Teaching and Learning of Sophisticated Argumentative Writing
Based on Dialogic Views of Rationality in High School Language Arts Classrooms:
A Formative and Design Experiment

DISSERTATION

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By
Sanghee Ryu

Graduate Program in Education Teaching & Learning

The Ohio State University
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Dissertation Committee:
Dr. David Bloome, Advisor
Dr. George Newell
Dr. Rick Voithofer
Dr. Cynthia Selfe
Abstract

This dissertation examines how dialogic views of rationality might be employed in the teaching of argumentative writing in ways that lead to the development of sophisticated argumentative writing. The theoretical framing of the study was grounded in social constructivism, micro-ethnographic discourse analysis, a social practice approach to literacy, and multiple views of dialogic rationality. The setting for the study was two high school language arts classrooms in the Midwest of the United States focusing on argumentative writing over a period of one academic year from Autumn 2013 to Spring 2014. The methodology employed in the study was a formative and design experiment in which dialogic views of rationality were incorporated into classroom argumentative practices in iterative cycles that were performed for the purposes of generating questions and conjectures, designing interventions, engaging in interventions, and conducting retrospective analyses. Using micro-ethnographic discourse analysis, the video files of the classroom interactions and interviews with the teachers and students were analyzed to contextualize students’ argumentative writing and to clarify our understanding of their improvements and struggles. Findings from the study include that argumentative practices that developed from dialogic views of rationality positively affected students’ development of sophisticated argumentative writing. In particular, taking an explorative stance toward complexity made a difference by extending students’ ways of dealing with complexity. Students’ products showed that they were able to
heuristically construct tensions, progress in their ideas from exploring tensions, and integrate the insights they gained from exploring tensions into their thesis. Based on these findings, theoretical constructs were generated about the system of evidence, the system of warrants, response to complexity, the development of a thoughtful thesis, and the role of these constructs in the development of sophisticated argumentative writing.
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Vita

2006.................................................B.S., Korean Language and Literature, Korea University
2008.................................................M. A., Korean Language Education, Korea University
2010 to 2012 ..................................Editorial Assistant, Reading Research Quarterly, The Ohio State University
2012 to 2015 ..................................Graduate Teaching Associate, Graduate Research Associate, The Ohio State University
2015 to 2016 ..................................EHE Dissertation Research Fellowship Awardee, The Ohio State University

Publications


Fields of Study

Major Field: Education Teaching & Learning
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Chapter 1: Framing the Study

Argumentative writing has been regarded as central to “acquiring academic literacies” (Graff, 2003; Kuhn, 2005; Newell, Beach, Smith, & VanDerHeide, 2011). This is reflected in the Common Core State Standards for English Language Arts for grades 6–12 in U.S. schools, which place strong emphasis on argumentative reading and writing (Council of Chief State School Officers & National Governors Association, 2010). As many scholars have pointed out, argumentation and argumentative writing practices are necessary and essential not just in academics, but in our daily lives (Andrews, 2010; Andriessen, Baker, & Suthers, 2003; Graff, 2003; Street, 2004). Some scholars even argue that “everything is an argument” (Lunsford & Ruszkiewicz, 2004). They emphasize that in our daily lives we constantly need to interpret and formulate arguments for communication and decision making.

Given the significance of argumentation in students’ academic and social lives, formulaic approaches to constructing an argument are a serious problem because these approaches encourage superficial rather than complex thinking (Applebee & Langer, 2006; Hillocks, 2002). Research on argumentative writing has noted that many students fail to develop sophisticated argumentative writing (Chambliss & Murphy, 2002; Graham & Perin, 2007; Kuhn, 1991; Laurinen & Marttunen, 2007; McCann, 1989; Perie, Grigg, & Donahue, 2005; Wolfe, 2012).
One evolving key question in the literacy field is what to teach and how to teach argumentation and argumentative writing in order to overcome students’ formulaic approaches and their difficulties in developing sophisticated argumentative writing. This study approaches this issue by exploring the effects of integrating dialogic views of rationality\(^1\) in argumentative writing classrooms.

In a broad based study of argumentative writing, Wynhoff-Olson, Ryu, & Bloome (2013) and Newell et al., (2015) found that different views of rationality were constructed in different classrooms. The investigators found that context-relevant, dialogic views of rationality could positively influence students’ argumentation and argumentative writing. However, as the research in this area is new and ongoing, many of the ideas and theories presented in these studies remain hypothetical. For actual applications of these ideas and theories, research needs to be conducted to see what works and what does not. For this reason, in collaboration with two teachers whose classrooms were grounded in dialogic views of rationality, I decided to conduct a formative and design experiment\(^2\) by explicitly integrating theories from dialogic views of rationality into the teaching of argumentative writing.

The aims of this formative and design experiment are two. The first is to investigate how theories from dialogic views of rationality can be integrated into the

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\(^1\) By “dialogic views of rationality,” I refer to a perspective that acknowledges the existence and validity of diverse views of rationality.

\(^2\) The formative and design experiment methodology is an alternative to conventional experimental studies and naturalistic methodological approaches. It is based on the use of iterative design processes for instructional interventions based on theories to accomplish a valued pedagogical goal in a real educational site (Reinking & Bradley, 2008). I provide a detailed discussion in Chapter 3: “Major Characteristics of Formative and Design Experiments.”
teaching and learning of argumentative writing in the context of two high school argumentative writing classrooms. The second goal is to generate grounded theoretical constructs for students’ development of sophisticated argumentative writing and the teaching and learning of dialogic arguments in the context of two high school argumentative writing classrooms.

To pursue these aims, this study was guided by the following research question:

How might dialogic views of rationality be employed in the teaching of argumentative writing in ways that lead to students’ sophisticated argumentative writing?

This research question is related to the development of theoretically grounded practices for the teaching and learning of argumentative writing. It is the essence of formative-design research to generate theoretically grounded constructs. This research question explores the effects of the incorporation of dialogic views of rationality into the process of learning and developing sophisticated argumentative writing.

**A Brief Overview of the Study**

This formative and design experiment was conducted in two high school argumentative writing classrooms led by two teachers who based their teaching on dialogic views of rationality. It is important to note here that formative design research inherently involves partnership and collaboration between researchers and teachers. I positioned the two teachers as research partners and co-researchers and made key decisions about this study with them. In our formative and design experiment, iterative cycles of generating questions and conjectures, designing interventions, engaging in interventions, and conducting the retrospective analyses on the results were usually made
by the research team consisting of the two teachers and me. Hence, sometimes I use the pronoun “we” and sometimes the pronoun “I” when referring to the conduct of the study. Regardless of which pronoun is being used, it is important to realize that both are referring to the spirit of collaboration in which this research was undertaken 3.

This formative and design experiment was conducted over a period of one academic year from August 2013 to June 2014. Based on the larger goal of improving students’ sophisticated argumentative writing, the interventions took place during quarter 1, quarter 2, and quarter 3. In each quarter, we had a focus on a different element of argumentation: in the first quarter, the dialogic aspect of warrant; in the second quarter, a system of evidence, and in the third quarter, a thoughtful thesis. Each intervention was designed considering multiple factors including the elements of argumentation, theories of dialogic views of rationality, the curriculum plans in the classrooms, and emerging student difficulties and needs. In Chapters 4, 5, and 6, which cover the interventions that took place during quarter 1, quarter 2, and quarter 3, respectively, I start by discussing how we developed our interventions. I then discuss what argumentation patterns emerged in the classroom interactions during the intervention that provided insights for generating theoretical constructs for the teaching and learning of argumentative writing. After that, I provide our analysis of students’ argumentative writing, focusing on their improvements and struggles in relation to the focus of the interventions.

3 With regard to our different responsibilities for this study, I provide a detailed discussion in Chapter 3: Developing Relationship and Responsibilities in the Research Team
Based on the theoretical constructs that were generated from the retrospective analyses of the classroom interactions, of students’ artifacts including their argumentative writings, and of interviews with the teachers and students, I generated a grounded model for developing sophisticated argumentative writing. This model shows how our conceptualization of sophisticated argumentative writing evolved during the process of conducting our interventions and analyzing the results. At the same time, the model represents our new conceptualization of sophisticated argumentative writing in high school argumentative writing classrooms. I also generated a model for the teaching and learning of dialogic argumentation, which provides practical implications on how extended sophisticated argumentative writing can be taught and learned in argumentative writing classrooms.

Theoretical Frames

In this dissertation, I employ four theoretical frameworks that guided defining, collecting, analyzing, and interpreting the data: (1) a social constructionist framework, (2) a microethnographic discourse analysis framework, (3) a social practice approach to literacy, and (4) multiple views of dialogic rationality.

The Social Constructionist Framework

Research on argumentation, argumentative writing, and the teaching and learning of argumentation and argumentative writing has been primarily conducted from cognitive perspectives (e.g., Kuhn, 2005; Reznitskaya & Anderson, 2002; Yeh, 1998) and from perspectives in the field of rhetorical studies (e.g., Andrews, 2010; Graff, 2003; Lunsford, 2002). Although I incorporate insights from those perspectives, my theoretical framework
is grounded in a social constructionist perspective (see Berger & Luckmann, 1967; Gergen, 2009).

Social constructionism holds that the meaning and significance of things, actions, people, and processes are constructed within and through the interactions people have with each other. Social constructionism does not deny material realities. However, from a social constructionist perspective, in the effort to explain “what there is—what is truly or objectively the case—we enter a world of discourse, and thus a tradition, a way of life, and a set of value preferences” (Gergen, 2009, p. 161). The primary means by which people interactionally construct the worlds in which they live (and the meanings and significances therein) is through their interactional use of language (Agar, 1994), which is often referred to as discourse or discoursing (Bloome et al., 2008; van Dijk, 2014).

Adopting social constructionism in the formative and design experiment had a huge impact on this dissertation research. Because of this framework, the study was open to newly emerging and evolving meanings in the research sites, the two high school classrooms. For instance, the study did not assume a fixed meaning of “sophisticated argumentative writing,” which is one of the key topics of our exploration. By integrating dialogic views of rationality into classroom practices, we expected and experienced that the meaning of sophisticated argumentative writing would continuously be constructed by the participants’ interactions.

With regard to exploring the research question, a social constructionist framework warrants examining the discourse of teachers and students as they interact in the argumentative writing classroom. Students’ interactions during and after the interventions
showed not only the influence of the interventions on their development of argumentative writing but also how our conceptualization of sophisticated argumentative writing and the teaching and learning of arguments were newly constructed during the process. Our generated theoretical constructs elucidated our evolving meaning of sophisticated argumentative writing and the teaching and learning of dialogic arguments.

**A Microethnographic Discourse Analysis Framework**

Given the social constructionist framework of this formative and design experiment, we decided to take a microethnographic discourse analysis approach. This approach builds on symbolic anthropology (see Geertz, 1973, 1983) and interactional approaches to the study of language and social and cultural processes grounded in the theoretical and empirical studies of Volosinov (1929/1973), Gumperz (1982, 1986), Erickson (2004), Green (1983, 1990), and Bloome et al. (2005). A microethnographic approach to discourse analysis is not only a set of methods that provide ways to collect and analyze data but also a theoretical frame that provides “a set of ways of ‘seeing’ language and literacy events in classrooms” (Bloome et al., 2008, p. 2). In this section, I will briefly describe the microethnographic approach to discourse analysis, relying heavily on the work of Bloome and colleagues (cf. Bloome et al., 2005; Bloome et al., 2008), and how we use this approach in our study.

Part of a microethnographic approach to discourse analysis involves an ethnographic perspective focusing on a specific setting or group of people and exploring their situated meanings and values in their daily lives based on an emic perspective. An ethnographic perspective provides a way to make principled decisions about how to begin
and frame discourse analysis (e.g., what events should be selected for discourse analysis and how to relate specific events to situations; in this case, to classroom education over time and to the teaching and learning of argumentation within and across educational and other social institutions within the context of cultural ideologies).

The combination of the ethnographic perspective and discourse analysis has been developed for use in the educational setting by various researchers (Bloome, 1987; Cook-Gumperz, 1986; Green & Bloome, 1997; Green & Dixon, 1993; Green & Wallat, 1981, among others). In this approach, language, which is considered inherently social, should be understood within the context of human interactions. In terms of the theoretical frame and the logic of inquiry, the microethnographic approach to discourse analysis emphasizes “discourse-in-use to ask who is using language and other semiotic tools to do what, with whom, to whom, when, where, and how?” (Bloome & Clark, 2006, p. 209).

The microethnographic approach to discourse analysis also emphasizes literacy events in the classroom, in particular the moment-by-moment interactions within the events. By selecting important key events and analyzing sequenced conversations and how they build on each other, a microethnographic discourse analysis framework makes visible what is socially constructed in the setting.

In the present study, we observed what people actually did in the two argumentative writing classrooms. More specifically, we observed how situated meanings, definitions, and values were constructed across time by classroom members through their interactional uses of language, including how the members accepted, resisted, reflected, and refracted such meanings, definitions, and values. A key underlying
assumption we made based on the microethnographic framework we employed is that the meaning, definition, and significance of writing, argumentation, and rational argument are socially constructed in and through the interaction of teachers and students in the classroom. By adopting a microethnographic approach to discourse analysis, we explored the research question: How might dialogic views of rationality be employed in the teaching of argumentative writing in ways that lead to students’ sophisticated argumentative writing?

A Social Practice Approach to Literacy

Street (1996, 2006) conceptualizes and introduces two different approaches to the analysis of literacy and the teaching of literacy: an autonomous model and an ideological model. One of the main differences between the two is their underlying assumptions about literacy. The basic assumption of the autonomous model is that literacy is a set of atomized skills that can be detached from specific social contexts. This model implies that these skills are universal, neutral, and thus transferable to other contexts. Thus, the model is related to an epistemology that acknowledges universal truth and value neutrality. In contrast, the ideological model is based on the assumption that literacies are social practices that vary with cultures and specific contexts. The ideological nature of such practices and the relationships between context, specific literacy practices, and power issues are fundamental to this model. Epistemologically, the ideological model of literacy does not acknowledge an absolute truth. Although it does not deny that reality exists, this model suggests that the perception of reality including the perception of how to read and write is socially constructed.
Another important difference in the two models is in the goals they imply for the researching and/or teaching of literacy. If researchers or educators adopt the autonomous model of literacy, they try to figure out general rules (cognitive and linguistic processes) regardless of context and then help students learn these rules. If students cannot follow the rules, the role of researchers or educators is to try to fix the problem. If researchers or educators adopt the ideological model of literacy, their goals tend to be to explore and expand students’ repertoire of linguistic practices. Another key goal is to help students to pay attention to context issues, to switch their practices as appropriate to each context, and to negotiate conflicts between different literacy practices (Lea & Street, 1999).

This study takes a social practice approach based on the ideological model of literacy. A social practice approach to literacy has implications for conceptualizing the teaching and learning of argumentation. The first implication is that extending students’ repertoires of doing literacy is a goal of education. We planned to address this implication by developing argumentative practices based on dialogic views of rationality to extend students’ repertoires of doing arguments. The second implication of the social practice approach, which considers context to be an integral part of socially constructed ways of communicating, is that students should have opportunities to reflect on their literacy practices in relation to the context, which may influence their practice of literacy. In our study, we planned to give various opportunities to students to reflect on their argument practices and argumentative writing practices and carefully consider how their views on these practices were affirmed, extended, and/or evolved.
Multiple Views of Dialogic Rationality

Argumentation, including argumentative writing, is built on definitions of rationality, often glossed as logic or reasoning. In argumentation classrooms, although teachers and students may not directly consider the underlying rationality, their teaching and learning of argumentation nonetheless promulgates a definition of rationality (Wynhoff-Olsen, Ryu, & Bloome, 2013). Therefore, what students implicitly acquire through instruction might be called “rationality practices.” However, in the field of literacy education, underlying rationality issues have been little explored, discussed, and conceptualized.

