qualitative, quantitative, reader and text). Teachers were engaged in the discussions and spent a great deal of time talking about the challenges and affordances of the texts.

Workshop: Instructional Planning to teach Evidence-Based Argumentation

Teachers were asked to share in their discipline teams how the presentations, activities and discussions they had been engaged in around the CCSS, close reading, and text complexity related to their own teaching practices as well as implications for student learning.



Following the discussion, teachers were taken through a 3-step process to create a lesson bringing in key ideas from above:

Step 1 Build a common language for argumentation

- Close reading of Toulmin article on argumentation
- Pairs: Identify components of argument and role each component plays
- Share across groups

Step 2 Select text and task

- Use the text(s) brought in to develop a task

Step 3 Begin lesson planning

The teachers were engaged in this work for an extended period of time. A whole group share-out ended the day with teachers sharing their goal, text, task or instructional approach. Teachers were asked to implement this lesson before the next Network meeting and be ready to share the completed lesson with other Network participants. The day ended with a whole-group discussion wrap-up session for the institute and preview of Year two Network sessions.

In Year two (2012-2013), five Teacher Network sessions were scheduled (9/20/2012, 11/8/2012, 2/5/2013, 3/20/2013, 5/7/2013). Teachers who were also members of the design teams (n = 8) served as liaisons across the two collaborative work groups (Design Team ↔ Teacher Network), providing insights from the design teams to their disciplinary peers in the network, and providing feedback to the design teams of the response to the resources teachers developed.

Each session of the Chicago Teacher Network served two functions. The first function focused on expanding teachers' understandings of key components of evidence-based teaching to support students' developing knowledge of skills/strategies for evidence-based argumentation within each discipline. The second function was piloting professional development materials and

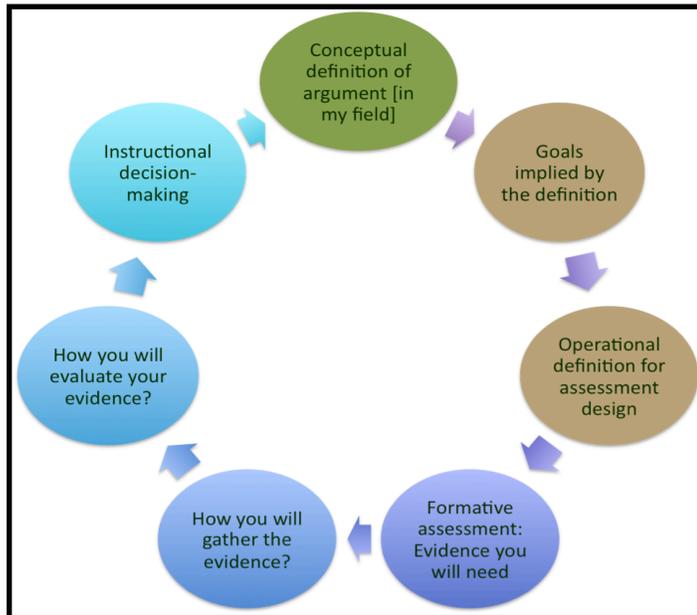
generating related exemplars that could be used in scaling up the work to new teachers in new contexts.

Year two focus built on content that was explored in year one (2011-2012). The theme for 2012-2013 was differentiating to meet the needs of diverse learners. Professional development was guided by principles of universal design as teachers defined constructs of argumentation within each of the three core disciplines, operationalized these definitions in terms of learning goals within grade bands, and developed tools for diagnosis and formative assessment to inform instructional decisions at the unit, lesson, and daily instructional levels.

The design cycle that guided year two of the Teacher Network was instantiated as an iterative process (see Figure 1. Design Cycle) of constructing teachers' understanding of argumentation in their discipline, then continually revisiting and revising their conceptual definition through work situated within their own classrooms. Thus, teachers drew on a range of readings and experiences to continually push their thinking about the meaning of argumentation and the components of a strong evidence based argument. For example, they discussed key constructs presented in professional readings about argumentation (e.g., Hillocks, 2010). They analyzed documents from their disciplines that represented samples of argumentation (e.g., Declaration of Independence in history; science article of the potential benefits for space travel). They engaged in instructional activities for teaching argumentation within their own classrooms, and then shared within their disciplinary teams what they did, what students produced, and how this work impacted their understandings of evidence-based argumentation (as described in Raphael, Vasquez, Fortune, Gavelek, & Au, 2014, p. 10-14). The final session in Year two focused on assessment activities – constructing rubrics and tasks using complex texts within their disciplines to further clarify and refine their understandings of argument, what students must

learn to engage in evidence based argument, and how formative assessments supported teaching diverse learners to engage in evidence-based argumentation within their disciplines.

Figure 1. Components of Iterative Design Cycle



In Teacher Network meetings, time was allocated for teachers in the UIC Network to examine the learning objectives and modules that the design teams and teachers in the WestEd network have implemented and were revising. Opportunities for cross-site network interactions were supported through polycom ‘face-to-face’ interactions, Skype, as well as document sharing using conventional means such as email attachments and messaging across teams. Teachers from UIC shared information related to designing diagnostic and formative assessments, while those from WestEd focused on sharing designed lesson plans.

Key concepts explored in the five sessions included Common Core, formative assessment to inform instruction, identifying challenges of reading, reasoning, and arguing in the specific disciplines, and developing learning goals for each grade band in each discipline. The process of instructional decision-making and lesson design aligned with READI learning objectives and the

14 design principles. Content and activities focused on applying constructs such as goal directed teaching and learning, using complex texts and progressions of increasingly complex texts, as well as appropriate pedagogical practices to support students in developing content knowledge and disciplinary practices and skills (e.g., close reading, metacognitive reflection on understanding). The focus for each year two session is described below.

Year Two, Session One: September 20th, 2012

Welcome and Introductions

September 20th was our first session of five for the 2012-13 school year. In order to account for the teachers who did not attend the summer institute, we started with a quick overview of the project and shared our focus for this year. Teachers were grouped in their respective discipline-specific teams.

- Expanding construct of argumentation within and across disciplines
- Expanding repertoire of pedagogical practices for teaching high-level thinking (What do teachers need to know and be able to do to teach argumentation effectively?) Drawing upon Year one's PD – clear rigorous goals, external alignment to CCSS, text appropriate to the age level and discipline, considering text complexity, strategies for coping with difficult text (close reading), formative assessment
- Classroom-based assessment as central to the Design Principles
- Expanding our network of colleagues within and across cohorts (UIC and WestEd)

Sharing materials and lessons in disciplinary groups

Teachers shared materials and lessons they started on Day two of the Summer Institute. Teachers who did not participate in the institute were emailed

ahead and asked to bring an argument activity they had used in their classroom.

The structure of this activity was as follows:

- Pairs: Share a successful argumentation activity – why did it work?
- Squares: Share to identify “key features” of successful activity
- Disciplinary Teams: What key features appeared to contribute to effective instructional approach for argumentation across courses within your discipline?
- Whole Group Share Out

Design Principles Inquiry

In order to build a common working knowledge base, we started this segment with 3 questions: What are design principles? What are “Modules”? What PD supports enactment? We did a quick discussion of each before teachers dug into the design principles and core constructs themselves.

Teachers were given copies of the design principles and core constructs. Working with a partner, teachers closely read and then discussed the core constructs for their content as well as the connections between those constructs and the design principles. Teachers shared within their disciplinary teams.

Each team was given a discipline specific module developed by the design teams to examine and map on the design principle (History – The Little Rock Nine Middle School Module; Literature – Unreliable Narrator High School Module; Science – MRSA High School Module). The goal being to familiarize teachers with the design principles, explore what they might look like in action, and then start to think about how to apply the design principles to their own content area.

For the next couple of hours, teachers previewed the unit and read the texts and tasks.

They discussed how the design principles were instantiated in the module. They also talked about how student learning was scaffolded and knowledge built over time. Afterward, teachers returned to a whole group conversation, again focused on the design principles responding to the following questions:

- Where were the design principles realized? Or not?
- What connections to your own classroom do you see?
- What questions do you have about the design principles for your class?

Applying Argumentation Model to teaching: formative assessment

Connecting with WestEd TIN colleagues:

Video Conference with Chicago Teacher Network

We scheduled both the UIC and WestEd teacher networks for the same dates this year. For this first cross-site collaboration a small group of science teachers from both sites met virtually. Teachers were asked to share something they were doing in their classroom and connect it to the design principles and/or to pose questions and other challenges they were grappling with in their classrooms.