Reviewing the literature on the teaching and learning of argumentation (see reviews by Newell et al., 2011), one forms the impression that considerations of how rationality is being defined are hard to find. The use of phrases like, “arguing from evidence,” “logical argument,” and “reasonable” are ubiquitous in research on argumentation in educational settings. These phrases, among others in a similar vein, suggest that the framework for what counts as rational is viewed as obvious, shared by all, and able to be taken for granted. Yet there are serious philosophical debates about what constitutes the rational.

For heuristic purposes, I divide definitions of rationality into those that treat it as context-independent and those that treat it as context-dependent. Definitions of rationality

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4 I first developed this theoretical frame on multiple views of dialogic rationality with my co-author in Bloome and Ryu, 2012. In addition, some parts of this dissertation’s discussion of multiple views of dialogic rationality in this theoretical frame have already been published in Wynhoff-Olsen, Ryu, and Bloome, 2013 and Newell et al., 2015. I have slightly revised the definition of the context-independent view of rationality in order to distinguish it from a monologic view of rationality.
as context-independent consider it a decontextualized phenomenon and maintain that there is a comprehensive view of rationality that can be applied across all or virtually all contexts. In contrast, a context-dependent view of rationality defines rationality as a social, cultural, and linguistic construction (e.g., Foucault, 1984, 1991; Gilligan, 1982; Noddings, 1984; Searle, 2003; Walkerdine, 1988; Wittgenstein, 1969). If rationalities are socially constructed, they can differ depending on social, cultural, and historical contexts. What is “rational” depends on what people in a particular social situation interactionally construct rationality to be. “Rationality” is not a thing, but a linguistic sign designating that set of processes and qualities that a group, in a particular situation, time, and place, agrees will constitute a category of action (mental, intellectual, physical, linguistic, etc.) and a set of agreed-upon relationships (social, cultural, institutional) that historically, intertextually, and intercontextually locate the “rational” within social systems of meaning and action. As such, in this view, what constitutes rationality both defines and is defined by definitions of personhood.

The origin of context-independent rationality in Western societies.

Decontextualized definitions of rationality are often associated with the Greek philosophers Socrates and Plato. Based on Flyvbjerg’s research (2000; 2001), I will briefly discuss the context-independent rationality of Socrates and Plato that precedes current views of rationality in Western society.

Flyvbjerg (2000) points out that the term “rationality” has become synonymous with rule-governed analytical rationality, which looks for objective, general principles and uses deduction to break down a whole into its component parts. In particular, he
traces the dominant form of rationalism of the present age back to Socrates and Plato.

Socrates was searching for universal rules and generally valid principles. For instance, he tried to determine the nature common and distinctive to all virtues. As a pupil of Socrates, Plato continued the search for universals and attempted to “establish entire systems of theoretically objective principles” (Flyvbjerg, 2000, p. 70). Socrates and Plato positioned themselves on the side of logic and universal, analytical rationality.

This position has remained a dominant tradition in Western philosophy and science since the time of the Renaissance, which is considered to connect the Middle Ages and Modern Ages and was started as a cultural movement emphasizing individual reasoning and reason rather than religious beliefs. The Renaissance, taken as the beginning of the modernist world view, is often associated with objectivity, scientific truth, empirical data, and prediction. In the field of argumentation, many scholars (e.g., Crammond, 1998; Gasper & George, 1997; Wangerin, 1993) have been primarily interested in finding general, abstract features of argumentation. One of the models of argumentation that is widely employed in high schools is Toulmin’s model (Clauss, 1999; Fulkerson, 1996; Lunsford, 2002; Yeh, 1998).

**Limitations of context-independent, rule-governed analytical rationality.**

Aristotle, who was Plato’s pupil, disagrees with the overemphasis on universals and general principles. Aristotle argues that there is a need for more attention to specific cases and contexts, especially in the study of human behavior. Aristotle distinguishes between *episteme*, “with its emphasis on theories, analysis, and universals,” and *phronesis*, with its emphasis on “what is variable, on that which cannot be encapsulated by universal
rules, on specific cases” (Flyvbjerg, 2001, p. 57). It should be noted that Aristotle does not reject the need for general rules, but expands the Platonic approach by adding contextual elements to the mix.

Flyvbjerg (2001) makes a connection between Aristotle’s mixed approach and the Dreyfus model (Dreyfus et al., 1986) of the learning process to point out the limitations of context-independent rationality, and the possible inability to advance due to the lack of a complex and nuanced approach. This model explains that at the beginning levels, context-independent knowledge, rules, and elements are significant. At the basic levels, rules should be generalized so that the novice can identify and apply them to all similar situations. The Dreyfus model entails a “qualitative jump” from the early levels to the more advanced levels. The big difference between the levels is an abandonment of context-independent, rule-based thinking as the most important criteria for evaluation and action and its replacement by context-based evaluation and action to identify problems and achieve goals in a given specific situation. In other words, something more than rule-governed analytical rationality is needed to move to higher levels in the learning process: context-dependent knowledge and evaluation. For more advanced development in a field, there must be an added element of “judgment, practice, trial and error, experience, common sense, [and] intuition” based on specific contexts (Flyvbjerg, 2001, p. 23).

Rule-governed analytical rationality and other views of rationality have their respective strong points and weak points. However, we should ask ourselves whether rule-governed analytical rationality should be considered the ultimate outcome of the teaching and learning of argumentative writing.
As Flyvbjerg (2001) argues, “To amputate one side in these pairs of phenomena into a dualistic ‘either-or’ is to amputate our understanding” (p. 49). In my judgment, rule-governed analytical rationality contains important insights. I would not amputate rule-governed analytical rationality. However, I am critical of the dominance of one specific rationality, namely context-independent, rule-governed analytical rationality, which entails an exclusion of other understandings, in particular the importance of context.

**Monologic versus dialogic views of rationality.** The terms *monologic* and *dialogic* come from Bakhtin’s (1981, 1984) epistemological distinction. Although Bakhtin did not explicitly talk about views of rationality, his distinction may be meaningful in understanding another heuristic distinction between a monologic view of rationality and a dialogic view of rationality. A monologic view of rationality refers to a view of rationality that maintains that there is only one possible view of rationality, which is based on objective, universal logic and truth. A dialogic view of rationality refers to a view of rationality that acknowledges the existence and validity of multiple different views of rationality that are sensitive to context.

Bakhtin (1984) explains that the essential distinction between dialogic and monologic is in the acknowledgment of “a ready-made truth”: “Truth…is born between people collectively searching for truth, in the process of their dialogic interaction,” but monologism “pretends to possess a ready-made truth” (p. 110; italics in original). Bakhtin argues for the “dialogic nature of human thinking about truth” and criticizes “official
monologism” or pedagogical dialogue that assumes a ready-made truth and a single consciousness and worldview (p. 110; italics in original).

Although his distinction between monologic and dialogic is mainly based on the artistic world and used for the analysis of novels, we gain insights about classroom contexts by considering the concepts. Bakhtin describes that in “the monologic artistic world,” all characters in a novel share the same truth and worldview; “[o]ther thoughts and ideas—untrue or indifferent from the author’s point of view, not fitting into his worldview—are not affirmed” (p. 80). In a monologic novel, an author has the power to affirm the characters’ thoughts and ideas from a monologic view. This description could reflect the relationship between teacher and students in a classroom. When a teacher has a monologic stance, the teacher imagines that the role of the student is merely to receive the proffered standard knowledge, and that following the teacher’s interpretation of the monologic worldview is ideal.

Bakhtin (1984) further discusses possible effects of normative consciousness in judgment. This ideal unitary consciousness makes “plurality of consciousness” accidental and an error (p. 81). Following this idea, a teacher’s position as an evaluator is based on the unity of consciousness, and students are positioned as novices who need to learn normative consciousness by reducing error. Bakhtin points out that this process makes “the genuine interaction of consciousness impossible, and thus genuine dialogue is impossible” (p. 81).

Drawing on Bakhtin’s view, a monologic view pretends to possess a ready-made rationality by assuming a ready-made truth and a unitary consciousness and worldview; it
does not acknowledge that rationality could be open and newly approached and constructed through people’s interactions. Bakhtin talks about the negative effects of a monologic view and the possibly positive effects of the coexistence of dialogic views. In the same vein, I expect that considering dialogic views of rationality (whether through explicit discussion about underlying views of rationality in argumentation or implicit experience based on argumentative practices) would have positive effects on students’ development of argumentation.

**Context-independent, analytical view of rationality as a partial view of dialogic rationality.** In previous studies on argumentative writing, I have observed two approaches to the context-independent, analytical view of rationality in classrooms: (1) as a partial view of dialogic rationality, and (2) as the complete view of monologic rationality. The latter approach means believing that there is only one kind of rationality, which is context-independent, universal, and monologic. In this approach, how successfully one follows what are regarded as general rules or principles (e.g., general elements for logical propositions) is considered the only basis for criteria for evaluating rationality. Given monologic criteria, people or their arguments are evaluated as either rational or irrational.

The former approach, in contrast, is based on the premise that the context-independent approach to rationality and the context-dependent approach to rationality are not mutually exclusive. In this partial approach, considering common factors (general rules, principles, and essential elements) beyond a specific context can be one step among several in preparing a rational argument.
In the dialogic approach to context-independent rationality, evaluating whether a person or an argument is rational or not based on whether some common elements are present or not is a non sequitur. That is why common factors should be understood as part of dialogic views and may be questioned depending on the context. In other words, considering contextual factors entails acknowledging that what is rational can differ depending on culture and context. Considering some general elements beyond context can only be regarded as part of the criteria for evaluating rationality in relation to context.

**Context-relevant, dialogic views of rationality.** Many social theorists have argued that rationality is a social and cultural construction (e.g., Foucault, 1984, 1991; Noddings, 1984; Searle, 2003; Walkerdine, 1988; Wittgenstein, 1969). In other words, what constitutes rationality both defines and is defined by definitions of personhood and is more a function of social and cultural ideologies than of an abstracted, decontextualized, and universal logic. They commonly emphasize the importance of acknowledging dialogic views of rationality and considering context.

Scholars have differed in their conceptualizations of context. Some have emphasized larger social and cultural contexts (e.g., Foucault, 1984, 1991; Gilligan, 1982; Wittgenstein, 1953); some have highlighted field-relevant contexts such as academic disciplines (e.g., Haraway, 1988; Toulmin, 1958/2003; Toulmin, Rieke, & Janik, 1984); and some have emphasized interactional contexts in language use (e.g., Gadamer, 1976, 1989; Habermas, 1984; Wittgenstein, 1953). These different emphases are not mutually exclusive, but interconnected.
In the following subsections, I discuss the multiple views of dialogic rationality put forward by Habermas (1984), Gadamer (2004), and Haraway (1988), focusing on elements that are directly related to the development of the classroom interventions in this dissertation study.  

**Habermas’s communicative rationality.** Habermas (1984) provides a view of rationality that is dialogic but not context-independent:

This concept of *communicative rationality* carries with it connotations based ultimately on the central experience of the unconstrained, unifying consensus-bringing force of argumentative speech, in which different participants overcome their merely subjective views and, owing to the mutuality of rationally motivated conviction, assure themselves of both the unity of the objective world and the intersubjectivity of their lifeworld. (1984, p. 10)

This explanation emphasizes argumentative speech acts as a force that brings consensus. Finding consensus is an important part of Habermas’s (1984) view of rationality within the context of a democratic society. His definition of communicative rationality provides a basis for distinguishing between subjective-centered rationality and intersubjective-centered rationality. Habermas problematizes subjective-centered rationality based on noncommunicative knowledge. He views knowledge (and logic) as emerging in human discussion, which he calls “intersubjective-centered rationality.”

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5 I discuss how the study employed their views and theories in detail in the sections entitled “Developing a Conjecture and Intervention” at the beginning of Chapters 4, 5, and 6.
From Habermas’s perspective, decontextualized and abstract logic that exists outside of human interactions is a non sequitur. Thus, in his view, a person who overcomes his own subjective-centered rationality and achieves intersubjective-centered rationality can be regarded as a rational person.

According to Habermas (1984), it is possible to “judge the rationality of a speaking and acting subject by how he behaves as a participant in argumentation” (p. 18). In particular, he emphasizes that the attributes of being “open to argument” and having “a consensual manner” can show a person’s rationality or lack thereof. I interpret his view of rationality as suggesting that if a person does not have an attitude of being open to argument and cannot achieve consensus, he or she should not be regarded as a rational person.

Although Habermas (1990) does not believe that knowledge and logic exist apart from people’s interactions, he does believe that there can be universal principles for better argumentation. Habermas claims that there is a “universalization principle” of discourse ethics (pp. 120–121) and explains that discourse ethics “establishes a procedure . . . to guarantee the impartiality of the process of judging” (p. 122). He provides procedural requirements for discourse ethics, the most important of which are “ideal role taking” and power neutrality in discussions (p. 198).

Gadamer’s investigational rationality. Gadamer (1976, 2004) conceives of rationality in a similar but not identical way to Habermas (1984, 1990); though slight, the differences are significant. Like Habermas, Gadamer emphasizes the need for openness as a fundamental condition for dialogue that constitutes argumentation. He also
emphasizes the importance of intersubjective understanding. Because of their emphasis on situation-based logic constructed between interlocutors, both Habermas’s and Gadamer’s views of rationality are often referred to as “dialogic rationality” (Healy, 2005). However, in contrast to Habermas, Gadamer (1976) seems more aware that consensus might not always be possible or even desirable. Gadamer argues that because of historically induced differences between interlocutors, disagreements can remain unresolved and unresolvable.

Gadamer (2004) pays attention to the historical aspect of human experience: “Long before we understand ourselves through the process of self-examination, we understand ourselves in a self-evident way in the family, society, and state in which we live” (p. 278). By emphasizing that humans are part of a society before they even realize it, he argues that human thought cannot be free from socially constructed ideas, which he calls prejudice or tradition.

Gadamer (2004) argues not only for acknowledging “historical consciousness” but also for considering its possible positive effect and its “hermeneutic productivity” (p. 284). As an example of hermeneutic productivity, Gadamer distinguishes productive prejudices, which work positively for understanding, and negative prejudices, which hinder understanding and even “lead to misunderstandings” (p. 295). For productive prejudices, Gadamer (2004) emphasizes three things: expressing prejudices, interacting with different prejudices, and raising thoughtful questions. As he explains, “It is impossible to make ourselves aware of a prejudice while it is constantly operating unnoticed, but only when it is, so to speak, provoked” (p. 298). In other words, the basic
condition for realizing our prejudice is expressing it. Gadamer further emphasizes the importance of engaging with different perspectives, whether through texts or personal interaction, to raise awareness of the distance and tensions between prejudices. He explains that “our own prejudice is properly brought into play by being put at risk. Only by being given full play is it able to experience the other’s claim to truth and make it possible for him to have full play himself” (p. 298). To create situations in which different prejudices can interact and become productive, he emphasizes “the essence of the question” that acknowledges the different approaches and opens up new possibilities (p. 298).

Gadamer (1976) stresses the benefits of dialogic investigation rather than focusing on an actual endpoint of consensus. I interpret his view of rationality as suggesting that a person who acknowledges historical consciousness and carefully and critically investigates productive and negative prejudices can be regarded as a rational person. The important results of argumentation in Gadamer’s view are an advanced understanding of the issue itself, a modification of individuals’ positions based on an understanding of others’ viewpoints, and the finding of insightful questions to further explore the issue. Gadamer acknowledges that people can finish a discussion without coming to a consensus, but with an advanced understanding, transformative insights, and/or modified positions. As a result, Gadamer’s view of rationality is also referred to as “investigational rationality” (Healy, 2005).

**Haraway’s positioned rationality.** Haraway (1988) provides different insights into how rationality can be defined. The purpose of Haraway’s scholarship is to raise
questions about objectivity and argue for situated knowledge in the context of her field of feminism. In this section, I discuss her view of situated knowledge and relevant positioned rationality.