Fine-tuning Argumentation in disciplinary instruction

The formative assessment cycle was introduced as the road map for the 2012-2013 PD. Myford and Raphael facilitated a group discussion unpacking the cycle components helping teachers make linkages to prior network sessions. Teachers were then broken into smaller disciplinary groups and asked to start drafting a conceptual definition of argumentation. Teachers were struggling to come to a common definition. The afternoon had come to an end so teachers were asked to bring in one or two sample texts of convincing arguments in their discipline for the next Network meeting. The samples would be used as a step back into their

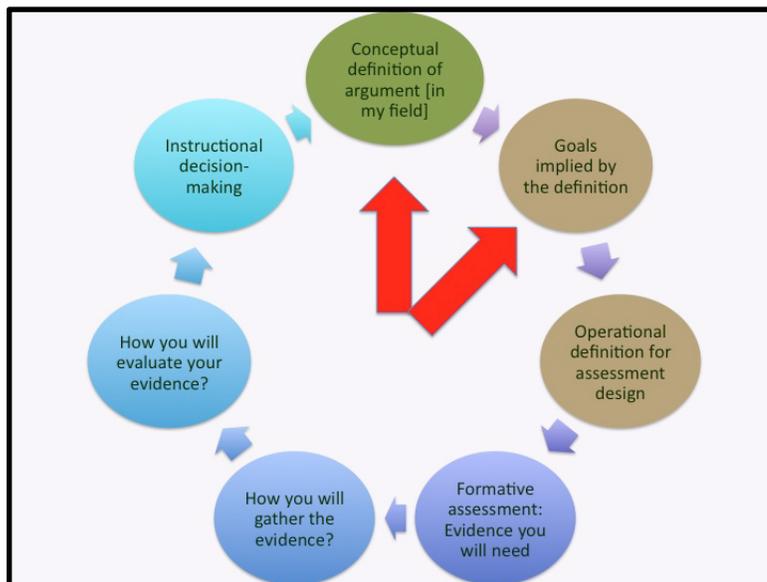
discussions at the November meeting.

Teacher Network Wiki Space

A Wiki spaced was created as part of our Project READI website in order to support collaboration between the teachers in the UIC and WestEd Networks. The Chicago teachers were briefly introduced to the site.

Year Two, Session Two: November 8th, 2012

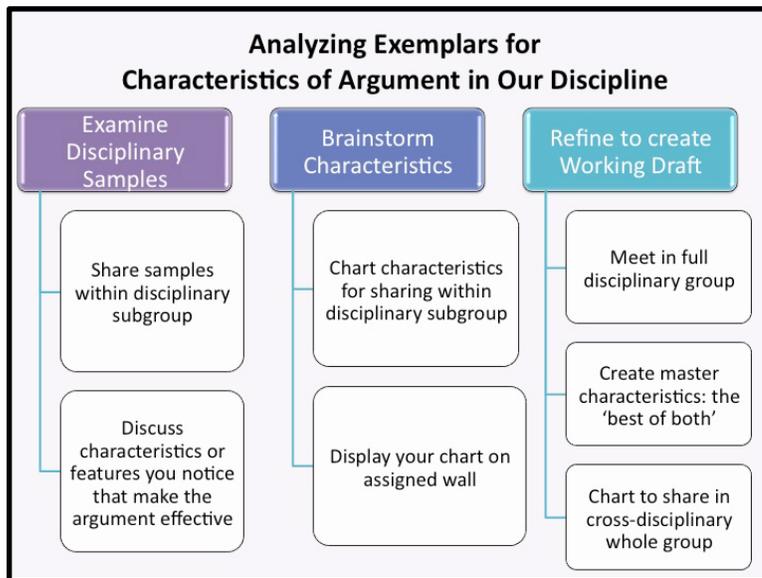
This meeting marked the first working session guided by the formative assessment cycle as the driving force to supporting teachers in thinking about what their students are able to do and what instructional supports will help move them to achieving the learning goals. Teachers engaged in activities to support the construction of a conceptual definition of argument in each discipline and to begin to determine learning goals implied by the definition.



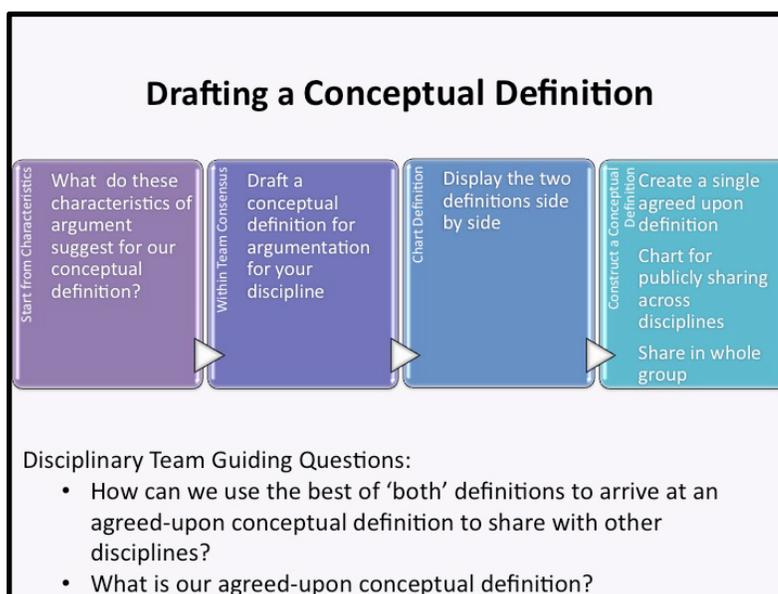
Teachers brought in argument exemplars within their discipline to engage in activities that would facilitate building a conceptual definition of argument.

Working in small disciplinary groups, teachers shared their argument samples and created

a list of characteristics shared across those examples. The small groups met in one large disciplinary group to create a combined list of characteristics.

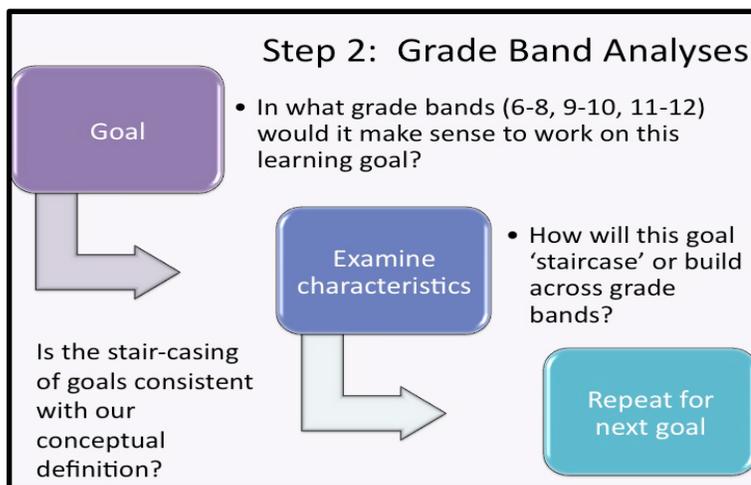
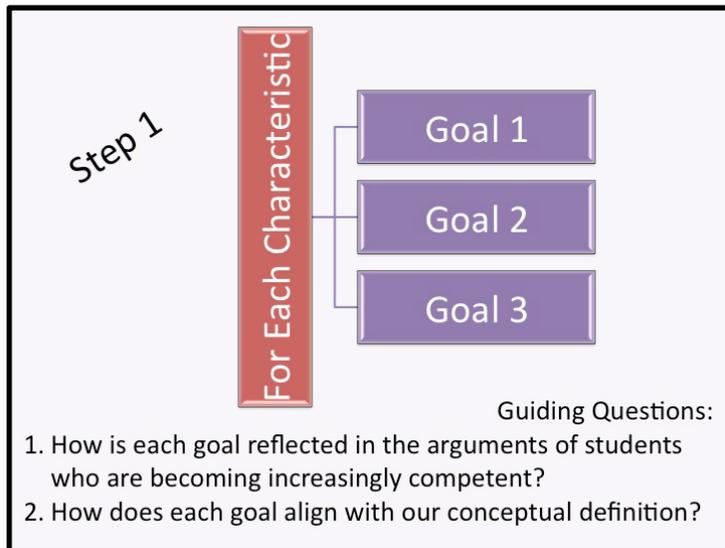


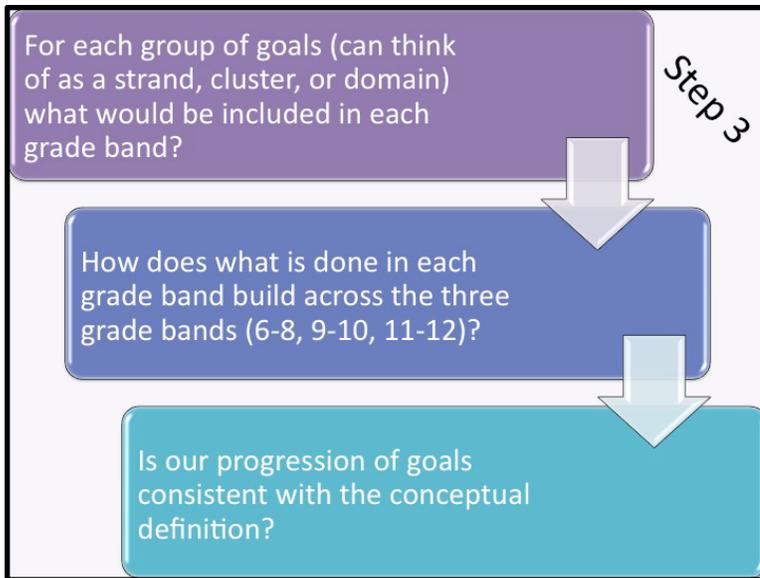
Next meeting back in small disciplinary groups, teachers drafted a conceptual definition of argument in their discipline, shared within the larger disciplinary group, and created one agreed-upon definition to share across disciplines.



Definitions were shared across all three disciplinary groups, noting unique and common features of argument in each discipline. Teachers then re-convened in their disciplinary groups to revise their definitions and start developing learning goals which would map onto the characteristics of argument.

Teachers were supported in the creation of the learning goals through the three-step process represented below.





The disciplinary groups shared their revised conceptual definitions and beginning work on the learning goals. The groups ended at slightly different points, with none moving through step 3. At the conclusion of the meeting we developed disciplinary work group products to represent conceptual definitions of argument and the early goal-writing teachers had completed. These documents (see below) were given to teachers to use as resources during the February meeting.

Literature Team

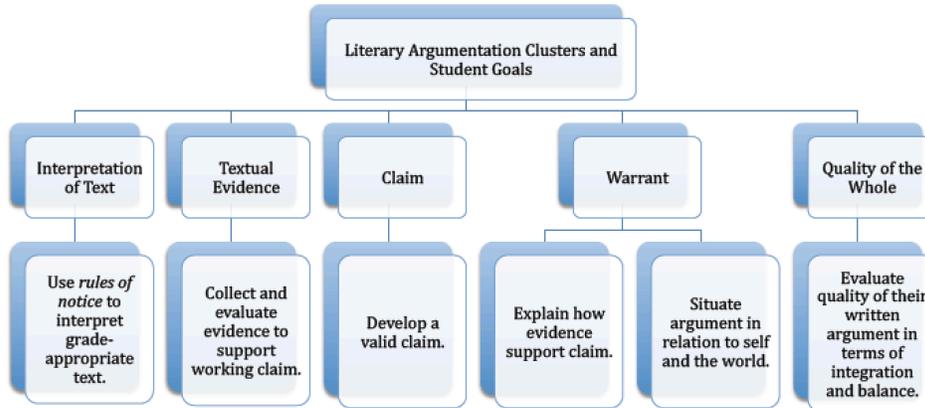
PROJECT READ!

Reading, Evidence, and Argumentation in Disciplinary Instruction

Constructing the Foundations for Teaching Argumentation Within the Disciplines: Literature

Conceptual Definition of Argument

The process of gathering and interpreting (con)textual evidence to develop a stance and/or perspective, which arises from an essential question and explains how the textual evidence supports the claim. A literary argument takes into account the intangible and subjective nature of literary text with the aim of cultivating a grounded understanding of self and the world.



History Team

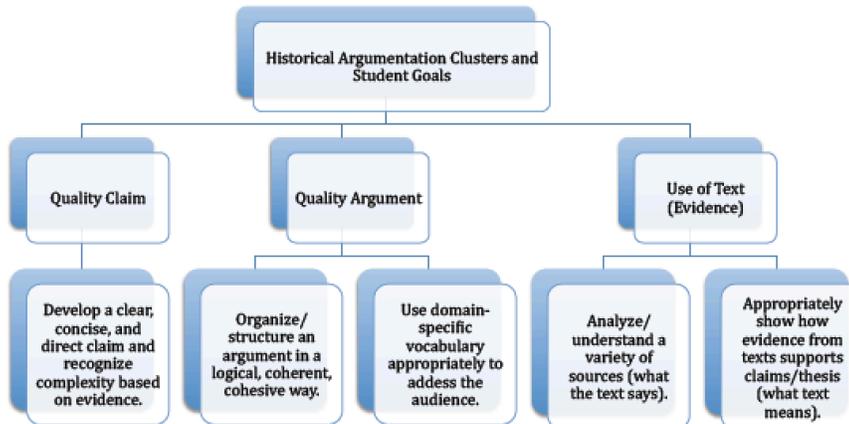
PROJECT READ!

Reading, Evidence, and Argumentation in Disciplinary Instruction

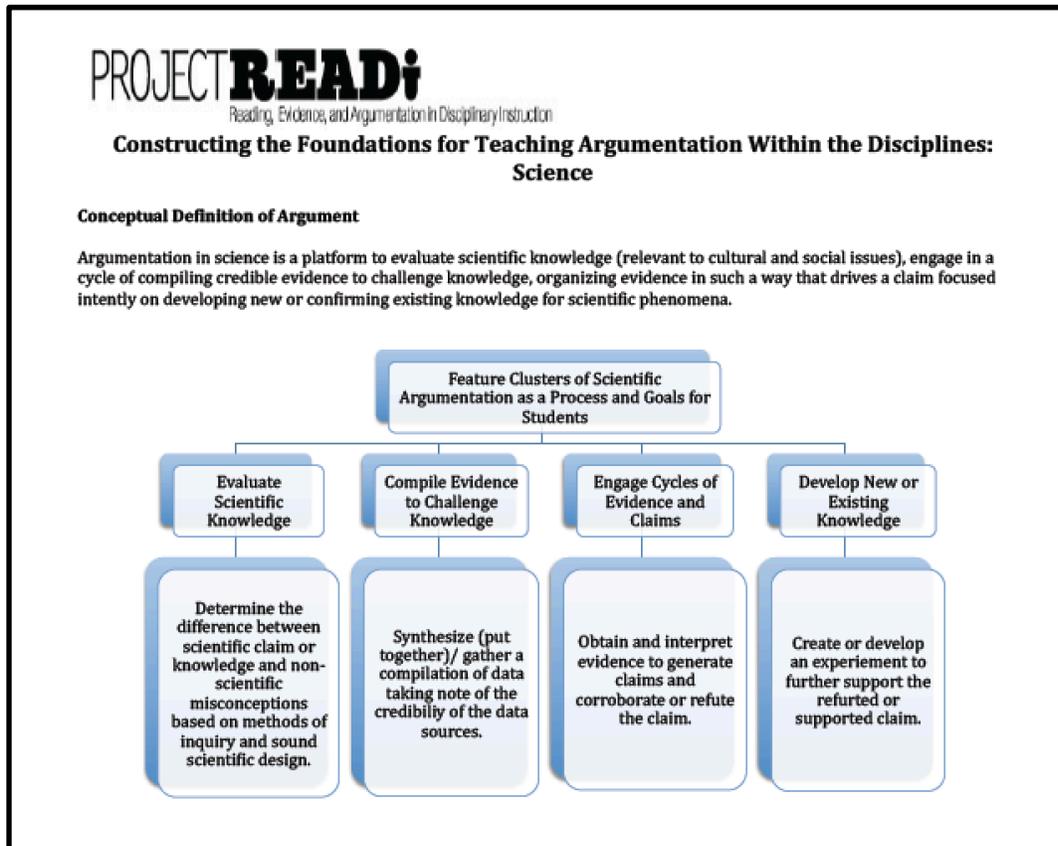
Constructing the Foundations for Teaching Argumentation Within the Disciplines: History

Conceptual Definition of Argument

Historical argumentation is based on inquiry learning, asking questions, and interpreting a variety of sources while drawing on background knowledge in order to defend a position supported by multiple sources of evidence, inferences, and judgments to prepare students for the 21st century.



Science Team



Year Two, Session Three: February 5th, 2013

This meeting built on the development of the conceptual definitions of argumentation in each discipline and the early learning goals development from the November 8th meeting. The conceptual definitions of argumentation in each discipline as well as the goals implied by those definitions developed during the previous meeting were sent via e-mail to the teachers between meetings, reviewed at the beginning of the meeting, and distributed to each small-group during the morning session to use as a resource in continuing their work with learning goals development.