Haraway (1988) argues for a view of rational knowledge that rejects both objectivity and relativism. She takes the position that “rational knowledge does not pretend to disengagement: to be from everywhere and so nowhere, to be free from interpretation, from being represented, to be fully self-contained or fully formalizable” (p. 590). Emphasizing the importance of acknowledging that rational knowledge is partial and locational (or situational), Haraway argues that “[s]ituated knowledges are about communities, not about isolated individuals” (p. 590). She explains that although the boundaries among fields or communities are vague and complex, rational knowledge is socially constructed within groups of people.

Positioning, which is a key term for Haraway’s (1988) view of rationality, can be understood in terms of two general levels. The first level is the positioning of knowledge within a field. She argues that “[k]nowledge from the point of view of the unmarked is truly fantastic, distorted, and irrational” (p. 587). Haraway emphasizes that “[p]ositioning is…the key practice in grounding knowledge. …Otherwise, rationality is simply impossible, an optical illusion projected from nowhere comprehensively” (p. 587). Her

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6 Haraway (1988) does not define her use of the terms field or community. As examples of fields, she mentions different academic fields such as natural, social, and human sciences. As examples of communities, she includes gender, race, nationality, and family. In this paper, I use the terms interchangeably. They include socially constructed boundaries that are not mutually exclusive, such as race, gender, nationality, institution, academic discipline, and so on.
point seems to be that in order to be regarded as rational, knowledge should be positioned and marked in a specific context.

The second level is a “commitment to mobile positioning” (Haraway, 1988, p. 585), which refers to the changing of positioning in order to reconsider an issue, knowledge, a claim, a premise, and so forth. Haraway argues that positioning is not “exempt from critical examination, decoding, deconstruction…and hermeneutic modes of critical inquiry” (p. 584). Rational knowledge should not be fixed but open to re-positioning. In regard to mobile positioning, Haraway (1988) discusses “passionate detachment,” which refers to a detachment from a previous position in order to reconsider knowledge (an issue, a claim, a premise, etc.) from a new position.

Based on mobile positioning, Haraway (1988) argues for the importance of “the possibility of webs of connections” (p. 584) and “webs of differential positioning” (p. 590). A person should be open to new situated knowledge and needs to develop webbed connections based on different situated knowledge, which may be contested. For “the ground of the rational,” Haraway further discusses “[a] splitting of senses, a confusion of voice and sight, rather than clear and distinct ideas” (p. 590). While having a clear voice is often emphasized as necessary in order to develop a rational argument (see Toulmin, 1958/2003), Haraway (1988) emphasizes the importance of experiencing (or enduring) a confusion of voices, interacting with partial views, and developing webbed connections between different views.

What does it mean to change our views of what can be considered rational? It would affect how we evaluate people, how we conduct research, and how we teach
students. The next chapter focuses on the field of literacy education, looking at how views of rationality have been related to how research and teaching are conducted and how groups of people have been evaluated. In Chapters 4, 5, and 6, which discuss the first, second, and third interventions respectively, I will provide more specific discussions about how different views of dialogic rationality were used in the development of our specific interventions.

**Limitations of the Study**

There are four main limitations of this study:

1. This study has low external validity, which refers to how generalizable the results of the study are to other contexts. The study was conducted in two high school classrooms that cannot be regarded as representative samples. Reinking and Bradley (2008) recommend replication of interventions in multiple contexts to generate pedagogical principles, but our study was conducted in a more limited context. Hence, to be generalizable and gain external validity, the results of this study would need to be examined in different instructional contexts.

2. This study has low internal validity in that we intentionally did not control any variables in the research sites and did not avoid confounding factors. The methodology of formative and design experiments is based on the assumption that careful control of variables in classrooms is not ideal or even possible. Because a study of actual classroom practices is not able to control all variables, all aspects of the classroom should be treated as potentially important variables. We believe
that this decision of not controlling variables and the process of considering the multiple variables increased the ecological validity of this study.

3. This study had low fidelity to the originally designed methodological framework and intervention procedures. By interacting with the emerging issues and needs at the research sites, our research team actively revised our methodological framework and specific intervention procedures.

In particular, the iterative cycles used to develop design principles are strongly emphasized in formative and design experiments (Cobb et al., 2003; Reinking & Bradley, 2008). One of the limitations of this research is that we could not repeat iterative cycles in order to develop our theoretical constructs, especially in the first and third quarters. This happened because I faced strong resistance from the teachers to keeping the iterative cycles with the same focus and practices. For instance, when our research team discussed how to develop interventions in the second quarter, I wanted to further explore dialogic warrant issues by keeping the iterative cycle that we developed in the first quarter with small modifications based on our findings. However, the teachers wanted to focus on evidence because of their curriculum plan, their students’ needs, and their ideas about the reciprocal effects of developing warrants and developing evidence. Having limited iterative cycles could be regarded as a methodological limitation.

By the same token, however, the ongoing revisions of the study’s framework and procedures were based on the teachers’ input and the classroom curriculum. A frequently pointed out limitation of formative and design
experiments has been “[i]nsufficient practitioner input despite researchers’ efforts to involve practitioners” (Leeman & Wardekker, 2011, quoted in McKenney & Reeves, 2013, p. 98). The active interaction between the researcher (myself) and the teachers in developing and conducting the interventions could be regarded as a strong point of this study.

4. This study did not utilize comparable writing tasks or consistent measurement criteria to determine students’ improvement in their development of argumentative writing. At the beginning of the study, our research team made an attempt to develop consistent criteria for evaluating students’ argumentative writing regardless of our interventions. However, our conceptualization of sophisticated argumentative writing was challenged, extended, and revised based on students’ argumentative writings.

For conducting retrospective analysis, Cobb et al. (2003) point out that figuring out how to systematically analyze extensive data sets can be a central challenge. In order to make trustworthy claims, they emphasize that the criteria for evaluating outcomes and evidence to support claims should be explicit. Explicit criteria allow other researchers to “understand, monitor, and critique the analysis” (p. 13). We decided that rather than developing consistent criteria for evaluating students’ sophisticated argumentative writing across all of our interventions, we would aim for explicitly explaining how our conceptualization was extended and revised and as a result, how we evaluated students’ argumentative writings in each quarter. In other words, I put my efforts into
consequential validity, which is established through clear articulation of how the intervention might bring results in achieving the pedagogical goal (Messick, 1992).

**Definitions of Key Terms**

**Argumentation**

Andrews (2010) provides a working definition of argumentation as follows: “a logical or quasi-logical sequence of ideas that is supported by evidence” (p. 3). Andrews conceptualizes argumentation as “not a genre in itself, nor a mode of communication. It is rather the result of a disposition toward the rational, toward exploring the nature of difference and indeed, creating difference” (Kress, 1989, quoted in Andrews, 2010, p. 11). Adapting this definition and explanation, this dissertation’s working definition of argumentation is a process of establishing a claim about a controversial issue with a logical sequence(s) that is supported by evidence.

**Argument**

The study’s distinction between argumentation and argument aligns with that of Andrews (2010): While “argumentation is seen as part of argument and…the process of arguing,” argument is an overarching, more general, everyday term that refers largely to the products or manifestations of argumentation, like debates, essays, position papers, research papers, and dissertations. It is also used to embrace a wider range of forms in spoken, written, and other (e.g., visual, spatial) modes. (p. 2)
As I frame this study based on the social constructionist perspective and literacy practice approach, my underlying assumption is that argument is “a set of social practices that vary across and within social institutions and social settings” (Barton, 2007; Street, 1995, quoted in Newell et al., 2011, p. 288).

**Argumentative Writing**

In this study, argumentative writing generally refers to a written product of argumentation as one dominant mode of argument in instructional contexts. However, the study conceptualizes argumentative writing as both a product and a process, with the emphasis changing depending on our focus. We conceptualize it as a product when we focus on the temporary process. At the same time, in the research context of the classroom’s instructional purpose, we conceptualize it as a process in terms of the long-term goal of improving the students’ argumentation and argumentative writing. Thus, in this study, argumentative writing refers to a written product of argumentation and a process of improving the long-term goal of argumentation in the instructional context.

**Rationality**

In this study, rationality is an overarching term that refers to the quality of being rational. As I have argued, what is regarded as being rational varies greatly in different contexts and for different scholars. It can be differently conceptualized based on ways of thinking, knowing, acting, decision making, feeling, and so on. Rationality can be explicit or implicit. A view of rationality can be explicitly discussed or implicitly revealed in a person’s multiple modes of expressions including writing. In this study, we were mainly
interested in the underlying view of rationality that is revealed in classroom practices and
students’ oral and written argumentation and argumentative writing

Dialogic

In this study, drawing on Bakhtin’s (1981) use of the term, dialogic refers to the
interaction between two or more voices with the underlying assumption that these
heterogeneous voices might be developed from different world views and/or different
ways of developing logic. In other words, dialogic interaction is based on the
acknowledgement of the possible multiplicity of truth, consciousness, voice, perspective,
worldview, and logic in relation to a range of contexts.

Dialogic Argumentation

Again drawing on Bakhtin (1981), dialogic argumentation can be understood on
multiple levels. The first level is explicit argumentation between two or more
interlocutors such as a face-to-face verbal interaction. The second level is explicit
interaction between two or more voices in verbal or written argumentation such as
dealing with claims and counter-claims in argumentative writing. The third level is based
on the nature of multivoicedness in our minds: Our utterances are influenced by all the
voices that we have heard in our lives (see Bakhtin, 1981, 1984; Voloshinov, 1986;
Wertsch, 1993). In this study, dialogic argumentation includes the first and second levels
and excludes the third level. Although we acknowledge that the nature of thinking and
utterance is dialogic, if we include the third level, all argumentation could be regarded as
dialogic. In order to emphasize the interactions between two or more voices in
argumentation, our definition of dialogic argumentation is based on the explicit existence of interactions between two or more voices.

Thus, in this study, dialogic argumentation refers to argumentation that reveals the interaction between two or more voices. Dialogic argumentation can be demonstrated in oral interaction between two or more voices from different arguers, or in oral and/or written interaction between two or more voices from a single arguer.

**Theory**

When we discuss theory, we often talk about abstract, context-independent principles. However, in this study, theory refers not only to this abstract level of principles but also to what have been call “humble theories” (Cobb et al., 2003), which are developed in a specific context by considering multiple, complex contextual factors and which result from examining abstract theories in a real situation.
Chapter 2: Review of Related Literature

In this section, I review scholarship on rationality related to literacy education and the teaching and learning of argumentative writing. This review is divided into two sections. The first is “Issues Related to Rationality in the Field of Literacy Education.” The second is “Diverse Views on Rationality in the Teaching and Learning of Argumentation.”

Issues Related to Rationality in the Field of Literacy Education

In this section, I explore issues related to rationality in the field of literacy education and the role language use plays in judgments of rationality. In particular, I discuss how cultural and linguistic differences shape the evaluations of what/who is logical/rational and what/who is not. This is an important issue for literacy researchers because their own underlying views of rationality affect their conceptualization and examination of groups of people. This is also an important point for educators and teachers because they need to be aware of these issues in order to provide useful feedback and evaluation for students. I then discuss some possible negative influences of a monologic view of rationality on non-mainstream students’ learning opportunities and the need for more dialogic approaches to rationality in literacy education.
The Connection between Writing and Logical Thinking

Scholars in literacy education have pointed out that there is a connection between literacy and logical thinking. Many have argued that literacy encourages logical thinking. The term “literacy” in this sense refers to written discourse. Olson (1977), Goody and Watt (1963), and Greenfield (1972) distinguish between oral discourse and literacy (written discourse) and argue that an important consequence of literacy is that it facilitates abstract context-independent thought. Their view of logic and rationality is closely related to abstraction and detachment from contexts.

I should note that my use of the term “context” in this research is multilayered, and thus different from that in much of the research on literacy education such as that of Olson (1977), Goody and Watt (1963), and Greenfield (1972). For them, “context” is single-layered, usually a specific event in which a conversation physically takes place. Thus, it involves nonlinguistic cues to meaning in a communicative exchange, which can include hand gestures, facial expressions, and the physical surroundings. In contrast, when this study uses the term “context” in its heuristic division between context-independent rationality and context-dependent rationality, the concept includes not only the physical setting of an event, but also the larger cultural context.

Despite differences in our use of “context,” when these researchers refer to “abstractness,” they invoke an idea similar to what I call “context-independence.” Greenfield (1972) argues that abstractness refers to higher logic. She defines abstraction as “the mental separation of an element from the situation or context in which it is embedded” (p. 170). Greenfield explains that oral discourse and written discourse involve
“differing patterns of language use” and a “different course of cognitive development” (p. 169). She shares her hypothesis about the relationship between context-dependent speech and context-dependent thought: Context-dependent speech is tied up with context-dependent thought, which in turn is the opposite of abstract thought” (p. 169). She positions abstract thought as the opposite of context-dependent thought and concludes that “context-dependent forms of speech and thought are more primitive or basic than context-free ones” (p. 176). Thus, Greenfield positions higher logic as the opposite of context-dependent thought.

Goody and Watt (1963) also make a case in support of a context-independent view of rationality, which they connect to the writing process. They argue for “a more direct causal connection between writing and logic” (p. 330). Relating this to the history of the Greeks, they explain that in oral cultures, words such as “God,” “Justice,” “Soul,” and “Good” were difficult to conceive as separate “both from the rest of the sentence and its social context” (p. 330). However, due to the development of writing, Greek thought was concerned with attempting “to relate these meanings to some ultimate principle of rational order in the universe, to the logos” (p. 330). Goody and Watt thus seem to claim that, through writing, words become inherently autonomous and universal, a position that would necessarily inform their view of rationality. I categorize their view as context-independent rule-governed analytical rationality, which looks for objective, general principles.

In general, the research related to rationality in the field of literacy education seems to assume that context-independent thought and discourse are important criteria for
logical thinking. Researchers might question what the elements of logical thinking are or whether all writing needs to be logical. But they do not consider whether there can be different kinds of logic or rationality beneath the surface of abstraction (or besides or beyond the abstraction).

**Logical Versus Illogical Writing**

Some scholars discuss what constitutes a rational piece of writing and what does not. Olson (1977, P. 273), for example, argues for “a purely formal logical basis” as a goal for a written text. Olson (p. 273) also cites Henle’s (1962) assertion that “in reasoning tasks, subjects often have difficulty in distinguishing between a conclusion that is logically true, one that is factually true, and one with which they agree.” According to Olson, Henle explains that in the case of the factually true, the conclusion can follow from unstated knowledge in the text. In the case of an agreed upon conclusion, the conclusion can follow from unstated personal knowledge in the text. Olson regards these as illogical arguments. He takes the position that purely formal logic means “the conclusion logically follows from the text—the meaning is restricted to that explicitly represented or conventionalized in the text and to the implications that necessarily follow” (pp. 273–274). Traditional approaches to logic emphasize autonomous, unambiguous, and completed meaning rather than factual truths or people’s agreement. This is notably different from Habermas’s (1984) view of rationality, which emphasizes intersubjective agreement between people as an essential element. Based on Olson’s argument, we can infer that his view of a rational piece of writing is one that has an
autonomous, unambiguous, and completed meaning. Again, there is an assumption of logic based on a context-independent view of rationality.

**Cultural and Linguistic Bias in Evaluations of Rationality**

In this section, I explore how cultural and linguistic bias have influenced the evaluation of the rational thinking of some groups of people based on Street’s (1984) discussions of the “rationality debate” in literacy education, and focusing on the work of Greenfield (1972), Evans-Pritchard (1937), Polanyi (1965), and Horton (1967).

Greenfield is one of the scholars criticized by Street (1984). Greenfield (1972) conducted an experiment in which unschooled Wolof children were “asked to put together…pictures or objects in an array that were most alike” (p. 173). Based on the results, she evaluated the cognitive ability of the children at a low level and associated it with egocentrism and a lack of self-consciousness. Her evidence is that the unschooled Wolof children quite easily answered the question “why *are* these alike?” and often could not answer the question “why do you say (or think) that these are alike?” (p. 173; italics in original). According to Greenfield, her data show the children’s lack of “the concept of a personal point of view” because they could not distinguish between their own thought about a thing and a statement about the thing itself (p. 173).