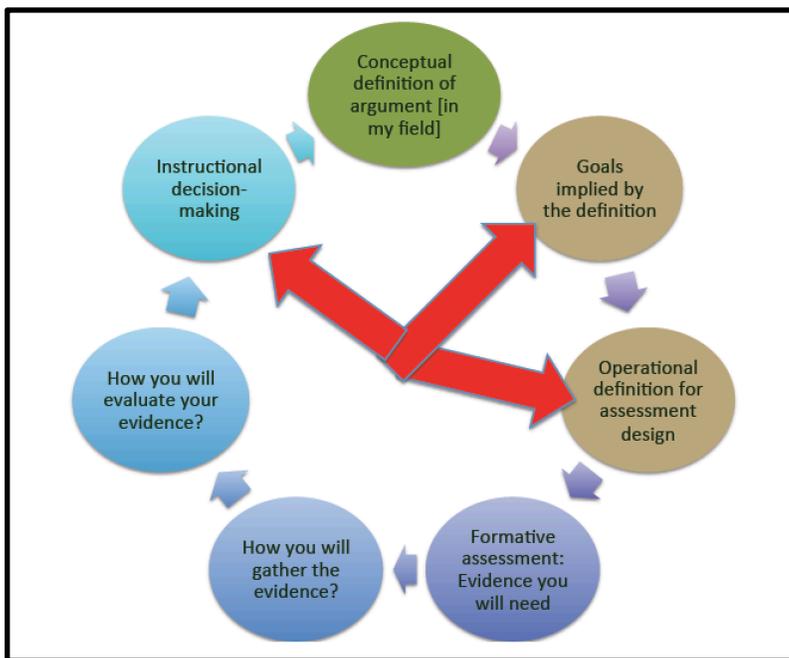
We began the morning by reviewing our progress in the Formative Assessment Cycle and previewing next steps in the cycle and the process of linking the learning goals with the assessments.

Two primary goals were established for the day

Learning Goals Completion:

1) Using teacher-created conceptual definition and implied learning goals, complete development of coherent learning goals in each strand for each grade band (6th-8th, 9th-10, 11th-12th), including internal alignment across grade-bands and external alignment to Common Core State Standards.

2) Begin initial work with instructional decision-making and lesson design in connection to Formative Assessment Cycle.



End-of-Year Goals for Each Grade Band

Development/Refinement (small disciplinary groups). Teachers met in small disciplinary groups to continue development of strands and learning goals that align to the conceptual definition of argumentation they developed for their discipline. Each group was given a packet

with powerpoint slides illustrating their group work and the process they utilized to get to this point and the resulting definitions and learning goals.

Consensus/Alignment (disciplinary groups). Once smaller disciplinary groups had completed learning goals development, they rejoined to work as a whole-group in each discipline (science, history, literature) to come to consensus about learning goals for their discipline and to achieve internal alignment of goals across grade-bands (6-8, 9-10, 11-12). Each disciplinary group included a university facilitator to help support the discussion.

Each disciplinary group considered the guiding questions:

- In what grade bands (6-8, 9-10, 11-12) would it make sense to work on this learning goal?
- Is the stair-casing of goals consistent with our conceptual definition?
- How will this goal ‘staircase’ or build across grade bands?

Alignment of Goals and Common Core State Standards (disciplinary groups). This conversation occurred naturally within disciplinary groups as they were developing and aligning learning goals during their extended time but was not officially addressed as a whole group during this meeting due to time limitations.

Whole Group Session

The theme, “Similarities, Differences, and Disconnects,” guided sharing across disciplinary groups. Each discipline shared the learning goals development work they had completed either in chart form or projected on the overhead with the whole group. The learning goals developed during this meeting were collected and sent to teachers to solicit additional feedback or revisions for a final working draft. The illustrations below include the draft of learning goals in each discipline.

Literature Team

Learning Goals in Literature (To construct a formal and sophisticated argument)

Areas of Argument	6th-8th Grade Band	9th-10th Grade Band	11th-12th Grade Band
Critical Reading			
Interpret grade-appropriate texts	Read a text or set of texts comprehensively and construct inferences about character and theme Identify basic rules of notice related to literary norms.	Interpret texts, identifying major and minor rules of notice and interpreting effects. These texts may challenge the reader with heightened vocabulary, thematic complexity, or other literary tropes.	Interpret texts, identifying major and minor rules of notice and interpreting effects. These texts may challenge the reader with heightened vocabulary, thematic complexity, unreliable narrators, satirical tone, or other literary tropes.
Argument Structure			
Students collect and evaluate evidence to support a working claim. Take into consideration alternate points of view (multiple claims). Students explain through reasoning and evidence how evidence supports the claim.	Collect and evaluate evidence to support the development of a valid working claim. Distinguish between relevant and irrelevant evidence for claims. Consider other possible interpretations in response to a text.	Collect and evaluate evidence to support the development of a valid and inferential working claim. Distinguish between relevant and irrelevant evidence for claims. Construct reasoning to expand on relevance of evidence. Recognize and discuss other possible interpretations; evaluate the relative strength of your interpretation.	Identify and sequence claims and evidence based on rhetorical effect or relevance to the argument. Distinguish between relevant and irrelevant evidence for claims. Construct reasoning to expand on relevance of evidence. Reasoning should be extended and multifaceted. Recognize and offer support for or against other possible interpretations; evaluate the relative strength of your interpretation.
Significance ("So What? Why does this argument matter?")			
Students situate argument in relation to self and world.	Construct a justification for the value of the argument by connecting to self, art, or world.	Construct explicit justification for the value of the argument by connecting to self, art, or world. Show awareness of intended audience.	Construct explicit justification for the argument by connecting to self, art, or world, showing appreciation for historical or cultural contexts toward their intended audience, incorporating an appreciation for historical or cultural contexts.
Critique			
Evaluate quality of arguments, revising as necessary.	Evaluate quality of arguments, revising as necessary.	Evaluate quality of arguments, revising as necessary.	Evaluate quality of arguments, revising as necessary.

Science Team

Learning Goals in Science			
Areas of Argument	6th-8th Grade Band	9th-10th Grade Band	11th-12th Grade Band
Evaluate			
Evaluate Scientific Knowledge	Differentiate between text-based evidence that is measured or directly observed, reasoning based on research findings & opinion of an ethical nature.	Engage in sound/logical scientific inquiry as a means to determining scientific knowledge and/or misconceptions using text to support an argument.	Determine the difference between scientific claim or knowledge and non-scientific misconceptions based on methods of inquiry and sound scientific design with multiple sources of text.
Compile & Engage			
Compile evidence to challenge knowledge & Engage in a cycle of evidence & claims	Identify text-based evidence used to generate a claim. Understand what constitutes sound scientific design (multiple trials, properly controlled variables, etc.)	Identify claims & counterclaims and if the evidence supports or refutes the claims. Compile an evidence-based claim based on sound argumentation.	Synthesize (Put together)/ Gather a compilation of data through corroboration of text taking note of the credibility of the data source and using it to generate or refute a claim
Develop			
Develop new or confirm existing knowledge	Making predictions about the additional information (text) required to develop new or to confirm existing knowledge regarding a scientific claim. Read & formulate inference (analysis) based on text regarding purpose of an investigation.	Interpret a text of study to identify purpose and direction for further scientific investigation Analyze & use a text or make connections between text to identify purpose and direction for a scientific investigation.	Create or devise an experiment to further support the refuted or supported claim Select & evaluate text as an appropriate means of developing new or confirming existing knowledge.

History Team

Learning Goals in History

Areas of Argument	6th-8th Grade Band	9th-10th Grade Band	11th-12th Grade Band
Analyze Sources			
Understand and critically analyze a variety of historical sources leading to the identification of relevant evidence to support an argument (increasing the quantity and complexity of texts across grade bands)	<p>Understand how sources are used in history to make interpretations about the past.</p> <p>Identify types of sources and how they can be used to make interpretations about the past (e.g. primary versus secondary; genres; text structures).</p> <p>Recognize the relationship between source information (e.g. author, date, audience) and context of a text.</p>	<p>Recognize the strengths and weaknesses of multiple sources.</p> <p>Identify a historian's argument and explain how the historian uses evidence to support their argument.</p> <p>Identify and cite relevant evidence to support an argument</p>	<p>Be flexible with interpreting multiple types of sources.</p> <p>Understand and identify how evidence can be interpreted in multiple ways (e.g. comparing two historians' interpretation using the same evidence).</p> <p>Analyze diverse document sets to determine authorship, purpose, audience, bias but also the limitations and affordances of sources</p> <p>Evaluate sources to identify relevant evidence to support an argument.</p>
Develop claim/thesis			
Develop a clear, concise direct claim and/or clear thesis that recognizes complexity based on evidence	Develop a clear, concise, direct claim that addresses the historical inquiry	Develop multiple clear, concise claims that address the historical inquiry	Develop a thesis that recognizes the complexity of the historical inquiry and has embedded clear, concise claims
Organize structure			
Organize/structure an argument in a logical, coherent, cohesive way	<p>Develop a writing plan from a given structure (example outline from graphic organizer).</p> <p>Demonstrate a logical expansion of the claim (e.g. explanation, description) Use transition and sequencing words that cohere the argument (i.e., therefore, because, next).</p>	<p>Develop writing plan from multiple structure options.</p> <p>Present information in a logical order with language that coheres the argument.</p>	<p>Demonstrate flexibility in choosing an appropriate, relevant structure aligning with task (e.g. notetaker).</p> <p>Use rhetorical devices to connect ideas to support claims and to structure overall argument.</p>
Show evidence			
Accurately show how evidence from sources supports historical argument	Identify and explain evidence that supports the claim and accurately represents information from sources.	Distinguish and explain relevant, specific evidence that supports the claim and accurately elaborates on information from sources	Accurately expand beyond the evidence to demonstrate how reasoning and outside information connects claims to evidence

Connecting Instruction and Learning Goals (whole group)

Discussion of conceptual knowledge and instructional routines. MariAnne George, project director, presented information that would begin movement into another component in the iterative Formative Assessment Cycle: Instructional Decision Making. The presentation included information about what comprises a module: Tasks, Materials, Instructional Supports (routines, tools) for task completion and the achievement of Learning Objectives key to core constructs in each discipline and to three general dispositions (Close reading, Metacognitive conversations, Dynamic model of reading). The 14 design principles are seen as the characteristics, principles, and features organized around the four components of the modules.