Greenfield (1972) also argues that the ability to shift perspectives is another important criterion for high level logic-based cognitive thinking. She reports that the children were not able to categorize the given objects from more than one point of view. The children could categorize objects in terms of color or form, for example, but not both. Greenfield concludes that the Wolof children she studied showed that “the
relativistic notion of multiple points of view was also absent to a greater degree than in Western culture” (p. 173).

As counter-evidence to these kinds of studies, which argue for negative judgments of the cognitive abilities of groups of people, Street (1984) discusses the work of scholars who have highlighted the logic of preliterate cultures. For example, Street references work by the anthropologist Evans-Pritchard (1937) and studies by Polanyi (1965) and Horton (1967) to show how the distinction between logical/pre-logical has often been related to cultural familiarity. In particular, Evans-Pritchard shows how a group of people were mistakenly regarded as irrational because their cultural context was unfamiliar to researchers. Evans-Pritchard lived with and studied the Azande of Central Africa, a society that had been regarded as intellectually simple and illogical. Evans-Pritchard (1937) argues that their fundamental processes of thought on witchcraft were the same as the processes that people educated in European contexts normally considered scientific thought.

Polanyi (1965) further enlarges this insight by arguing that the Azande’s processes of thought and mechanisms for making propositions, testing hypotheses empirically, and establishing proof to explain the nature of witchcraft are the same as those used in scientific practice among so-called developed societies. The main difference between the two is the content of thought—matters of physics or witchcraft—and this difference can prevent observers from cultures that reject the existence of witchcraft from perceiving the similarities. Horton (1967) also argues that it is ethnocentric to dismiss peoples such as the Azande as irrational and unscientific. He
breaks down the elements of their thought process and shows the similarities between scientific thinking and the thinking of so-called “primitive” people such as the Azande. These studies show that, even where fundamental processes of thought and the elements of thought are similar, researchers have often dismissed the similarities in cases where significant cultural differences exist.

The nature of this criticism suggests that findings in the field of literacy education, and in particular findings dealing with issues related to rationality, should be sensitive to the cultural and social context of the groups that are being studied. Much of the literature in the field of literacy that touches upon issues of rationality is focused on how views of rationality can be influenced by linguistic and cultural factors. Although the role of context in this case is primary, it does not relate directly to diverse views of rationality. Rather, there is still an assumption of a context-independent rationality that may be misjudged if it is expressed by someone who is the target of cultural or linguistic bias. This same point could easily be extended to a call for a more open attitude towards what constitutes rationality and the role context plays in its definition.

**Evaluation of Rationality and Students’ Learning Opportunities**

Labov (1973) asserts that dialectal differences in the degree of explicitness influence judgments of rationality. When he examined African American youths who failed a repetition test, he found that they did not repeat the teacher’s utterance in the same form. Although the repetitions were not explicitly the same, the meanings were the same. However, this failure to repeat the explicit form and the use of a non-standard dialect were interpreted as a lack of logical expression rather than the use of an
alternative form of logical linguistic expression with an underlying logical thought process. Labov argues that tests such as the repetition test do not measure logic but do reveal something about the socially constructed conventions and assumptions of the researchers and teachers.

Labov’s (1973) research demonstrates that even when students or subjects express themselves in a discernibly logical manner, researchers or teachers may misunderstand their expressions as illogical and cognitively lacking because of linguistic differences. People’s familiarity and often subconscious underlying assumptions can affect what they regard as logical and rational. In other words, the cultural and linguistic differences of non-dominant groups can easily be regarded as illogical and irrational.

Although little research deals explicitly with views of rationality in classrooms, some studies show possible connections between the evaluation of rationality and students’ learning opportunities. With regard to the failure of children from non-mainstream communities, Heath (1982) points to different literacy practices (and different underlying cultural ideologies) between their homes and schools. A poor school evaluation can affect students’ identity issues, which can in turn influence students’ learning opportunities and engagement (Lea & Street, 1999). Heath’s research suggests the possibility that a limited view of rationality, such as a context-independent, rule-governed analytical rationality, may preclude learning opportunities for some groups of students due to low evaluations of their ways of thinking or ways of expressing themselves, which might be based on different views of rationality.
In view of Heath’s (1982) points, taking into account students’ diverse backgrounds and relevant ideologies and practices might be a more appropriate choice for broadening students’ learning opportunities and engagement. We need to think carefully about where we position context-independent analytical rationality to the extent that we are concerned with the developmental aspect of literacy education. Heath proposes that we need to conduct more detailed research that reveals how cultural differences operate in educational systems.

Within literacy instruction, teachers might fall into the trap of evaluating the logic of thought processes based on linguistic and cultural biases that conform to the biases of dominant groups in western societies, as some researchers have. If they do, they may regard some students as illogical and irrational, which is why we need a carefully theorized approach to logic and rationality. For this reason, among others, researchers in literacy education must carefully explore how different views of rationality are expressed, evaluated, and/or constructed within the process of literacy acquisition by a variety of people. It is vital to carefully consider the influences of students’ specific backgrounds and familiar practices that may impact rationality issues.

Diverse Views on Rationality in the Teaching and Learning of Argumentation

In this section, I discuss a popular model, Toulmin’s (1958/2003) model, which is used and misused in the teaching and learning of argumentative writing. After that, I discuss a dominant approach to teaching argumentation, which combines argument schemata and a dialogic teaching method, developed by Reznitskaya and Anderson (2002), Reznitskaya, Anderson, and Kou (2007), and Reznitskaya et al. (2012).
teaching approach is presented as an antidote to the formulaic teaching of argumentative writing, which occurs when the Toulmin model is misused. The questions raised are whether teaching argumentation in terms of completely context-invariant features is appropriate and sufficient, and whether we can solve the problem of students’ reliance on formulaic approaches to argumentation through teaching methodologies. I suggest that we may need to deal with the content of argumentation education in terms of context-independent aspects and context-dependent aspects.

Next, I consider the few studies that deal with the application of diverse views of rationality, in particular context-dependent views of rationality, to the teaching and learning of argumentation. I then end this section with a discussion of research on evidence-based argumentation in the teaching and learning of other subjects and its relevance to the argumentative writing classroom.

The Underlying View of Dialogic Rationality in Toulmin’s (1958/2003) Model

Toulmin’s (1958/2003) model of argumentation is one that is widely employed in high school textbooks (Clauss, 1999; Fulkerson, 1996; Lunsford, 2002; Yeh, 1998). Before discussing how this model is presented in classrooms, I review Toulmin’s view of rationality and the basics of what is known as the “Toulmin model of argument” (Toulmin, 1958/2003, p. 89).

Toulmin’s (1958/2003) major contribution to argumentation is his proposal of a set of elements that make up the building blocks of an argument. He justifies his elements by critiquing “the over-simplified categories of formal logic” (p. 136). Toulmin questions whether the traditional analysis of the micro-structures of arguments since Aristotle, with
its overly simplistic procedure consisting of “three propositions at a time, ‘minor premise; major premise; so conclusion’” (p. 89), can actually serve as a fully elaborated model for argumentation. Toulmin criticizes formal logic for its limited practical application in academic fields and its limited elements, which do not appropriately explain important features of argumentation. For a proper understanding of logic and for rational assessment of argument, he claims we need to ask: “[W]hat things about the form and merits of our argument are field-invariant and what things about them are field-dependent?” (pp. 14–15). He focuses on the field-invariant features of argument to develop a practical layout of argument, which “consists of a network of elements that include more than a claim and its premises” (Williams & Colomb, 2001, p. 31) based on practical examples of argumentation. He provides six interrelated elements: claim, data, warrant, qualifier, rebuttal, and backing.7

Toulmin (1958/2003) acknowledges the differences in logic between arguments in different academic fields.8 He argues that canons of logical validity are not based on universal rules but on conventional agreements shared by members of an argument field. With regard to the rational process, Toulmin acknowledges how “widely different the fields of the arguments, the sorts of evidence relevant, and the weight of the evidence may be” (p. 16). Although he considers that there are field-invariant elements commonly shared in patterns and procedures of argument, he also argues that what might be regarded as rational within the common elements can be different. He explicitly claims

7 For specific explanations about each element and their functions, see pp. 386-388.
8 Toulmin (1958/2003) does not provide a specific definition of his use of the term “field.” Based on his examples, we can infer that he mainly uses it to refer to different disciplines such as law, art, business, social science, natural science, etc.
that what is regarded as logic is changeable depending on shifting times, actual applications, and different academic disciplines. Thus, he reveals his view of rationality as ongoing and changeable. Hence, Toulmin’s position is that formal logic is not a universal, absolute truth, and his underlying view of rationality is a context-dependent, dialogic one.

The Use of Toulmin’s (1958/2003) Model of Argumentation in Argumentative Writing Classrooms

Toulmin’s (1958/2003) model of argumentation has been adopted in many argumentative writing classrooms as an antidote to a perceived emphasis on the five-paragraph essay (Hillocks, 2005, 2010; Lunsford & Ruszkiewicz, 2004). During a larger project on argumentative writing in Central Ohio high schools in which I took part, we observed that the use of Toulmin’s model of argumentation was fairly prevalent (Newell et al., 2009). It was common practice for many teachers to base their argumentative writing curriculum on some or all of the Toulmin components of claim, data, warrant, qualifier, rebuttal, and backing (Toulmin, 1958/2003; Toulmin, Rieke, & Janik, 1984).

How the model and the components are taught, approached, and emphasized is different across classrooms. Lunsford’s (2002) research shows how classrooms construct different meanings for the elements. The observations of our previous study (Newell et al., 2009) also show that each classroom constructed the meaning of each element in a different way. However, one of the common patterns was that many classrooms dealt with the elements devoid of their dialogic, contextual aspects.
As Lunsford (2002) points out, researchers and educators often adopt a Toulminian model for evaluating arguments as a set of strict criteria. Many scholars employ Toulmin’s model for evaluating students’ written argumentative writing by measuring the quantity and quality of their use of Toulminian elements (e.g., Connor, 1987, 1990; Connor & Lauer, 1998; Ferris, 1994; Knudson, 1992a, 1992b; McCann, 1989). One concern is that when these components are stripped of context and taught as *a priori* elements to reproduce, it is not atypical for argumentative writing to become a formulaic structure for students to implement.

In keeping with the theme of rationality, a key question is, based on this approach to the teaching of argumentative writing, what kind of person can be regarded as rational? In many classrooms, the basic model for argumentation is taught as if the answer to the question is as follows: A rational person is one who uses formal logic in which the data are closely connected to the claim by warrants, and in which this relationship of data, warrants, and claims does not vary by the context, the person who creates the argument, the time at which it is created, or other situational aspects. However, a rational person might be differently defined under other definitions of rationality (see Wynhoff-Olsen, Ryu, & Bloome, 2013). For instance, in a Foucauldian approach, a rational person is one who is aware of power issues in a specific context and critically considers them in argumentation (Foucault, 1984). In Gilligan’s (1982) or Noddings’s (2005) views of rationality, a rational person is one who carefully considers caring issues in a given human relationship context.
Research on Argument Schemata and Dialogic Teaching Methods

In their research, Reznitskaya and Anderson (2002), Reznitskaya, Anderson, and Kou (2007), and Reznitskaya et al. (2012) approach argumentation based on “argument schemata,” which are constituted of “field-invariant features of an argument” (Reznitskaya et al., 2012, p. 289). Their goal is to overcome the formulaic way of approaching argumentation by employing a dialogic teaching method that emphasizes collaborative inquiry and discussion between participants, and “a contextualized approach to instruction” (p. 288) that emphasizes tasks and issues closely related to students’ lives. In other words, they try to solve the problem of how to conceptualize argumentation by focusing on “how to teach” (the dialogic teaching method and authentic tasks) rather than “what to teach.”

In this section, I discuss the conceptualization of argumentation and the underlying view of rationality in this approach. I then discuss the main contribution and possible limitations of this line of research. After that, I raise questions regarding the studies and suggest the need for more careful consideration of contextual factors.

The ways in which Reznitskaya, Anderson, and their colleagues (Reznitskaya & Anderson, 2002; Reznitskaya et al., 2007; Reznitskaya et al., 2012) measure students’ argumentation skills, such as the rubric for evaluating students’ writing reproduced in Figure 2.1, reveal their conceptualization of argumentation and underlying view of rationality.
As this holistic scoring rubric shows, the evaluation is based on whether the writing includes specific elements such as taking a position, having supporting reasons and evidence, including opposing viewpoints, and having rebuttals. They also include the use of logical structures, which seem to be based on coherence structures, such as elements expressing the relationship between taking a position and supporting evidence.

The view of rational argument in Reznitskaya et al. (2012), which emphasizes abstract elements, could be described as context-independent, rule-governed analytical rationality. They claim that participating in a dialogic discussion contributes to the development of students’ rational processing, which they explain as “taking a public position, supporting it with reasons, challenging other discussion participants, and responding to counterarguments with rebuttals” (p. 290).

Their main contribution to the teaching and learning of argumentation is their connection between argument schemata and the dialogic teaching method, which is
characterized by open discussion between teachers and students in which power is shared between them. Reznitskaya et al. (2012) try to preclude formulaic instruction of argumentation through changing discourse patterns from monologic discourse patterns by teachers to collaborative discourse patterns between teachers and students. By developing collaborative reasoning and inquiry within classroom discussions, this method allows students to develop their argument schemata, understand their position, and find appropriate evidence.

Reznitskaya et al. (2012) develop their ideas for fostering argumentation based on dialogic interaction, which was discussed by Bakhtin (1981) and Vygotsky (1981). They adopt Bakhtin’s distinction between monologic teaching, which refers to the situation in which “someone who knows and possesses the truth instructs someone who is ignorant of it and in error” (Bakhtin, 1984, p. 81) and dialogic teaching, which refers to the situation in which “truth…is born between people collectively searching for truth, in the process of their dialogic interaction” (p. 110). In other words, the key distinction between the two teaching methods is the participants’ view of truth. If we think that there is “a ready-made truth” (p. 110) and position the teacher as a person who possesses that ready-made truth, real dialogic interaction is impossible. The teachers and students as participants in the interaction are encouraged to become explorers who collectively search for truth through argumentation. The power of dialogic teaching, which comes from real discussion with no absolute truth imposed on it, can be reduced if it is coupled with the concept of “argument schemata” as universal rules or “ready-made truth.”
Reznitskaya et al. (2012) espouse “a contextualized approach to instruction” (p. 288). They explain that, in this approach, the given tasks are related to problem solving about issues that are realistic and closely related to student’s lives. By considering situations found in novels, they provide specific situations for students to consider. They disagree with decontextualized pedagogies that impart knowledge to students. Thus, they avoid context in their concept of argumentation (and by implication in their underlying rationality), while espousing context in their method of teaching argumentation.

Reznitskaya et al. (2012) examine the transfer effects from dialogic discussions to improvement in students’ individual written argumentation using a quasi-experimental research design. They assigned 12 fifth-grade classrooms to two conditions: either regular instruction or a treatment instruction with the dialogic method of teaching argumentation schemata. They found that their treatment group students showed more elaborated reasoning during group argumentation, but their individual reasoning (performance) in individual writing was similar to that of the control group students.

They provide multiple possible explanations for this finding. One possibility Reznitskaya et al. (2012) suggest is that opportunities for receiving explicit instruction about abstract principles of argumentation were limited. They also consider the possibility that the dialogic discussion was an “overly contextualized” learning situation. They conclude that “emersion in interaction-rich contexts” may overwhelm students and preclude them from learning “essential principals of argumentation” (p. 301) and building an argument schema. As they suggest: “One way to address the problems with overly contextualized setting is to explicitly teach relevant abstractions to students” (p. 301).
There is another possible explanation for their results, as noted previously. The content taught to the students was context-invariant features of argumentation. In contrast, a contextualized situation was provided for students’ discussion in order to allow for authentic engagement. Students may develop more sophisticated reasoning based on dialogic, contextual factors such as considering a specific situation of a specific character in a novel in interaction with their peers, who may interpret the situation and character in different ways. If Reznitskaya et al. (2012) take their own suggestion and “explicitly teach relevant abstractions to students,” the relevant abstractions can be regarded as “ready-made truth,” as described by Bakhtin (1981). This clearly contradicts what they develop as a theoretical frame of dialogic teaching.