Brainstorming lesson ideas (whole group). Teachers were engaged in brainstorming lesson ideas following Dr. George's presentation. The handouts below were used as a resource for future lesson design.

Core Constructs

PROJECT **READi**

Modules are comprised of Tasks, Materials, Instructional Supports (routines, tools) for task completion and the achievement of Learning Objectives keyed to core constructs in each discipline and to three general dispositions. The 14 design principles are seen as the characteristics, principles, and features organized around the four components of the modules.

A. Learning Objectives/Learning Goals

1. Content and Practices of the Discipline (ala Core Constructs)
 - 1.a. Inquiry practices of the discipline
 - 1.b. Read and Interpret different types of texts/sources used in the discipline
 - 1.c. Learn specific big idea(s) in discipline
 - 1.d. Build understanding of epistemology of the discipline
 - 1.e. Engage in types of discourse of the discipline, oral and written
2. Dispositions for Independent Learning and Persistence
 - 2.a. Close reading to support engagement and reading carefully, *generally and for disciplinary purposes*.
 - 2.b. Metacognitive conversations about learning processes, including monitoring own learning, difficulty of tasks and texts.
 - 2.c. Philosophical orientation to Dynamic model of reading (proficiency is reader x text x situation interaction)

B. Task

1. Completion requires evidence-based argument from multiple sources: Integration across multiple sources to construct causal model or interpretation of literature. Requires analysis of individual sources and synthesis based on comparison and contrast among sources.
2. Problematizes phenomena, draws attention to things that puzzle us
3. Meaningful task to discipline and to students

C. Materials

1. Text set is built around the causal model or interpretive problem.
2. Range of difficulty within a module, across modules within a year, and across years
3. Sequenced to build conceptual understanding, within a module, across modules within a year (?), and across years

D. Instructional Supports

1. Gateway activities, Cultural data sets to hook or as entry points for students to make meaningful connections to task, content, and reasoning processes.
2. Close reading routines (e.g., annotation, talking to the text) for critical reading – generally and for disciplinary purposes
3. Support for text-based discussion, analysis, and synthesis citing evidence (e.g., modeling, graphic organizers such as timelines, evidence charts, etc.)
4. Argumentation Templates and Schemas to provide models for oral and for written argument
5. Participation Structures that provide opportunities for student talk (pair/share, small group), and accountability to the group for on-task efforts.
6. Normalizing struggle. Open acknowledgment of struggle – students taking risks to say what they don't understand.
7. Ongoing informal and formal assessment and formative feedback.

Literature Learning Objectives

1. Engage in close reading of text to construct interpretation(s) of human experience based on types of plots, characters, use of language and rhetorical devices.

Close reading encompasses metacomprehension and self-regulation of the process.

2. Construct interpretation of “message” from patterns in ways of using language (e.g., symbolism, irony, satire, imagery), choice of characters (point of view/narrator), thematic plot structures.

3. Construct claim – evidence relations using text information to support claims about patterns.

Build knowledge of relevant key concepts through close reading of genres that contextualize literary work

(Construct argument of fact)

4. Establish criteria for judging interpretations of patterns with respect to themes. (for connecting use of language to theme) Warrant using key concepts (moral, philosophical context; historical context; traditions of critical theory; intertextuality)

(Construct argument of judgment)

5. Generalize interpretation - compare contrast within and across literary works with respect to structural generalizations and author generalizations (as used by Hillocks and Ludlow, 1985)

6. Demonstrate understanding that texts are open dialogues between readers and texts; literary works are authors interpretations of some aspect of the human condition; authors make specific choices about language, images, symbols; patterns in language provide clues to messages/interpretations of literary works.

*Dispositions are assumed to develop over time through supportive social context in the classroom that rewards effort, sets high standards, and provides cognitive, social, and emotional supports for learners to achieve these standards.

Science Learning Objectives

1. Engage in close reading of science information to construct domain knowledge- including multiple representations characteristic of the discipline and language learning strategies.

Close reading encompasses metacomprehension and self-regulation of the process.

2. Synthesize science information from multiple text sources

3. Construct explanations of science phenomena (explanatory models) using science principles, frameworks and enduring understandings (big ideas) and scientific evidence.

4. Justify explanations using science principles, frameworks and enduring understandings (big ideas) and scientific evidence. (Includes evaluating the quality of the evidence.)

5. Critique explanations using science principles, frameworks and enduring understandings (big ideas) and scientific evidence.

6. Demonstrate understanding of epistemology of science through demonstrating inquiry dispositions and conceptual change awareness/orientation (intentionally building and refining key concepts through multiple encounters with text); seeing science as a means to solve problems and address authentic questions about scientific problems, tolerating ambiguity and seeking “best understandings given the evidence”, considering significance, relevance, magnitude and feasibility of inquiry.

*Dispositions are assumed to develop over time through supportive social context in the classroom that rewards effort, sets high standards, and provides cognitive, social, and emotional supports for learners to achieve these standards.

History Learning Objectives

1. Engage in close reading of history documents to construct domain knowledge, including events, relationships among events, and systemic frameworks. Close reading encompasses metacomprehension and self-regulation of the process.
2. Sourcing: Author voice/motivation/perspective/word choice/audience
Affordances of different types of evidence (primary, secondary, speech, newspaper accounts, etc.)
3. Construct Claim-evidence relations, using text information to support claims
 - a. Affordances of different types of evidence (primary, secondary, speech, newspaper accounts, etc.)
 - b. Affordances of different genres for contextualizing and corroborating
4. Justify explanations of historical events using system frameworks (e.g., geography, government, economics, political science, social, technology, religious) and relationships among events (e.g., causality, chronology) to contextualize and reason about claim-evidence relations.
5. Comparison & contrast, corroboration, synthesis, analysis of claims and evidence.
 - a. Integrating corroborating, contradictory, and unique sources into argument frame.
 - b. Evaluating the significance and perspective of claims and evidence to achieve coherence
6. Demonstrate understanding of epistemology of history through evaluation of competing narratives that are interpretative, contested, and approximations of the past; incomplete records with the possibility of new evidence

*Dispositions are assumed to develop over time through supportive social context in the classroom that rewards effort, sets high standards, and provides cognitive, social, and emotional supports for learners to achieve these standards.

The presentation concluded with giving teachers information about next steps and instructions for bringing lesson plans to the following meeting.

Cross-Site Collaboration (Disciplinary Groups)

Teachers met in disciplinary groups to collaborate via sources of technology with the WestEd Teacher Inquiry Network. Chicago teachers shared disciplinary definitions and grade-band learning goals; WestEd teachers shared EB-A lessons they had built and implemented in their classrooms. Question and answer time followed.

Lesson Planning Time

Teachers reconvened and each group shared “aha” moments and information gained from discussing lesson design and implementation with WestEd cohort and feedback received about development of learning goals.

Preparing for March Meeting (3/20/13)

Teachers were asked to complete a lesson plan template with a reflection component on a lesson designed to address an aspect of disciplinary argumentation, addressing one or more of the learning goals the groups constructed. The first page of the template included the specific conceptual definition of argument within the discipline (i.e., literature, science, history). The second and third pages were the same across the three disciplines.

Year Two, Session Four: March 20, 2013

Instructional Design: Lessons and Implications for Assessment

Lesson Sharing and Discussion

In previous meetings, teachers had worked from professional literature and disciplinary documents to create a working conceptual definition and learning goals implied by that definition for staircasing student learning goals across grade bands (6-8, 9-10, 11-12). That work was designed to begin to engage teachers in using pedagogical and conceptual language related to constructs of evidence-based argumentation and to begin to develop their

common understanding and shared language. At the March 20th meeting, teachers were asked to bring to their disciplinary teams a lesson (or lesson set) that included student artifacts produced as a result of that lesson. The lesson was intended to have engaged students in creating an evidence-based argument in response to a problem of practice within their discipline.