Reznitskaya et al.’s (2012) findings suggest that students might have difficulties in switching from engaging in dialogic interactions to producing argumentative writing where they need to deal with multiple voices by themselves. The research results raise a question about how educators can help students deal with multiple voices that arise in contextualized assignments and/or dialogic interaction with interlocutors. If educators want to provide more authentic assignments and real argument situations, this issue is vital. It raises another question about whether dealing with only context-invariant features of argumentation is adequate for students’ schemata and/or meta-awareness of argumentation. Another question is at what point in the learning process we need to deal with dialogic factors.

This review raises some important questions we need to carefully consider about our conceptualization of argumentation and how to deal with dialogic factors.
Reznitskaya et al. (2012) show that dialogic verbal interaction can improve students’ level of argumentation in oral discussion. A less rigid approach to argumentation based on an openness towards alternative dialogic views of rationality might help students understand more fully what argumentation is and lead to critical and creative arguments.

**Research on Reconstructing Rationality in the Teaching and Learning of Argumentation**

Research into the role of diverse views of rationality in the argumentative writing classroom is still young, but it shows promise. Emerging from the larger argumentative writing project mentioned above, which was conducted in 31 high school language arts classrooms in Central Ohio middle and high schools, a series of studies (Bloome, Ryu, & Wynhoff-Olsen, 2014; Kim, 2016; Newell et al., 2015; Ryu, 2013; Ryu, Wynhoff-Olsen, & Bloome, 2014; Wynhoff-Olsen, Ryu, & Bloome, 2013) have started exploring rationality issues in the teaching and learning of argumentation. This research project has focused its attention on what is actually happening in argumentative writing classrooms that might influence students’ views on the nature of rationality and how it applies to the argumentative writing process.

By building our perspective on social constructionist views of teaching and learning and using microethnographic discourse analysis (Bloome et al., 2005, 2008), my co-researchers and I have explored and provided insights about the complex issues in the teaching and learning of argumentation, including the issue of constructing and reconstructing diverse views of rationality in the argumentative writing classroom.
Wynhoff-Olsen, Ryu, and Bloome (2013) selected two classrooms (one 9th grade and one 12th grade) in which the teachers deliberately worked to supplement previous learning with sophisticated and complex learning. Based on classroom conversations, interview data, and students’ writing, this article explores how the teachers and students expressed, challenged, constructed, and reconstructed underlying views of rationality in the 9th and 12th grade classrooms. The findings show that definitions of rationality evolved from a decontextualized, rule-governed, structure-centric definition to a contextualized definition that requires acknowledgement of tensions, complexities, qualification, and diverse perspectives. It was also found that multiple definitions of rationality, in particular those of Habermas, Foucault, and Gilligan, were expressed, challenged, and constructed in the classroom.

Wynhoff-Olsen et al. (2013) suggest that for students who are being taught how to produce argumentation and argumentative writing, context-independent rationality “may serve as an entry point” (p. 20) as long as it is not taught as constraints or in isolation. The paper argues that Toulmin’s (1958/2003) elements can offer students a first step to learn the discourse of argumentation. However, in order for students to advance in their understanding of argumentation, their view of rationality should be expanded to include diverse and context-dependent views of rationality.

Ryu, Wynhoff-Olsen, and Bloome (2014) further explore interaction in the same 12th grade classroom. The study centers on how the interactional use of language by teachers and students constructs and reconstructs a definition (or definitions) of rationality. The findings suggest that part of the instructional agenda is to construct a
public and shared understanding of argumentation as a way of thinking, an approach to understanding an issue in depth, and the holding of an “open mind” towards others’ views and arguments. In the classroom observed, we could see that a different view of underlying rationality, in particular Habermas’s view of communicative rationality, was being constructed and that this view influenced how students actually engaged in arguments.

Based on these findings, Ryu et al. (2014) go on to suggest a series of grounded theoretical constructs regarding the construction of rationality in and through the teaching and learning of argumentative writing. In particular, we provided theoretical constructs in four areas about how instructional conversations might move students from a decontextualized definition of rationality (and the ways of engaging in argument grounded in a decontextualized definition of rationality), to a contextualized definition aligned with communicative goals: narrativizing doing argument, positioning students as becoming members of a collective that holds a particular set of values and norms for engaging in argumentation, creating public contexts, modeling ways of thinking and encouraging metacognition (thinking about how to think about doing argument). Two of these constructs particularly stood out in the classroom observed: narrativizing doing argument and modeling ways of thinking.

Narrativizing doing argument is seen as a way of contextualizing argumentation and providing an underlying rationality that is context-dependent. The process of narrativization involves providing actors, goals, obstacles to overcome, a heteroglossic setting, and a series of coherent actions. In Ryu et al.’s (2014) study, the teacher asked
students questions such as: “If a warrant is weak, then what happens?” The researchers explain that to ask “what happens” is to request a narrative as response. Students’ responses signaled their adoption of a narrativized perspective and a composition process involving actors consisting of an author and an audience. The paper argues that, in this classroom, the grounds for what makes a good warrant shifted from a decontextualized rule or a textual structure to a narrativized social relationship between an author and an audience. This finding shows one way to develop more context-relevant approaches to the elements for argumentation.

The teacher’s way of modeling students’ thinking and encouraging metacognition is relevant as a way in which students can be guided to better use context-dependent rationality in their argumentation process. The teacher often asked the question “why” in response to their conceptualization of argumentation and their argument process in order to engage students in metacognition. Ryu et al. (2014) saw this practice as a method to facilitate the evolution of the teaching and learning of argumentative writing to incorporate diverse rationalities. When students struggled, the teacher provided a model of how to respond, foregrounding the complexity of different people having different stances and the reality that what would be a sufficient warrant for some would not be a sufficient warrant for others. In brief, the teacher made visible and public a context-dependent rationality by making the connection between agreement with the warrant and contextualized logic. Her conversation moved from a challenge to abstract, decontextualized logic to a consideration of contextualized rationality. Explicitly extending students’ metacognition about argumentation and providing specific modeling
of how to actually express a less abstract kind of argument shows another way to conceptualize argumentation from a more context-relevant perspective.

Ryu et al. (2014) suggest some possible ways to bring contextual factors into an argumentative writing classroom. They believe that teachers can use a context-dependent view of rationality, in particular Habermas’s (1984) view of rationality, to help students consider complex issues and develop more nuanced, sophisticated arguments.

Another way of approaching the idea of introducing context-relevant factors and an underlying context-dependent rationality into instructional models has been demonstrated in the READI (Reading, Evidence, and Argumentation in Disciplinary Instruction) project led by Susan Goldman (Goldman et al., 2012). The project, which started in 2010, recognizes a direct connection between reading (especially reading for understanding) and the ability to engage in evidence-based argument across multiple texts. Although focused not on writing or writing construction but on reading and reading construction, the READI project also addresses the question of whether it is advisable to introduce contextual factors into argumentation at an early stage in the learning process.

Goldman et al.’s (2012) research is especially well attuned to Toulmin’s (1958/2003) view of contextually based field-invariant argumentation in that it emphasizes discipline-based contextual factors. The project emphasizes contextual factors that differ by disciplines, specifically considering the fields of literature, history, and science. The researchers explore how different kinds of evidence or logic can be found in texts from different disciplines and can be taught in different disciplines with 6th to 12th grade students.
The articles discussed in this section suggest some directions for the further study of dialogic, context-driven argumentation. Based on an underlying context-dependent rationality, Ryu et al. (2014) show the usefulness of narrativization, modeling, and so forth as guidance for students in an advanced placement class in high school as a way of supplementing their previously learned context-independent approach to argumentative writing. Goldman et al. (2012) show that field-variant argumentation can be introduced to younger students with much less background in the argumentation process. It may be that introducing context-relevant factors based on academic fields is an effective first step in accustoming students to the idea of variant forms of rationality. It could open their eyes to the idea that, depending on context, what might be regarded as logic or what might be appropriate logic in rational argument can be different. As the students advance, they would presumably become more open to dealing with more complicated contextual factors and more diverse views of rationality.

**Final Comments on the Related Research**

In this section, I discuss issues related to rationality in the field of literacy education. Although I would like to review literature in the field of literacy education that acknowledges multiple views of rationality or the impact of that multiplicity on literacy education, there is a general lack of research on rationality in the field of literacy studies and argumentative writing, let alone scholarship on multiple views of rationality and literacy education. There has been little scholarly discussion or research in the field that deals explicitly with rationality or the possibility of more than one kind of rationality. However, researchers have considered contextual factors that influence judgments of
rationality, and I would like to suggest that the logical next step is to consider the existence of diverse views of rationality and how these might have an impact on literacy education.

With regard to the teaching and learning of argumentation and argumentative writing, multiple views of rationality have begun to be explicitly discussed by scholars, but there are many remaining questions. There is a need for more detailed research that reveals how different views of rationality are expressed, challenged, and constructed in educational systems (Newell et al., 2015; Wynhoff-Olsen et al., 2013). A careful look at the views of rationality thus revealed would allow us to gather evidence that can inform the discussion. Another way to deal with this issue is to explore the affordance of diverse views of rationality for students’ learning and engagement in argumentation and argumentative writing. The latter is the main goal of this research. In particular, by integrating views of dialogic views of rationality, this study explores this affordance in our conceptualization of sophisticated argumentative writing and the teaching and learning of argumentative writing.
Chapter 3: Methodology

The purpose of this study is to address the research question: How might dialogic views of rationality be employed in the teaching of argumentative writing in ways that lead to students’ development of sophisticated argumentative writing? The study does so by investigating how dialogic views of rationality can be integrated into the teaching and learning of argumentative writing in two language arts classrooms and by exploring how those views might influence the eleventh-grade students’ development of sophisticated argumentative writing. I selected a formative and design experiment as the main methodological approach because it is well-matched to the overall aims of this investigation.

I begin with a brief overview of the methodological framework that informed this study’s choice of methodology. In the second section, I describe the process of selecting research sites and participants and provide descriptions of their contexts. In the third section, I describe the research design process, dividing it into two stages: the initial planning and the iterative cycles of designing, conducting, and evaluating each intervention. I also discuss how we modified our original methodological framework in relation to conducting the actual interventions. In the final section, I provide an account of the data sources and collection, and I explain the purposes and processes of data analysis.
Methodological Framework

In this section, I begin by providing my rationale for the selection of a formative and design experiment for my research. I then introduce the major characteristics of this methodology by comparing it with conventional experimental studies and naturalistic methodological approaches.

Rationale for Using a Formative and Design Experiment

For this research, I selected a formative and design experiment because this methodology was developed to investigate the implementation of interventions designed to achieve specific pedagogical goals, in particular, goals that are problematic in some way or that are intended to change pedagogical practices (Reinking & Bradley, 2008). The pedagogical goal of this study is to promote students’ development of sophisticated argumentation, which has proven problematic in actual practice (see Newell et al., 2011).

Formative and design experiments have a strong theoretical orientation. Examining and extending pedagogical theory through interventions is an essential characteristic of formative and design experiments (Brown, 1992; Cobb et al., 2003; Reinking & Bradley, 2008). Brown (1992) emphasizes the reciprocal relationship between an intervention and an explicit theory: Interventions need to be guided by an explicit theory and should reciprocally inform theory. In other words, the major goal of formative and design experiments is to develop the local theories (what Cobb et al., 2003 call “humble theory”) by examining previous theories in a real situation, and by valuing complex contextual variations as providing more useful practical information in actual educational environments.
This study intentionally incorporates theories from dialogic views of rationality into the teaching of argumentative writing and investigates the effects of dialogic factors as important in the teaching and learning of argumentative writing. That is, one aim of this study is to investigate how dialogic views of rationality can be integrated into an argumentative writing classroom and actually incorporated into instruction. The study therefore explores the actual effects of the interventions in the argumentative writing classrooms and on the students’ development of sophisticated argumentative writing. Explicitly incorporating dialogic views of rationality into argumentation classroom contexts, developing specific interventions to see how these theories work or do not work, and allowing humble theories to emerge in their contexts may lead to new theoretical insights into how to conceptualize the teaching and learning of argumentative writing and how to actually teach argumentative writing.

**Major Characteristics of Formative and Design Experiments**

Formative and design experiments have evolved as an alternative methodology\(^9\) to conventional experimental studies and naturalistic methodological approaches. Conventional experiments have low ecological validity as a result of their control of variables that cannot be controlled in real education settings. Naturalistic methodological

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\(^9\) This methodology has been labeled variously as “design experiments” (Brown, 1992; Collins, 1992), “formative experiments” (Newman, 1990, 1992; Reigeluth & Frick, 1999), “design research” (Reeves, 2006; Reeves, Herrington, & Oliver, 2005; Reeves, McKenney, & Herrington, 2011), “design-based research” (Anderson & Shattuck, 2012; Design-Based Research Collective, 2003; Herrington, McKenney, Reeves, & Oliver, 2007), “development research” (van den Akker, 1999), and “developmental research” (McKenney & van den Akker, 2005). I use the term “formative and design experiment” because “design experiment” is used in the methodology’s seminal articulations by Brown (1992) and Collins (1992), and “formative experiment” is frequently used for this methodology in literacy education (Jimenez, 1997; Neuman, 1999; Reinking & Watkins, 2000).
approaches mainly observe what is going on at the selected site rather than contributing to meaningful changes at the site.

Unlike conventional experiments, formative and design experiments do not control variables that influence learning because this methodology is based on the assumption that it “is nearly impossible to subject to careful control” the characteristics of classrooms and schools that are constructed by “a complex array of interacting variables” (Reinking & Bradley, 2008, p. 38). All aspects of the classroom are seen as important variables to be considered for inclusion in the study. In addition, while conventional scientific experiments search for discrete causes based on statistical probabilities, formative and design experiments do not agree that searching for discrete causes is possible and reasonable in complex environments like classrooms. Rather, formative and design experiments seek the possible causes and effects that guide teaching and learning in the classroom by valuing complex contextual variables.

With regard to naturalistic methodological approaches, formative and design experiments share with ethnographic research many underlying assumptions about ecological perspectives and research sites. Like the ethnographic approach, formative and design experiments “seek to situate the researcher in a cultural landscape” and explore questions such as “what is happening? what does it look like? how does it work? and so on” (Purcell-Gates, 2004, p. 95; italics in original).

In addition, formative and design experiments conceptualize study contexts as an ecosystem (Brown, 1992) or as interacting systems (Cobb et al., 2003). Because design experiments acknowledge the uniqueness of each classroom and the differences among
classrooms, all factors that contribute to these uniquenesses and differences should be included as data for the study. This research is based on the underlying assumption that each classroom is a systemic whole, and explores the uniqueness of each classroom and how this affects the teaching of argumentative writing. In other words, the study conceptualizes the classroom as “synergistic” in nature and attempts to consider each factor that forms the classroom’s “systemic whole” (Brown, 1992, p. 141).

Although formative and design experiments share underlying assumptions about research sites with ethnography, there are some significant differences. The main one is their different ontologies (Reinking & Bradley, 2008). In comparison to ethnography, which defines and seeks reality based on current situations, formative and design experiments are based on the assumption that what reality is is ultimately an unanswerable question. Rather, they focus on meaningful and achievable goals. They believe that once the research team agrees on a goal with regard to what is important and valuable, “reality becomes the process and means for getting there” (Reinking & Bradley, 2008, p. 37). Thus, formative and design experiments focus on the goal and anticipated consequences.

Another difference between formative and design experiments and ethnographic research concerns their different epistemological stances. Wagner (1993) argues that educational researchers should focus on recognizing and reducing ignorance rather than on seeking truth because we know much more about ignorance, and this can help us to correct current problems and difficulties. Wagner also claims that educational researchers’ works should contribute to reducing ignorance and moving beyond
ignorance in the field. Reinking and Bradley (2008) explain that focusing on recognizing and reducing ignorance instead of seeking truth is the feature of formative and design experiments that differentiates them epistemologically from ethnographic research.

These ontological and epistemological differences lead to different goals and methodological guidance for the two methodologies. In contrast to ethnographic research, in which the goal is rich and detailed description as a way of exploring a cultural landscape, formative and design experiments seek to achieve “greater understanding of a learning ecology—a complex, interacting system involving different levels and types of factors” by designating its elements and anticipating how they function together to support learning (Mishra, 2005, p. 126; italics in original). In other words, formative and design experiments seek to develop and/or extend our theoretical understanding of what actually works or does not work in a real situation by developing specific interventions in a selected specific educational environment (Reinking & Bradley, 2008). Thus, developing an appropriate intervention and determining how it works or does not work within the selected environment with the acknowledgment of multiple variables is a necessary part of formative and design experiments, unlike ethnographic research, which seeks to describe a current situation.

Dealing with multiple elements contributes greatly to increasing the ecological validity of formative and design experiments. However, simultaneously dealing with multiple factors and coordinating multiple levels of analysis can present a serious challenge in conducting, analyzing, and interpreting data (Cobb et al., 2003; Reinking & Bradley, 2008). In this research, I strove to increase the study’s consequential validity
(Messick, 1992), which is established through clear articulation of how the intervention might bring results in achieving the pedagogical goal, and to reduce the challenges. To do so, I developed specific plans for how to design the research procedures and how to systematically collect and analyze data. I will further explain these in the sections on instructional interventions, data collection, and retrospective discourse analysis.

**Context and Participants**

Reinking and Bradley (2008) emphasize that selecting an appropriate research site(s) and articulating how and why the research site(s) is selected are important “benchmark[s] of rigor in conducting formative and design experiments” (p. 58). This section explains how the two high schools were selected as the research sites and how the two high school teachers were recruited and oriented to the project. This section also reports data collected specifically to understand and characterize the high school contexts into which the intervention would be introduced.

**Selection of Schools and Recruitment of Teachers**

With regard to an appropriate research site for formative and design experiments, Lehrer and Schauble (2004) emphasize that researchers need to select a research site where meaningful changes can occur in “not highly unusual instructional circumstances” (p. 640). They highlight two elements in selecting a research site. The first element is the possibility that an intervention may work. In other words, if there is a high probability of failure, the site is not an appropriate place to conduct the study. The second element is making certain that the instructional circumstances are not based on an exceptional situation in which the intervention works easily due to the specific setting. Therefore, a
researcher needs to find a research site(s) where neither success nor failure of the intervention is easily predictable. Clearly, the site should show some promise for the intervention’s success. But this should be based on the general utility of the intervention rather than on the special nature of the site chosen.

This formative and design experiment study was developed based on reported and observed difficulties of high school students in developing sophisticated argumentative writing. First, I needed to find a place where students have the usual difficulties in developing sophisticated argumentation. In addition, for the intervention to have a reasonable chance of not failing, I needed to find a teacher who generally shared with me a similar understanding of argumentation. As a researcher, I assume that the monologic view of rationality and the common structural approach to argumentation are closely related to students’ problems. I also expected that integrating dialogic views of rationality into argumentative practices would positively affect students’ development of sophisticated argumentative writing. Hence, for interventions based on my assumptions to work, I needed to find a teacher who acknowledged the limitations of the structural approach to argumentation and the significance of dialogic factors. I identified my field site by looking for these characteristics and using contacts I had made as a result of my participation in an argumentative writing project at OSU (see Newell, Bloome, Hirvela, & Marks, 2009). Here, I briefly describe how I participated in the project and how I recruited the teachers.

Over the past three years (from 2010 to 2013), the research team had been researching the teaching and learning of argumentative writing in 31 high school English
classrooms with selected teachers who had local reputations of excellence in urban and suburban districts in central Ohio. I took part in the project starting in December 2011, which was toward the end of the data collection. I recorded classroom conversations, interviewed teachers and students, and collected student writings and other documents from three classrooms. By participating in qualitative and quantitative research as part of this larger project, I broadened my understanding of the teaching and learning of argumentative writing in high school English classrooms in the United States.

In particular, I mainly participated by analyzing one argumentative writing classroom in which a simplistic conceptualization of argumentation was problematized and the students were pushed to carefully consider complex and context-relevant issues (Bloome, Ryu, & Wynhoff-Olsen, 2014; Newell et al., 2015; Ryu, 2013, 2014a, 2014b). I did not participate in collecting data in the classroom. I listened to the field experiences of other team members, watched the classroom video files, and looked over other relevant data. I then analyzed the classroom data to gain a deep understanding of what was going on in that classroom (e.g., how the teacher developed the sequence of lessons, how she and her students used language in her classroom, what kinds of views of evidence and of underlying rationalities were constructed in her classroom, etc.).

In the project, I had regular interactions with the teachers who participated in the research because the research team developed teacher study group meetings and seminars and regularly had meetings with the teachers. Through these opportunities, I had a chance to interact with the teacher, Ms. Vale (this and all subsequent names introduced are pseudonyms), whose classroom data I had been analyzing. Through our discussions, I
discovered that she shared the same awareness of the problem that students were failing to develop sophisticated argumentation that I had. She was trying to find a better way to teach argumentative writing but encountered many challenges to dealing with the problems in her classroom. When I began to develop my formative and design experimental study, Ms. Vale seemed like a good potential collaborator. Although the possibility of failure existed, I could also see the possibility that developing interventions for the pedagogical goal of improving the sophistication of argumentation among students in her classroom might work.

On February 11, 2013, I contacted Ms. Vale, visited her classroom, and shared the research that I had conducted based on her classroom conversations and other data (students’ work and interviews). I also shared my plan for the formative and design experiment and asked if she would be willing to participate in it. We agreed to collaborate in conducting a formative and design experimental study in her classroom with the goal of improving the sophistication of the argumentation of her students.

Ms. Vale also recommended one of her colleagues from a different high school in her district, Mr. Moon, as a possible collaborator. He was someone with whom she had often worked on ideas to improve their instruction and curriculum. He had also participated in the writing project, so I already knew him, and I thought his participation would give us a good chance to see the similarities and differences in the intervention’s effects in different classrooms. I visited his classroom on February 15, 2013 and he agreed to join our research team.
February 27 was the date of the first meeting of our research team. At the meeting, I introduced how to conduct a formative and design experiment and why the methodology was suitable for our undertaking. On April 22, 2013, our research team met with my adviser, Dr. David Bloome, who also went over some of the basic concepts of the methodology.

**Developing Relationships and Responsibilities in the Research Team**

Formative and design experiments emphasize partnership and cooperation between the researcher(s) and teacher(s). While Reinking and Bradley (2008) point out that establishing an equal relationship between a researcher and a teacher has been suggested for collaborative research (see Kamberelis & de la Luna, 1998; Smagorinsky & Jordahl, 1991; Snyder, 1992), they emphasize that they do not believe that all formative and design experiments should be based on “equality between the roles of a researcher and of a teacher” (p. 80). Rather, they favor the relationship between researcher and teacher described by Cole and Knowles (1993) in what they call teacher development partnership research:

> True collaboration is more likely to result when the aim is *not for equal* involvement in all aspects of the research; but, rather, for *negotiated and mutually agreed upon* involvement where strengths and available time commitments to process are honored. (p. 486; italics in original)

In their specific descriptions of the relationships and responsibilities in the research, Cole and Knowles (1993) emphasize negotiated participation for planning and preparation of the conducted research and instruction. With regard to information gathering, they state that the researcher has the primary responsibility for collecting the
mutually agreed-upon data. With regard to data interpretation and representation, they consider the researcher’s primary responsibility as being to prepare and present a preliminary analysis. The teacher has the responsibility to respond to the suggested analysis, and they both have a responsibility to achieve a mutual interpretation that leads to their final analysis.

For this research, I acknowledged the teachers’ knowledge and experience in teaching argumentative writing. I positioned them primarily as research partners. The two teachers were interested in participating in this research and working on conference presentations and publications. However, our main responsibilities were different based on our strengths and available time. Our mutually agreed upon responsibilities were similar to those described by Cole and Knowles (1993). All three members had the responsibility of participating in regular meetings for designing interventions and analyzing results. We developed our research and specific interventions together. My responsibilities were to collect and manage data in their classrooms and to provide preliminary analysis based on the collected data. However, before I conducted the preliminary analysis, I needed to have a better understanding of the two teachers’ ideas, interpretations, and impressions. So I had regular interviews (10–20 minutes) with them after observing any lesson that was closely related to our pedagogical goal and intervention. The teachers had the responsibility of making themselves available for these interviews. Within the meetings and interviews, we shared our ideas and planned for our interventions and retrospective analyses of the collected data. I also had responsibility to
search for theoretical frames based on our shared discussions and to write reports on our work.

**Selecting Classrooms for the Study**

The choice of classrooms was based on which argumentative writing classes were taught by each teacher during the period of the interventions, from Fall 2013 to Spring 2014. Ms. Vale was teaching only one eleventh grade class, which focused on argumentative writing, during the entire academic year, at 7 AM, five days a week. Mr. Moon mainly taught eleventh grade classes that focused on argumentation and argumentative writing from morning to afternoon, also five days a week. Therefore, I observed Ms. Vale’s class in the morning and Mr. Moon’s class in the afternoon. Because of my teaching schedule at the university, I observed the classes three times a week (Monday, Wednesday, and Friday). When needed, Ms. Vale and Mr. Moon recorded their classroom conversations on Tuesday and Thursday when I was not observing their classrooms.

**Understanding and Characterizing the Research Sites**

Formative and design experiments require “a *thick description* of the instructional environment before an intervention is introduced, using ethnographic observational methods and interviews” (Reinking & Bradley, 2008, p. 48; italics in original). I visited the two high schools from the beginning of the school year, in August 2013, before our research team developed a specific intervention for our formative and design experiment in order to understand and characterize the research contexts. I collected the following data: (1) results of surveys conducted by the two teachers providing demographic
information about the students of each selected class; (2) interviews with the teachers aimed at understanding their general ideas about teaching and learning, their ideas about sophisticated argumentative writing, and the administrative climate of their schools; (3) recorded classroom conversations for exploring the relationship between the teachers and students, the materials used for instruction, and the general routines followed in classroom activities. In the following subsections, I describe the schools and the classrooms, and provide general demographic and academic information of the students.

**The schools.** Ms. Vale’s school, which I will call Green High School, and Mr. Moon’s, which I will call Blue High School, are part of the Odyssey Local School District, which is a suburban school district in Ohio. For the past ten years, it has been one of the fastest growing districts in the state. Although the diversity of students has increased due to the rapid growth, the majority of students are still White (around 82.2%). There were, in 2013, some Asian and Pacific Islander (7.8 %), Black (2.4 %), Hispanic (2.4 %), multi-racial (3.7 %), and American Indian and Alaskan Native students (0.1 %). Most students were middle class.

The two schools were highly ranked academically. In the Newsweek ranking for 2011, based on the four-year on-time graduation rate, the percentage of graduates accepted to college, the number of Advanced Placement (AP) tests taken per student, and the average SAT and ACT scores, Green High School was ranked third in central Ohio, 11th in the state, and 233rd in the nation. Blue High School was ranked second in central Ohio, ninth in the state, and 185th in the nation.
The teachers and their classrooms. Ms. Vale was a White female teacher with thirteen years of teaching experience at the beginning of the academic year of 2013 (when we started the study). She was Nationally Board Certified, and had a local reputation for excellence as a writing teacher. She regularly taught eleventh grade College Prep English and AP English language and composition courses. The selected class was her eleventh grade College Prep English. The total number of students in the class was 23 (15 male and 8 female; 17 European-American and 6 African American).

Mr. Moon was a White male teacher with 10 years of teaching experience at the beginning of the academic year of 2013. He had a local reputation for excellence as a writing teacher. He also regularly taught eleventh grade College Prep English and AP English language and composition courses. The selected class was his eleventh grade College Prep English. In the class, the total number of students was 23 (16 male and 7 female; 19 European-American, 2 South Asian, 1 African American, and 1 Asian). Some of these students had learned basic concepts of argumentation in the ninth or tenth grades.

The two selected classrooms shared several characteristics. The most conspicuous was that they often had small discussions. During one class period (45 minutes), they often had one or two small group discussions. While the students were participating in the small group discussions, the teachers usually moved around the classrooms and provided specific feedback on the students’ group work.
Instructional Interventions

The suggested frameworks for designing and conducting formative and design experiments are different depending on scholars and their research (e.g., Bannan-Ritland, 2003; Brown, 1992; Brown & Campione, 1996; Cobb et al., 2003; DiSessa & Cobb, 2004; Gravemeijer & Cobb, 2006; Newman, 1990, 1992; Reigeluth & Frick, 1999; Sloane & Gorard, 2003). As Reinking and Bradley (2008) explain, “there is no single, agreed-upon methodological framework for conceptualizing, planning, conducting, and reporting formative and design experiments” (p. 61). Reinking and Bradley propose two main reasons why several different frameworks have emerged. The first reason is that this methodology was developed by researchers with different disciplinary and theoretical backgrounds. The second reason is that the “methodological inclusiveness and flexibility” (p. 65) of the methodology allow researchers to adapt it to different purposes and the particular needs of their research sites. Reinking and Bradley acknowledge the contribution from different frameworks and suggest that any of them can be considered a possible framework for formative and design experiments. For my purposes, I developed the following methodological framework for planning, conducting, and reporting this formative and design experiment at the beginning of the study when I met with the teachers before starting actual observations of the classrooms. I divided the methodological framework into two stages: the initial planning stage for the larger design experiment and an ongoing iterative design stage for each intervention. See Figure 3.1.
Initial Planning

In the initial planning stage, our research group identified the educational problem to improve and determined the general pedagogical goal.

**Identifying an educational problem(s) and deciding on a pedagogical goal.**

Many scholars emphasize that the identification of a significant, complex educational problem in real contexts is an important first step for formative and design experiments in education (Brown, 1992; Collins, 1992; Herrington et al., 2007; Reeves, 2006). Many of them also criticize research that started with researchers’ solutions before they carefully
considered the problem. Some scholars also emphasize that the problem should be identified as part of a close collaboration between research members, and in particular between researchers and practitioners (Herrington et al., 2007; Reeves, 2006).

In this study, in order to identify a significant educational problem in an argumentative writing classroom based on our research team’s collaborative ideas, we had three preparation meetings before the start of the Fall 2013 semester. Based on the two teachers’ teaching experience and my research experience, we discussed the main problem that concerned us. As mentioned earlier, this problem was students’ general tendency to approach argumentative writing in a formulaic way and their failure to develop sophisticated argumentative writing. Having identified this problem, our research team then formulated a corresponding general pedagogical goal for the two language arts classes, which was to help eleventh grade students to develop more sophisticated argumentative writing.

Our research team believed that the key in formative and design experiments is careful observation and consideration of students’ problems, difficulties, needs, and responses. Therefore, we decided that we would further identify specific problems for each of the two classrooms within the larger problematic of formulaic and unsophisticated writing.

Figure 3.2 is from Reeves (2006); it shows one of the suggested common procedures for design-based research. What I want to pay attention to in this figure is its emphasis on the recursive process of the analysis of practice problems when it comes to identifying practical educational problems.
Figure 3.2 suggests that researchers can come back to the first stage, the analysis of practical problems, after they enter any of the following stages of development. It does not mean that researchers who conduct design-based research need to deal with multiple problems at the selected research site. Rather, it emphasizes that the problem already identified in the pedagogical goal(s) can be recursively reflected on and its conceptualization refined. As Reeves (2006) emphasizes, it is a recursive process for the refinement of problems, solutions, methods, and design principles.

After we established our expected problem and our pedagogical goal, we determined that, for each intervention undertaken, we would set the specific problem and pedagogical goals based on observations of the actual classrooms. In other words, our identification of problems and pedagogical goals was, in accordance with Reeves (2006), part of a recursive process to refine the problems, both general and specific.