Teachers shared their lessons within disciplinary groups of three, guided by a note-taker to attend to the learning goal(s) of the lesson, the task, texts and materials used, and instructional supports. Teachers were encouraged to think about the challenges and affordances of the texts as related to issues of text complexity and range of the texts and materials. They then returned into their full disciplinary teams. Within the disciplinary team, each smaller group shared what they had discussed. Together, the teachers reflected on (and were asked to modify as warranted), the clarity and quality of their conceptual definition working draft and the relevance of the learning goals they had drafted in prior sessions and used to guide their choice of lesson or lesson set for this activity.

The disciplinary teams then came together as a whole group, led by Project READI staff in a discussion of insights from their work. Each group shared ways in which the individual work reflected in their lessons and student artifacts helped surface differences in their understandings of what an argument was, what argumentation meant within their disciplines, and the implications for their learning goals. They reflected on the variations in each of their interpretations of argument, despite having discussed argumentation in previous sessions through examination of professional and discipline specific texts. For example, in science, teachers discussed two distinct interpretations of argumentation: (a) using science to promote arguments for the social good (e.g., global warming, examining potential benefits and costs of

space travel) versus scientific argument (e.g., causes of volcanic eruption). Teachers discussed implications for student learning and teachers' evaluations if such different interpretations remained unexamined and tacit.

Making Goals Explicit for Formative Assessment

In anticipation of the next set of school-based activity to further teachers' thinking about evidence-based argumentation, the focus moved from instructional activity to articulating instructional goals in terms of broad global levels (e.g., college and career readiness), educational (e.g., staircased end-of-year learning goals within each grade band within disciplines), and instructional (e.g., specific goals for lessons/lesson sets). The emphasis was two-fold. First, teachers examined and discussed how instruction aligns with goals at the various levels and guides decisions for formative assessment to insure students are receiving the support they need to succeed. Second, teachers articulated what changed across grade bands instructionally: (a) content knowledge to be learned and (b) level of scaffolding provided by teachers for students to be successful.

Teacher Support: Diverse Learners, Lesson-Analysis

Additional activities during the session to support successful teaching of evidence-based argumentation within the disciplines involved cross-site discussions with representatives from the WestEd Teacher Inquiry Network, and a knowledge building session focused on supporting linguistically diverse learners.

Site-Based Assignment

Teachers were asked to build on their previous lesson development work, applying key concepts (e.g., support for diverse learners, articulated instructional learning goals) in creating and enacting a multi-text, multi-day lesson set. This lesson set and the student

artifacts that result form the basis for the morning of Meeting five on May 7th.

Year Two, Session Five: May 7, 2013

Lesson Share within Disciplinary Teams

Using a format similar to the lesson share from March 20th, teachers engaged within small-group disciplinary teams, disciplinary teams, and whole group. Guiding questions for the group focused on ways in which they perceived their lesson and student work to instantiate their conceptual definition of argumentation, nuances in their interpretation of what is required for successful evidence-based argumentation within their discipline, and what they had learned from creating and enacting instruction that impacted their thinking (e.g., reinforced, questioned) about evidence-based argumentation.

Instructional Support: Lesson Planning Tools to Assessment Design

Our WestEd colleagues shared a tool to support teachers in analyzing their lessons. Conversation occurred, about the use of the tool, within and across disciplinary groups.

The formative assessment work continued with a focus on articulating and instantiating student learning goals via construction of a three-square rubric. The rubric work was designed to make visible ways in which teachers were defining the development of content knowledge within and across grade bands and how the level of scaffolding for students' to achieve success reduced across time. The work of Year two provided a foundation for teachers to tackle changes to their instructional practices consistent with READI's goals and aligned with the Design Team initiatives. Related research by Raphael and her colleagues (Brock, Goatley, Raphael, Weber, & Trost, 2014) convey challenges teachers experience in using English Language Arts as tools to support learning in the disciplines, even in elementary schools. The guidance provided within the Teacher Network provided support for the overall project goal.

Network teachers participated in producing instructional modules that reflect what they had been learning, such as a conceptual understanding of argumentation in each discipline, how to engage students in close reading across complex texts, and how to design and incorporate assessments that inform instruction.

Year Three of Chicago Teacher Network

In Year three of the Chicago Teacher Network, we continued the focus on deepening teachers' knowledge base around disciplinary literacies, developing instructional practices that engage students in evidence-based argumentation within the disciplines, and supporting implementation of READI modules while informing professional development design that optimizes teacher learning. Professional development materials developed in the Network this year also contributed to the efficacy study, launched in January of 2014.

During Year three of teacher network sessions, teachers attended as a whole group in the morning sessions, but elected to participate in one of two activities during afternoon sessions for the year. One group included teachers who chose to go deeper in learning about the READI architecture for instructional modules by co-designing with researchers and implementing Read-aligned instruction in their classrooms. This group of teachers met with their disciplinary teams and researchers to co-design, reflect on classroom enactments, examine student work and plan formative assessments aligned to READI architecture for instruction in each discipline. The other group engaged in deeper learning about The Reading Apprenticeship Approach to teaching. These sessions were led by Project READI's associate director, Julia Emig, who previously served as a High School District Literacy Specialist and was formally trained as a facilitator in The Reading Apprenticeship Model.

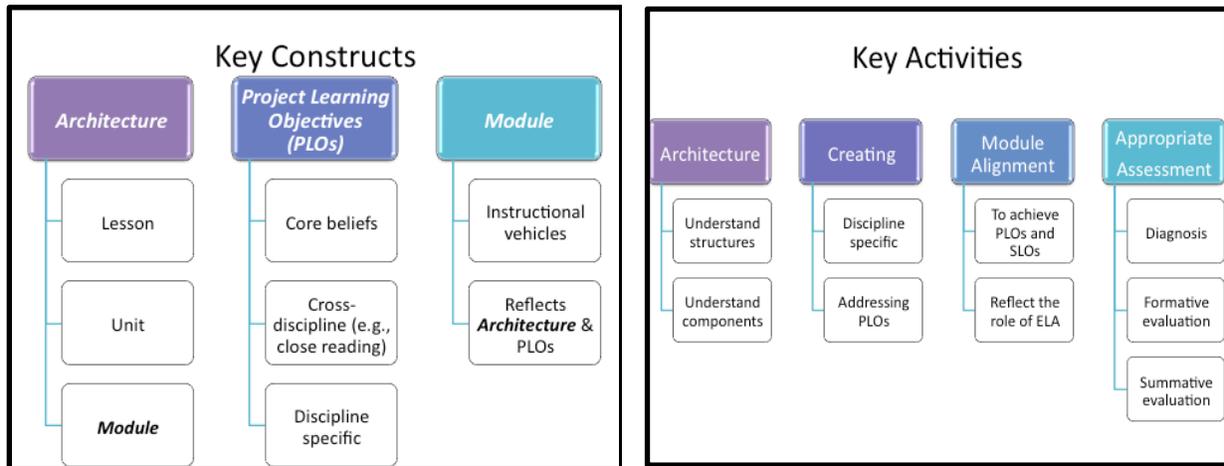
Twenty-nine teachers continued to participate in the network meetings from Year two and 5 teachers joined the group in Summer 2013. Total participants for 2013-2014 include 34 6th – 12th grade teachers across three disciplines. Twenty-two teachers from the Teacher Network participated in co-designing and implementing READI-aligned modules in their classrooms during Year three.

Continuing with the iterative design cycle enacted in Year two of the network, Year three was driven by two specific goals for teachers: 1) to engage in instructional design (e.g., lessons, lesson sets) that incorporate what they have learned throughout the PD sessions (e.g., conceptual understanding of argumentation in each discipline, engaging students in close reading across complex texts, designing/incorporating assessments that inform instruction) and 2) to construct formative assessment tools that teachers can use to inform instructional decisions to guide students effectively in argumentation within their disciplines. Next, we describe the focus for each PD session in Year three in relation to these goals.

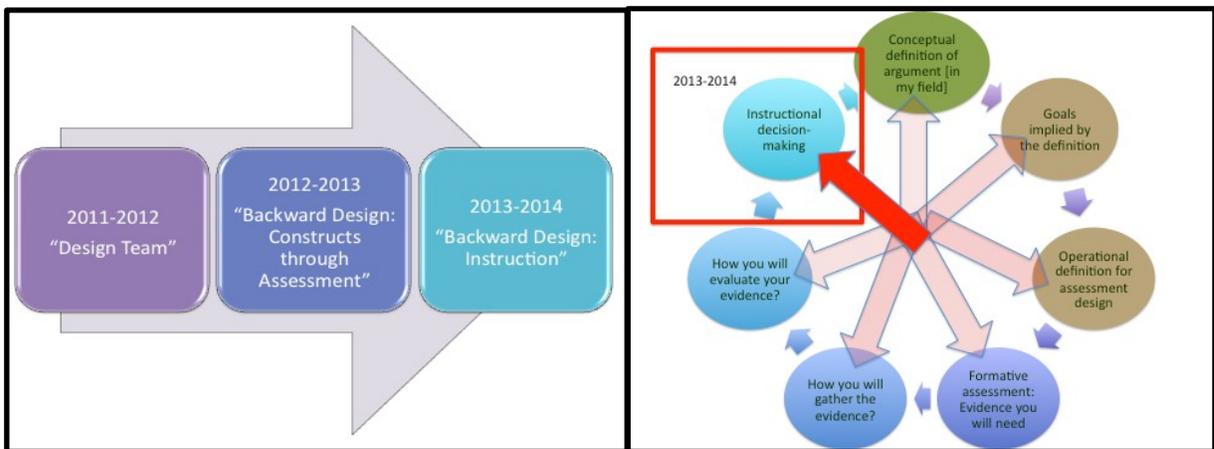
Year Three, Session One: October 1, 2013

Overview of this year's work. The overview for the year connected the work of previous years with the projected work for Year three. The focus for this year shifts from creating learning goals from a conceptual definition of argumentation in disciplinary instruction to designing lessons that incorporate those goals and the READI learning objectives.