**The essential elements of our interventions.** Formative and design experiments emphasize the development of essential elements, which are the elements that must be
present in each intervention to provide a constant throughout the changing shape of the interventions (Reinking & Watkins, 2000). Drawing from context-relevant, dialogic views of rationality, we developed the essential elements for our interventions: tensions and complexities from multiple perspectives. By multiple perspectives, I mean considering more than one perspective on an issue. Tensions and complexities refer to the interplay of differing perspectives and the ways in which they can intersect.\textsuperscript{10} For each intervention, we concretized the essential components by drawing on specific theories and relevant elements. For instance, drawing upon Habermas’s (1984) theories, we concretized the essential elements of being open minded about different perspectives and working towards consensus; thus, we developed a practice of working towards consensus. We were open to diverse elements from different views of rationality and selected those that seemed consistent with the students’ learning process, difficulties, and progress.

I should make it clear that as a team we do not think that students need to learn the terms of rationality or different views of rationality explicitly. What they need to do is to consider and extend their understanding of what they mean by doing argument or formulating a rational argument by carefully considering multiple perspectives, tensions, and complexities that arise naturally from contextual factors. This approach necessarily entails an underlying and implicit context-dependent view of rationality.

**Revised general procedure for each iterative cycle.** At the beginning of this study, we developed an iterative design process, as Figure 3.3 shows. During and after

\textsuperscript{10} See p. 340-341 for our further conceptualization of the terms “tension” and “complexity.”
the interventions, we needed to make revisions to this part. Figure 3.3 shows the revised ongoing iterative design process for each intervention.

First of all, while conducting the retrospective analysis after our first intervention, we decided to make a revision to the last part of our original iterative design process. In the previous version, we had divided the results of the study based on success or failure. In particular, we had a step called “if the intervention is going poorly,” following which the process returned to “develop a conjecture and intervention based on theories.”
Following “if the intervention is going well,” the next procedures were “explain the effects based on theories” and “develop theories.”

After our first intervention, our research team realized that it was difficult to evaluate the results as a complete success or failure. The conclusion of our analysis was that our intervention was generally going well and had positive effects on students’ development of argumentative writing. At the same time, we also found some limitations in our intervention that we wanted to modify and further explore. As a result, we revised our previous iterative design process, removing “if the intervention is going poorly.”

In the revised iterative design process, the evaluation of the intervention can lead to both “if the intervention is going well” and “if we find a limitation(s) in our intervention.” These two paths are not mutually exclusive. In fact, after our first and second interventions, our evaluations of the interventions went both ways: We evaluated our interventions as generally going well and developed some theories from each intervention. At the same time, we found some limitations in the first and second interventions and modified the next interventions to circumvent the limitations.

Second, while designing actual interventions, we added one more procedure, “consider the teachers’ curriculum plans” before the step “choose a specific goal for a specific intervention.” In the revised iterative design process, in order to develop a specific intervention, we considered two main things: students’ emerging difficulties and needs, and theories from dialogic views of rationality. While developing the actual interventions, I realized that the teachers’ curriculum plans needed to be carefully considered when developing “a specific goal for a specific intervention.” In particular,
the pedagogical goal of this study was “helping eleventh grade students to develop more sophisticated argumentative writing,” which was closely related to the teachers’ goal for their classes. As a result, the connection of our intervention to other practices in the classrooms needed to be considered in order to develop the intervention.

**Data Collection**

Reinking and Bradley (2008) emphasize that the important issue of data collection in formative and design experiments is not what kinds of data are collected, such as quantitative or qualitative, but how systematically the data are collected, as this will best inform theory development. Nevertheless, they do seem to take a position on quantitative versus qualitative data. While they acknowledge the usefulness of quantitative data, especially for figuring out a baseline of student performance, they place more emphasis on qualitative approaches to data collection, such as interviews, discourse analyses, and case studies. In particular, they emphasize that “the approaches categorized as ethnographic research are generally most useful and likely to be called for most often” (p. 47). Similarly, Cobb et al. (2003) provide an example of a collection of a complex array of data sources: “products of learning (such as student work); classroom discourse; body posture and gesture; tasks and activity structures; patterns of social interaction; inscriptions, notations, and other tools; and responses to interviews, tests, or other forms of assessment” (p. 12). After some discussion, our research team decided to videotape the classroom conversations, which made it possible to analyze not only conversations and their contextual cues but also the body posture and gestures of both teachers and students. I also conducted interviews with the teachers right after each lesson whenever possible.
Reinking and Bradley (2008) emphasize that “[s]pecifically, data need to be gathered to identify the factors that speak to an intervention’s effectiveness and efficiency in reaching a pedagogical goal” (p. 49). In order to decide which data might be needed for each intervention, we identified factors that might enhance and/or inhibit students’ learning of sophisticated argumentative writing. In order to identify these factors, Reinking and Bradley emphasize qualitative observations and interviews. We generally collected that kind of data. In this section, I discuss general sources of data and the corpus of data for this study.

**General Sources of Data**

For rigor in the design of experiments and to increase their constructive validity, collecting multiple sources of data has been emphasized (Creswell, 2007; Reinking & Bradley, 2008; Yin, 2009). For this study, I collected data from multiple sources. A different data set was collected in each classroom, as summarized in Table 3.1.

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<tbody>
<tr>
<td>Two language arts classes (Ms. Vale and Mr. Moon)</td>
<td>Timed argumentative writing test results (8/16/2013)</td>
</tr>
<tr>
<td></td>
<td>Video recordings of classroom</td>
</tr>
<tr>
<td></td>
<td>Audio recordings of classroom</td>
</tr>
<tr>
<td></td>
<td>Field notes</td>
</tr>
<tr>
<td></td>
<td>Participant observations</td>
</tr>
<tr>
<td></td>
<td>Informal interviews with students and teachers</td>
</tr>
<tr>
<td></td>
<td>Students’ short writings in class</td>
</tr>
<tr>
<td></td>
<td>Students’ writing assignments</td>
</tr>
<tr>
<td>Meetings with Ms. Vale and Mr. Moon</td>
<td>Meeting notes</td>
</tr>
<tr>
<td></td>
<td>Audio recordings of meeting</td>
</tr>
</tbody>
</table>
The Collected Data Set

Table 3.2 provides an account of the data corpus collected from Ms. Vale’s and Mr. Moon’s classrooms.

Table 3.2: Data corpus from the two classrooms

<table>
<thead>
<tr>
<th></th>
<th>Video recordings</th>
<th>Audio recordings</th>
<th>Field notes</th>
<th>Teacher handouts</th>
<th>Student interviews</th>
<th>Teacher interviews</th>
<th>Student work samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ms. Vale’s class</td>
<td>57</td>
<td>49</td>
<td>51</td>
<td>64</td>
<td>9</td>
<td>31</td>
<td>569</td>
</tr>
<tr>
<td>Mr. Moon’s class</td>
<td>71</td>
<td>50</td>
<td>51</td>
<td>79</td>
<td>10</td>
<td>24</td>
<td>141</td>
</tr>
</tbody>
</table>

In the following subsection, I will provide more specific descriptions of the processes of data collection and specific explorations of the collected data based on the different sources of data.

**Video and audio recordings.** From August 2013 to May 2014, I generally observed the classrooms three times a week regardless of our interventions. I missed my observation when a class was cancelled or had a special event that was not related to the study, such as a timed test or fluency lesson. I also missed a few days due to attending two conferences, and I missed two months because of health issues. Both teachers tried to video record their classes when I missed an important lesson, but I have more video recordings from Mr. Moon’s classroom because Ms. Vale encountered technical issues in the recording process. As a result, the data include 57 video recordings from Ms. Vale’s

81
classroom, and 71 from Mr. Moon’s. Each video or audio recording is generally about 45 minutes long (i.e., the length of a class).

When I observed the classrooms, I set up one video camera and one audio recorder. During the whole group conversations, I usually placed the video camera in the front corner of the classroom (near the white board) in Ms. Vale’s classroom and in the back corner of Mr. Moon’s classroom. I placed the camera in the back because students in Mr. Moon’s classroom seemed to be more conscious of the recording of their conversations. Students in Ms. Vale’s classroom had an active response to having their conversation recorded the first two times. However, after that, most of her students showed little self-consciousness about being recorded. On the other hand, after three days of recording, students in Mr. Moon’s class still seemed to be conscious of the recording process. They kept looking at the camera during their conversations. When I moved the video camera to the back corner of the classroom, I did not see such conspicuous awareness from the students. After that, I continued to place the camera in the front corner of Ms. Vale’s classroom and in the back corner of Mr. Moon’s classroom. In order to record more students’ voices that might not be recorded by the video camera, I placed the audio recorder on the opposite side of the room: in the front corner in Mr. Moon’s classroom and in the back corner of Ms. Vale’s classroom.

In both classrooms, the student desks were usually arranged in a horseshoe shape. While most students’ faces were generally visible on the screen in Ms. Vale’s classroom, only about half the students’ faces were generally visible on the screen in Mr. Moon’s classroom. The teachers’ faces were mostly visible on the screen. We could generally see
a front view of Mr. Moon’s face and a view of Ms. Vale’s profile on the screen. In both classrooms, during the whole group conversations, if the speakers who were talking in the whole group conversation were not easily visible, I often zoomed in slightly. Doing this, I could capture not only the speakers’ words but also his/her visual contextualization cues, that is, facial expressions, gestures, and body movements.

When we record classroom conversations, there are some cases in which we cannot record every interaction, such as group activities or discussions. During the small group conversations, I usually moved the video camera to one group and moved the audio camera to another group, but we could only capture two groups each time. In some cases of audio recording, it was difficult to figure out who was speaking to whom about what. When I had field notes about the group being recorded by the audio recorder, I had a better understanding.

The two teachers intentionally changed the groupings of their students to allow them to interact with a variety of classmates. So it was impossible to trace every group member’s discussions longitudinally. During interventions, I maintained communication with the teachers about which student groups to record, what kinds of data we needed to collect, what would be the best target data, and what data we needed to track student improvement and difficulties to assess the effectiveness of the interventions.

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11 Contextualization cues (Gumperz, 1982; also see Bloome et al., 2005) include prosodic and nonverbal cues such as pitch, stress, intonation, pause, juncture, proxemics, and kinesics (facial expression, gesture, body movement, and physical activity).
Field notes. When I observed the classes, I habitually sat near the video camera and typed field notes into my laptop. Table 3.3 shows an example of my typical field notes.

Table 3.3: Example of field notes

<table>
<thead>
<tr>
<th>Objective</th>
<th>Theoretical</th>
<th>Methodological</th>
</tr>
</thead>
<tbody>
<tr>
<td>T passed out students’ previous writings</td>
<td>Camera near the white board</td>
<td>Typical grouping in this classroom</td>
</tr>
<tr>
<td>2:01 T divided the group into 6 groups. T named their groups – 1’s, 2’s, 3’s, 4’s, 5’s, 6’s</td>
<td>Audio in the right back corner</td>
<td></td>
</tr>
<tr>
<td>3:47 T passed out the good discussion handout and lifeboat ethics handout.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4:34 Whole group discussion T explained the handout</td>
<td>Different way of evaluating oral argumentation</td>
<td></td>
</tr>
<tr>
<td>T: You are going to receive a grade for your work today. Okay? A discussion grade…</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5:55 T explained today’s activity</td>
<td>T’s emphasis on today’s activity</td>
<td>T’s emphasis on belief system for developing logic.</td>
</tr>
<tr>
<td>T: Whole course comes down to: Are you able to do this today or not?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>T: Are you able to logically walk through an argument with someone else when you philosophically may not agree because of your belief systems?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Continued
**Table 3.3 continued**

<table>
<thead>
<tr>
<th>T: Use logic when your belief system is challenged</th>
<th>Q. Do her students understand her use of the term logic? Do her students have shared understanding about her use of the term logic?</th>
</tr>
</thead>
<tbody>
<tr>
<td>T: So you have to respect one another</td>
<td>T emphasis on respecting others</td>
</tr>
<tr>
<td>We are not gonna personally attack one another. If I hear that, you are out. I am not saying that this is easy. I am NOT SAYING THAT because a lot of times TV, social media, and so forth…</td>
<td></td>
</tr>
<tr>
<td>How many of you have ever been involved in an online argument?</td>
<td>The teacher makes the connection between classroom practices with students’ daily lives.</td>
</tr>
<tr>
<td>Some students raised their hands</td>
<td>Collective memory – connecting a previous classroom practice.</td>
</tr>
<tr>
<td>T: Okay. I imagine the results of what Rosen and Elisabeth did. Personal attacks, insulting people and not getting at the issue at hand.</td>
<td>Guidance on emotional aspects.</td>
</tr>
<tr>
<td>So this pushes us as human beings, does not result in personally attacking one another.</td>
<td>Guidance on actions.</td>
</tr>
<tr>
<td>If you get frustrated, step back.</td>
<td>Emphasis on warranting Emphasis on working towards consensus.</td>
</tr>
<tr>
<td>Now, you have to demonstrate active listening.</td>
<td></td>
</tr>
<tr>
<td>You are willing to answer new and challenging questions. I WANT YOU TO THINK.</td>
<td></td>
</tr>
<tr>
<td>Warranting allows you to think through logic. Working towards consensus.</td>
<td></td>
</tr>
<tr>
<td>9:57 Starting small group discussions</td>
<td>Camera in Kelly’s group</td>
</tr>
<tr>
<td>T: You need to get in a circle. Students moved chairs for their small group discussion.</td>
<td>Audio in Jadon’s group</td>
</tr>
</tbody>
</table>
My field notes consist of three columns: objective, theoretical, and methodological (Burgess, 1991). The first column contains “objective” descriptions about what was happening in the classroom: participant structures, main practices, scripted conversation bits, descriptions of actions, handouts, texts, and so on. When I wrote parts of their conversations, I used capital letters when I heard loud voices (or emphatic speech). In this column, I also marked the video recording times based on key shifts in classroom interactions in order to help me easily find a particular event in the recording.

The second column contains theoretical notes. In this column, I wrote down any ideas that came to me regarding theoretical issues while observing the classroom interactions. At the beginning of my observation, my theoretical column was filled with different issues and lots of questions for the teachers and the students. From the second quarter, my theoretical column became more focused and connected with what we had found as enhancing or inhibiting factors of our interventions and theoretical constructs that we had previously generated. The theoretical column in Table 3.3 is from the first quarter and thus shows my scattered interests at that time.

The third column contains methodological notes, typical notes about the technological aspects of recordings (e.g., where the video camera and audio recorders are, any technological problems such as an audio recorder being stopped) and which handouts and students’ writings were collected during the recordings. In this column, I also wrote my “to do” list for this study. For instance, the methodological column in Table 3.3 shows I planned to conduct interviews with the teachers and students to ask questions that emerged while I observed the classroom interactions.
While observing the classroom, I mostly wrote the objective column and technological aspects of recording in the methodological column. After the observation, I usually had 10 to 30 minutes to wait for the teachers before our interview. While I was waiting, I usually added some theoretical and methodological notes and often wrote a final comment about the day’s observation at the bottom of the field notes.

**Teacher handouts.** When I observed the classes, I collected the teachers’ handouts regardless of whether they had a direct connection to our interventions. The two teachers often developed handouts together and shared most of them, so I usually collected the same handouts from both classes, with two main exceptions. In the second quarter, they had different final argumentative writing prompts. And in the fourth quarter, the two classes’ curricula differed and so the classroom handouts also differed more often throughout the quarter.

**Student interviews.** I conducted individual interviews with some students from each class one or two times during the academic year 2013–2014. Each student interview generally lasted 10–20 minutes. I had planned to conduct student interviews every quarter, but the students’ schedules were too busy for this plan to be practicable. I based the interview questions on the student interview protocol developed by the OSU argumentative writing project team (Newell et al., 2009), but did not follow the same order. I also added some new questions, which varied for the different students, based on my observations in the classroom, my analysis of their writing, and our ongoing conversations. (See Appendix A)
The interviews took place during class time devoted to individual work. While other students were working on their final papers, I conducted the interviews in a classroom next to Mr. Moon’s class and in a quiet hallway in front of Ms. Vale’s classroom.