The work of Year three revolved around the following key constructs and activities.



Disciplinary Teams Break-Out Sessions. Disciplinary break-out teams were the context for the initial two-part activity. First, teachers read series of discipline-specific texts, making their thinking explicit through metacognitive conversations (e.g., paired think-alouds, talking with the text through written annotations). The texts were selected as an interpretive problem and/or inquiry question relevant to each discipline. Second, the architecture of READI modules was also examined, in particular examining affordances and challenges of these same texts from the perspective of students and through the lens of metacognitive practices that deepen disciplinary learning.



Literature Team – Facilitated by Carol Lee, Sarah Levine, Teresa Sosa

Dr. Carol Lee (Project READI co-PI) provided an overview of an epistemological framework pertaining to the study of literature, referencing George Hillocks’ work on authorial and structural generalizations. Teachers practiced closely reading “The Flowers” by Alice Walker and noted their thinking through written annotations. What interpretive problems does the text present? What is the author trying to tell us about the world, and how is this effect achieved through language and rhetoric? What background knowledge does the text presume that readers know? Dr. Lee then presented her work on the use of cultural data sets to teach students how to apply ways of reading culturally familiar texts to ways of reading sophisticated literary texts. Teachers closely read and annotated “Mask” by the Fugees as an example of a cultural data set, and they reflected on their experience as readers. Gateway activities were also presented as a means to establish criteria for making judgments about the applicability of a theme (“coming of age” as an example).

History Team – Facilitated by Cyndie Shanahan, Johanna Heppeler, MariAnne George

Teachers practiced close reading of historical texts from a module that had been developed by Design Team teacher Johanna Heppeler on the question of how historians come to

know what happened in the past (specifically, why did distinct societies develop in Colonial America, and how do we know?). Teachers annotated texts (a primary source from de Las Casas, a map of the Columbian exchange, an excerpt from Howard Zinn), articulated their reading processes, and catalogued how they made sense of historical texts towards the construction of evidence-based claims about what happened and why.

Science Team – Facilitated by Monica Ko, Julia Emig, Stephanie Ryan

Using texts about the rise of MRSA (U.S. state trends for prescribing antibiotics, a MRSA graph, etc.), Monica Ko guided science teachers to use close reading as a means to develop evidence-based explanatory models for natural phenomena. Teachers conducted paired think-alouds to make sense of each text; after each round, they described their metacognitive processes for making meaning, the science knowledge they were building, and how each subsequent text was helping them to construct a more cohesive model of the relationship between increased prescriptions and increased evidence of MRSA. Teachers worked in small groups to create evidence-based explanatory models, and they reflected on *how* their reading processes were used to make sense of a scientific quandary.

Teachers and Research Design Partners Planning Session for Co-design and Implementation

Teachers met with design team teachers and researchers for support in designing and implementing instructional modules. Discussions were differentiated based on teachers' needs within disciplines and grade bands. Planning and reflection of enactment included issues of text complexity, scope and sequence of the module unit and appropriate instructional supports that would best meet the needs of the teachers' students as well as formative assessment decisions.

Reading Apprenticeship Approach Session One

Julia Emig supported teachers in applying what they had learned in the morning sessions to their classroom instruction. Specifically, how do teachers facilitate similar kinds of metacognitive conversations with their own students? How will students develop disciplinary ways of reading towards making evidence-based arguments? Teachers worked within discipline groups (science, history, and literature) and discussed how they would apprentice a “non-expert” into reading one of the texts from the morning sessions (Walker; de Las Casas; graph of state trends for prescribing antibiotics). Following modeling by Julia, teachers worked in cross-disciplinary pairs, taking turns to read aloud/think aloud while partners asked them metacognitive questions. At the end of the session, teachers reflected on what they had learned about how to support their students’ metacognitive conversations about close reading of disciplinary texts. They made applications to the “Metacognitive Funnel” from *Reading for Understanding* and READI Design Principles. Teachers were asked to bring in a sample of a student’s annotated text for the next Network meeting; the annotations should illustrate *how* students are making sense of a complex text in the discipline.

Whole Group – Wrap-Up

Teachers were asked to complete a reflection form. Teachers reported this meeting was effective in increasing their understanding of the key constructs and provided them with activities they can immediately implement in their classroom.

Year Three, Session Two: November 19, 2013

Overview of Module Development and Day’s Work

The overview for the module development explicitly related prior and current work of the network with the language of the design principles. The focus for this year shifts

from creating learning goals from a conceptual definition of argumentation in disciplinary instruction to enacting lessons that incorporate those goals and the READI learning objectives. Specifically, the design principles encompass five areas – inquiry practices, interpreting text, big ideas, what counts as knowledge, and disciplinary discourse. Year two’s work emphasized building clear teacher understanding of what they have to teach (i.e., conceptual definition of argument), what that looks like across the grade levels (i.e., stair-cased learning goals), and how to assess student progress. Year three emphasized taking those understandings and the design principles to build pedagogical practices to support student learning. These practices undergird decisions of the kinds of tasks, texts, instructional supports, and assessment for pedagogy. Close reading and metacognitive conversations were also two important instructional strategies.

Disciplinary Teams Break-Out Sessions - Text and Task Analysis

Literature Team – Facilitated by Sarah Levine, Teresa Sosa

This session centered on how to support teachers in building instructional modules that incorporate necessary practices and texts that prepare students to critically engage anchor literary texts. Building on the previous session that laid out the components of a module (i.e., gateway activities, cultural data set, key discussions among students and writing activities), in this session one of the design team teachers in literature shared her module to prepare her students to read *A Thousand Splendid Suns*. She described this work to “figure out all the things kids need to know in order to be successful with this book [anchor text] and be able to really dig into it, get it, analyze it, and not just read it for what’s happening.”

History Team – Facilitated by MariAnne George & Johanna Heppeler

The goal of this session was to make teachers' thinking visible when they are reading disciplinary text and to use that thinking to inform the reading routines and pedagogies that can create multiple entry points to students in the teachers' classrooms. Through close reading of a text used by one of the design team teachers in history, the teachers discussed the affordances and challenges of texts within a set and thought about the different ways to support student engagement and sense-making of texts in history.

Science Team – Facilitated by Monica Ko, Julia Emig

This session focuses on developing a conceptual and practical framework for text selection and pedagogical use when attempting to explain scientific phenomena. Teachers explored one phenomenon, lice, through a set of texts to determine the affordances and cautions of texts and when texts should be used in the trajectory of a unit of study.

Whole Group Share Out

Teachers across the disciplines came back together to think about the morning activities through the following questions: What will you consider when selecting texts? What will you consider when ordering texts?

Teachers and Research Design Partners Planning Session for Co-design and

Implementation

Teachers met with design team teachers and researchers for support in designing and implementing instructional modules. Discussions were differentiated based on teachers' needs within disciplines and grade bands. Planning and reflection of enactment included issues of text complexity, scope and sequence of the module unit and appropriate instructional supports that would best meet the needs of the teachers' students.

Reading Apprenticeship Approach Session Two

In this session, the teachers continued their work around metacognitive conversations and close reading as strategies for making sense of texts to consider instructional design from the aspect of text selection, students' knowledge and experiences, learning goals and challenges and affordances of texts. The practicalities of what do you do with students to engage them and understand disciplinary text to "get into" the content guided the work of this session. Teachers considered the establishment of an inquiry culture in the classroom and their own close reading of text, viewed a video of a fellow network teacher's practice, and shared their own practices around text selection and use in their classrooms.

Whole Group – Wrap-Up

Teachers were asked to complete a reflection form. Teachers reported this meeting was effective in increasing their understanding of the key constructs and gave them activities they can immediately implement in their classroom.

Year Three, Session Three: February 5, 2014

Introduction: Formative Assessment Cycle

Going deeper into looking at annotation

In the introduction to the network meeting, student annotations were framed as work products for formative assessment to recognize how students make sense of text in the process of engaging in argumentation. The teachers considered tools to examine student annotations to understand how students are engaging cognitively and metacognitively with the text. Central to the work in the morning was expanding teachers' ability to support students as they engage in close reading, using an annotation tool developed by our WestEd colleagues. Teachers met in disciplinary teams as they applied the tool to disciplinary specific text, then shared their

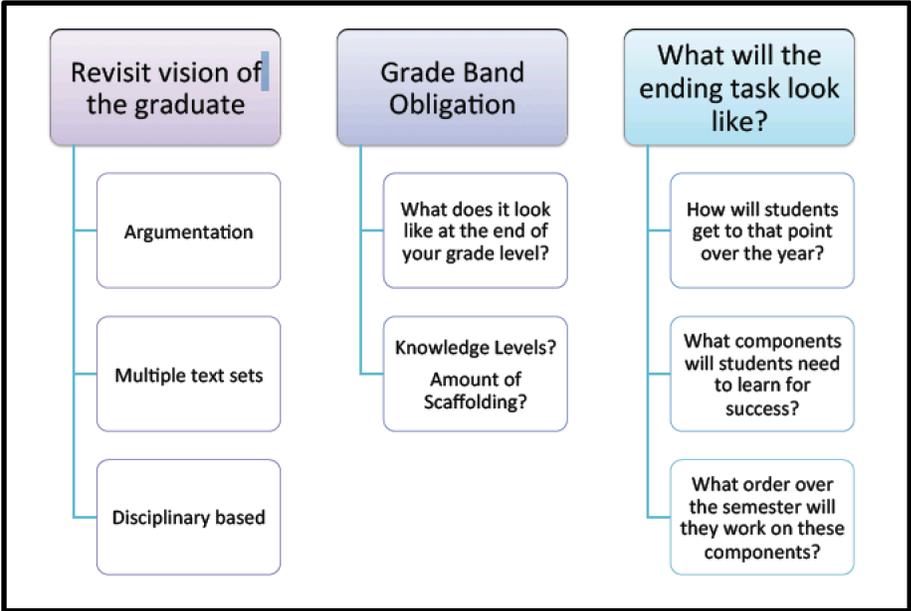
experiences in the whole group settings. Teachers worked in disciplinary teams for the remainder of the morning.

Whole Group Share Out: Feedback on Annotation Coding Guide

At the end of the morning session, teachers came back together in the cross-disciplinary group to engage in a whole-group discussion around their activities with the annotation coding guides. Teachers shared affordance and challenges of using a coding guide to assess annotations of text as well as similarities and differences across disciplines related to the purposes for annotating text and assessment of annotating texts. This discussion concluded with each disciplinary team sharing recommendations for research partners to consider for revising or further developing the annotation coding guides.

Whole Group: Formative Assessment

The theme of assessment practices continued in the afternoon with a focus on developing formative assessments that inform instruction on key elements/components of argumentation within the discipline. The work was guided by the figure below:



The overall task was to revisit their vision of the graduate (Argumentation with Multiple Texts in Discipline) and their particular Grade Level/Band obligation (What does it need to look like at the end of your grade band?) What will the ending task look like? How will you get there? Grade band discussions within disciplinary teams involved unpacking what the task components need to be to insure students' progress, identifying 3 or 4 examples of what the students need to have learned.

At the end of the session, following a brief whole group share, teachers were tasked with creating a formative assessment tool focused on one component, piloting it in their classroom, and sharing the assessment tool and what they have learned from designing and implementing it with colleagues at the final Teacher Network meeting.

Whole Group – Wrap-Up

Teachers were asked to complete a reflection form. Teachers reported this meeting was effective in increasing their understanding of the key constructs and gave them activities they can immediately implement in their classroom.

Year Three, Session Four: April 30, 2014

Overview of the Final Teacher Network Meeting

The final day of the Chicago Teacher Network began with Taffy Raphael and MariAnne George presenting the goals for the day's work and structure for the session. The final meeting focused on two major goals: 1) Morning session-sharing formative assessment tools in disciplinary teams followed by a cross-disciplinary, whole-group share out and discussion and 2) Afternoon session-written reflection on experiences and learning from participation in the Network.

Disciplinary Teams Break-out Session: Sharing Formative Assessments and Tasks

During this session, teachers met in their respective disciplinary teams to share the formative assessment tools they had developed aligned to the instruction and guidance provided in the previous Network meeting. Along with the assessment tools, teachers brought student work samples in response to the assessments to share and reflect on in their groups. This session concluded with a whole-group discussion around the challenges and affordances of formative assessment development and take-aways for assessing students' evidence-based disciplinary arguments.

Self-Analysis and Reflection of Participation in Chicago Teacher Network

Teachers spent the majority of the afternoon session independently responding in writing to a 10-question (open-ended) survey. Questions were divided into 3 categories: 1) READI design principles, 2) READI Learning Objectives and 3) Teacher Network Participation. Teachers reflected on both shifts in conceptual understandings and changes in instructional practices along with aspects of the professional development they felt supported their learning experience.

Analysis of Teacher Reflections

These teacher reflections from the final Teacher Network meeting were subjected to a thematic analysis. Of 34 Teacher Network participants, 30 teachers completed the final questionnaire. Of the 4 participants who did not complete the questionnaire, 2 teachers attended only 3 out of 4 sessions during Year three and 2 teachers attended only 2 out of the 4 year-three sessions. The 4 participants were not in attendance for the final session but did receive the questionnaire electronically and did not return it.

Results indicate that teachers reported conceptual shifts in their understandings of disciplinary literacy, particularly argumentation; changes in their practice to support students in disciplinary literacy practices; and impact on their students' learning. Teachers also reported particular aspects of PD as especially influential to their learning experience. Two of the major themes that emerged from analysis are discussed below: 1) Opportunities to dialogue about classroom practice with colleagues and 2) Recursive Nature of the professional development design.

Opportunities to dialogue about classroom practice with colleagues

Teachers reported that having the space and time to discuss their practice with colleagues working toward the same goals was a key factor of the impact their participation in the Teacher Network had on their practice. For example, one middle school history teacher reflected, "Working with and discussing my lessons with other knowledgeable teachers has been most influential. As they question and give suggestions I find myself adapting and thinking about how to make each of my lessons better and more suitable for my students." Small group discussions, in particular, were viewed as important opportunities for growth. One middle school Literature teacher responded, "I was able to work collaboratively with gifted, amazing people who have had a tremendous impact on me as a teacher. Small group discussions have been invaluable and the resources I have acquired will provide me with resources for years to come. It has given me immense confidence in myself as a teacher, problem solver, and leader." Similarly, a high school history teacher wrote, "The small disciplinary work we did was most beneficial as I had a chance to reflect on my own teaching and the teaching of others. That reflection led me to redesign and change many of my lessons. The whole experience has been a great professional growth opportunity."

Finally, teachers felt it was especially important to their learning to hear from other teachers in their disciplines share experiences of teaching argumentation. For example, one teacher reflected, “I was able to learn and grow from other teachers' thoughts and experiences with argumentation in their classes. Comments made by others in our small disciplinary meetings allowed me to strengthen my own confidence in my understanding of the learning objectives.” Although small group discussions were typically structured for disciplinary teams and teachers clearly valued that time, the next theme that emerged speaks to the significance of a professional development context that encompasses both disciplinary and cross-disciplinary work.

Recursive Nature of the professional development design

Teachers also reported that the recursive nature of the learning cycle in the professional development was one of the most influential aspects of participating in the Network. Reflections noted the importance of being able to apply what they learned during the meetings in their classrooms and return to the professional development sessions to share and reflect and continue the learning process. A high school Literature teacher wrote, “This has been the most powerful PD experience because I’ve had the opportunity to engage critically with what it is required by my discipline. I got to engage in the practices, viewing each with the lenses of both a learner and of a teacher. Then, I got to take the work back to my classroom, bringing student work back to the PD to reflect and determine next steps for my students. PD is too often a “once and done” measure, which isn’t entirely effective. I loved the cycle of learn-try-teach-reflect – learn.” Similarly, another high school Literature teacher reflected, “The recursive nature of the training helped keep the design principles in focus for me. The intense reading of discipline-specific texts. Working through implementing of teaching ideas, the intermittent planning was important to me.”

The teacher reflections also emphasized the value in the iterative cycle allowing space for them to try things out which included honoring their own ideas and having opportunities to bring back new experiences to share with other teachers. An example of this type of response is illustrated in this middle school history teacher's explanation. "There was freedom to be "in process" and "messy," and lots of space to take risks with no fear, which is not often the experience of a public school teacher. There was a lot of thought on the part of the facilitators to make sure that conversations were purposeful and moving in the general direction of outcomes, but also space for teachers to take initiative about what they cared about. Teachers had opportunities to exhibit their own ideas. Teachers were asked to take ideas from the network, try them out, and bring evidence back to the group for analysis, which is a great way to learn new things."