I conducted the first interviews with four students from each class at the end of the first quarter (right after our first intervention). I asked each teacher to recommend one student in each of four categories: (a) above-average achievement and interest, (b) below-average achievement, (c), above-average interest, and (d) below-average achievement and interest (Reinking & Watkins, 2000).

At the end of the academic year, I again conducted individual interviews, this time with five students from Ms. Vale’s classroom and six students from Mr. Moon’s classroom. I wanted to conduct second interviews with the same students I interviewed in the first quarter, but because of their schedules, only half of those eight students participated in the second interview. The teachers recommended four students who fit the same categories as the four students who did not take part in a second interview. I selected one more student from Ms. Vale’s classroom and two more students from Mr. Moon’s classroom based on my interest and their availability.

**Teacher interviews.** At the beginning of the academic year, I conducted separate formal interviews with Ms. Vale and Mr. Moon, of about 50 minutes each. Based on the interview protocol (Appendix B) that was developed for the OSU argumentative writing project (Newell et al., 2009), I asked questions about their school context, their professional background, and their teaching experiences, focusing on argumentative
During the study, I usually conducted short interviews (10–20 minutes) with the teachers after I observed lessons related to our pedagogical goal of improving students’ sophisticated argumentative writing and/or the specific intervention. I also conducted text-based interviews with the teachers based on students’ individual or group writings, focusing on students’ struggles and improvements. In total, I collected audio recordings of 31 interviews with Ms. Vale and 24 interviews with Mr. Moon.

**Student work samples.** I collected samples of student work related to their development of argumentative writing. The samples included both group and individual work as well as both in-class work and assignments. In Ms. Vale’s class, students had to collect all their work samples in individual yellow folders, which they handed in at the end of each class. They also handed in their assignments in these folders. Thus, by the end of the semester, the folders were portfolios of each student’s work for the whole semester. I used these portfolios to see their development of argumentative writing based on the classroom practices. At the end of the academic year, Ms. Vale gave me 19 students’ yellow folders (some students took their folders home). In the case of Mr. Moon’s class, the students did not collect their work samples in a folder. Mr. Moon sometimes copied his students’ writings and reflections, especially when their work was closely related to our interventions and studies. I often took photos of their work with my cell phone camera. I also collected all students’ final argumentative writings for the first, second, and third quarters. As a result, I collected 569 student work samples from Ms. Vale’s classroom and 141 student work samples from Mr. Moon’s classroom.
**Meeting notes and audio recordings.** We planned to have a regular meeting once a month. However, based on our needs and schedules, we sometimes met twice a month and not at all in other months. During the meetings, I wrote meeting notes and recorded our conversation on an audio recorder. A technical issue prevented the recording of one meeting. I collected notes on 14 meetings and audio recordings of 13 meetings.

**Researcher’s role in the classrooms.** I positioned myself as a nonparticipant observer in the classrooms. At the beginning of the academic year, the teachers introduced me to their students as a researcher who was interested in how to better teach argumentative writing. I typically did not participate in their classroom interactions. I only exchanged greetings with some students who sat near the video camera at the beginning or end of some classes. During students’ individual work time, I sometimes asked them questions about their actions or something they had said.

**Baseline Data**

At the stage preceding an intervention, a main goal of data collection is to establish “baseline performance or conditions prior to introducing the intervention” (Reinking & Bradley, 2008, p. 49). For baseline data, we considered the following three items: 1) students’ responses to argumentation in classroom interactions, 2) students’ interviews about their knowledge of argumentation, 3) students’ results from a timed argumentative writing test, classroom writings, and other assignments at the beginning of the academic year before the first intervention.
At the beginning of the academic year, the two teachers often asked their students about their knowledge, experiences, and impressions about argumentation. When the teachers asked about Toulmin’s elements of argumentation, students’ responses were quite similar in the two classrooms. When the teachers asked students to raise their hands if they had learned about claims, most students raised their hands. When the teachers asked students to raise their hands if they had learned about evidence, around four-fifths of the students raised their hands. When the teachers asked students to raise their hands if they had learned about counterarguments, around one third of the students raised their hands. When they asked their students about warrants, I did not see any raised hands (field notes: Ms. Vale’s class, 8/19/2013; Mr. Moon’s class, 8/21/2013).

In both classrooms, students worked in small groups to develop charts listing “what is argument” and “what is not argument.” Students’ responses in the two classrooms were similar. The three main themes that emerged under “what is argument” were providing evidence, persuading others, and logical and organized ideas. With regard to providing evidence, students wrote the following phases: “giving example/evidence,” “opinion + evidence,” “appropriate evidence,” and “backed up by evidence.” With regard to persuading others, students wrote the following phrases: “persuasive,” “trying to sway other people’s opinion,” “fight,” “winner or loser,” and “defend topic.” With regard to logical and organized ideas, students wrote “grounded logic,” “staying on topic” and “organized and well planned out.” The items they listed under “what is not argument” were typically short responses related to illogical or unorganized ideas such as “not
organized, unprepared ideas,” “putting words and ideas,” and “getting off topic” (field notes: Ms. Vale’s class, 8/21/2013; Mr. Moon’s class, 8/21/2013).

In the student interviews, I began with the following questions: “How long have you been studying argumentative writing?” and “Have you ever learned argumentation or argumentative writing before this class?” Students’ responses were quite varied. Of the 15 students who participated in interviews, two said that they had not learned argumentation or argumentative writing before this class. Four students said that they learned about it in middle school or high school. Regarding their middle school experiences, they talked about “persuasive essays” and “how to use evidence” based on a unit of argumentation. Nine students said they started learning argumentation in high school. Two of them talked about a freshman course in which they learned how to write a paper. Three students talked about a speech class focusing on debate. Five students talked about a sophomore class and mentioned “ethos, pathos, ethos”; “claim and evidence”; and/or “counterargument.” However, all of them said that this class was their first in which the explicit goal was to learn argumentation and argumentative writing.

Because of the state’s need to evaluate students, the two teachers were required to conduct timed ACT writing tests at the beginning of the semester. I analyzed the students’ argumentative writing patterns with the two teachers to get a general idea about their argumentative writing ability and patterns (see Appendix C: CP 11 English diagnostic test writing prompt). Our later analysis comparing their writing in this test and their classroom writing suggested that more than one quarter of the students did not show their true writing ability in the timed test (40 minutes). Although the emerging writing
patterns also seemed closely related to the writing test situation, two patterns observed in the diagnostic timed writing tests were also seen in many of their classroom writings at the beginning of the academic year in both classrooms.

The first pattern that emerged was that many students developed their argumentative writing based on “structural” moves rather than “thinking” moves, which meant that they generally developed their next sentence based on the expected order of the structural elements. For instance, a typical essay would begin with an introduction paragraph, which included a thesis that explained the claim and two or three main reasons; next came two or three body paragraphs, which each developed one of the main reasons; finally, a conclusion paragraph summarized the argument.

The second pattern that emerged was that many students either did not discuss any possible objections to their arguments, or included only perfunctory counterclaims with simple responses to the counterclaims, such as the response that their original argument was correct.

**Retrospective Data Analysis**

In this section, I discuss three purposes of our retrospective data analysis and general procedures for our retrospective analysis.

**The Three Purposes of Our Retrospective Data Analysis**

Our research team determined three general purposes for our retrospective data analysis based on the relevant literature: evaluating the outcomes of the intervention, evaluating the appropriateness of the procedures and specific research methods in each intervention, and exploring how to contribute to the theoretical knowledge.
Our first purpose was related to the outcomes of the formative and design experiment. A retrospective analysis aims to explain why and how any effects, positive or negative, happened (Cobb et al., 2003). After conducting an intervention, we analyzed whether the specific conjectures we made during the intervention were right or not and how we could refine the conjectures. We also explored factors that enhanced or inhibited the intervention’s effectiveness with regard to the pedagogical goals (Reinking & Bradley, 2008).

Our second purpose was related to evaluating the appropriateness of the procedures and specifically designed practices in each intervention. The purpose of this analysis was to figure out an appropriate sequence of practices in the intervention and modify the specific sequences and/or practices for the next intervention (Gravemeijer & Cobb, 2006). This purpose of the analysis could only be considered for the second and third interventions. Unanticipated events and results were useful in determining how to modify later interventions (Reinking & Bradley, 2008). We responded to students’ difficulties by modifying the specific procedures and practices for the next quarter’s practices. In the case of the second quarter, in which a set of intervention practices was repeated four times, we responded to students’ difficulties by modifying the subsequent set of practices within that intervention.

Our third purpose was related to the larger goal of the formative and design experiment: the development of theories (Cobb et al., 2003; Gravemeijer & Cobb, 2006). In this study, we developed interventions not from instructional theories but from theories based on dialogic views of rationality. By analyzing actual practices in our interventions,
we extended, revised, and/or challenged the theories as they pertained to the context of high school argumentative writing classrooms. In addition, our research team explored how the formative and design experiment approach can “contribute to the development of a local instructional theory” (Gravemeijer & Cobb, 2006, p. 37) in terms of the development of sophisticated argumentative writing and “the means that are designed to support that learning” (Cobb et al., 2003, p. 10).

**Procedure for Retrospective Data Analysis**

I conducted the retrospective analyses (Gravemeijer & Cobb, 2006) in three major phases: data organization, analyzing data focusing on each intervention, and comparing the entire data set to generate local instructional theories.

**Phase one: Data organization.** When I collected the data, I organized them into three categories: Ms. Vale’s classroom, Mr. Moon’s classroom, and teacher meetings. In each classroom folder, I organized the data into the following categories: classroom video recordings, classroom audio recordings, field notes, teacher handouts, teacher interviews, student interviews, and student work samples. After I observed a class, I organized the collected data in each classroom folder by the categories of data. With regard to the teacher meeting folder, I organized the data into the following categories: meeting preparation, meeting notes, and meeting audio recordings. In the meeting preparation folder, I placed meeting documents that I had prepared to share with the teachers. After meetings, I also organized meeting notes and meeting audio recordings by date.

**Phase two: Analyzing data focusing on each intervention.** I analyzed the data focusing on each intervention. Phase 2 consisted of two analyses: (1) discourse analysis
of classroom conversation, interview, and research meeting data, and (2) contextualized analysis of students’ argumentative writings. I generally conducted an initial analysis of the classroom interactions and students’ argumentative writings. During the meetings with the two teachers, I shared my analysis and had open discussions with them. Based on the teachers’ input, I further analyzed the data.

As discussed in Chapter 1, I employed a microethnographic approach to discourse analysis. I first constructed a schematic outline of the instructional units in the classrooms for each quarter in order to understand the bigger picture of the classroom conversations and situate our intervention within the teacher’s curriculum units.

I then identified key events within our intervention. The aim of identifying key events was to find emerging interaction patterns and to identify enhancing and inhibiting factors of our interventions. I specifically focused on a “typical case,” which refers to a case that frequently reoccurs in the research site, and a “telling case,” which refers to a case in which “the particular circumstances surrounding a case, serve to make previously obscure theoretical relationships suddenly apparent” (Mitchell, 1984, p. 239).

I transcribed key events to further explore the emerging themes and provide evidence for my claims from video recordings, and analyzed each line, or message unit,12 and each “interactional unit.”13 Table 3.4 provides the symbols I used in the

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12 A message unit is defined as the minimum unit of discourse analysis. The term comes from Green and Wallat, (1981). It is determined by dissecting a speaker’s turn into several lines based not only on the verbal aspects of the message but also on its “cues to contextualization” (Gumperz, 1982).

13 An interactional unit is defined as “a series of conversationally tied message units” (Green & Wallat, 1981, p. 200). The connection between message units is also determined by verbal aspects of the messages and their cues to contextualization.
transcripts, adapted from the transcription conventions of Jefferson (2004) and Bloome et al. (2005).

Table 3.4: Transcription symbols

| Boldfaced text = stressed word |
| xxxxxxxxx = undecipherable utterance |
| ↑ = rising intonation pattern |
| ↓ = falling intonation pattern |
| + = elongated sound |
| | = pause (pauses at the end of message units are not indicated as there is almost always a pause) |
| └ = beginning of interruption by the next message unit or overlap of talk |
| * = voice, pitch, or style change |
| *words* = boundaries of a voice, pitch, or style change |
| T = teacher |
| S = unidentified student |
| Ss = many students speaking at once |

I triangulated my discourse analysis with my field notes, interviews with the teachers and students, and students’ individual and group in-class writings.

With regard to the students’ writings, I qualitatively assessed all students’ final argumentative writings in the first, second, and third quarters. I also conducted a contextualized analysis (Michaels, 1987; Prior, 1998) of the students’ writings, which showed emerging typical themes and patterns related to students’ improvement and struggles in their argumentative writing. I contextualized the argumentative writings in relation to the classroom interactions and analyzed them in relation to the classroom practices and interactions. For the third quarter, I used a kind of backward mapping methodology (Green & Meyer, 1991), in which, based on the analysis of students’
argumentative writing, I worked backwards by making connections to the classroom practices and interactions.

**Phase 3: Comparing the entire data set to generate local instructional theories.** I holistically and historically considered the entire data set to generate theoretical constructs from the high school classroom contexts. I used the constant comparative method to analyze overall results by comparing the results from each quarter. I rechecked multiple data resources to confirm my analysis and to provide evidence for any claims.

First, based on typical and telling cases (Mitchell, 1984) according to microethnographic discourse analysis of classroom interactions, I extended, revised, and/or challenged the theories from dialogic views of rationality that we used for developing our interventions. The interviews with the teachers and the students’ oral and written arguments were used as the main sources for triangulating the results.

In addition, based on the retrospective analysis of the three interventions, I generated theoretical constructs for developing sophisticated argumentative writing. Drawing on the social constructionist perspective, our meaning of “sophisticated argumentative writing” was not fixed but evolved as we analyzed students’ argumentative writing after our interventions. In other words, our research and the teachers’ teaching about sophisticated argumentative writing had a reciprocal relationship with the students’ responses. Based on emerging themes and patterns in students’
argumentative writing, and focusing on their improvements and struggles, we generated theoretical constructs for sophisticated argumentative writing.\footnote{14 I present the generated theoretical constructs for developing sophisticated argumentative writing in the discussion sections of Chapters 4, 5, and 6. In Chapter 7, I describe the model we generated from the generated theoretical constructs.}

Lastly, based on the retrospective analysis of the three interventions, I also generated local instructional theories about ways to support learning (Cobb et al., 2003). In our study, we made major modifications for subsequent interventions and thus could not continue the iterative cycles with the same set of practices (except during the second quarter, in which we were able to repeat a set of practices four times with a small revision for the third set). Therefore, I sometimes could not compare the emerging theoretical constructs for the teaching and learning of dialogic argumentation from different interventions. In this case, I focused on microethnographic discourse analysis and found telling cases (Mitchell, 1984), and I triangulated the results with the other data.
Chapter 4: First Intervention

Chapters 4, 5, and 6 cover the interventions that took place during the first, second, and third quarters respectively. In this chapter, I focus on the first intervention. I start by discussing how we developed our first intervention. I then discuss what argumentation patterns emerged in the classroom interactions during the intervention that provide insights for generating theoretical constructs for the teaching and learning of argumentative writing. I then provide our analysis, focusing on the extended use of warrants, of students’ argumentative writing that was developed after the intervention. This is followed by a discussion of theoretical constructs related to a system of warrants that were generated for sophisticated argumentative writing. Lastly, I discuss how our actual practices contributed to the theories that were considered at the beginning of the intervention.

The Development of the First Intervention

In this section, I discuss how our research team developed the first intervention. In the first quarter, the teachers’ curriculum plan significantly affected the development of our intervention. I begin by discussing how we developed a specific goal for the first intervention in relation to the teachers’ curriculum plan. Following this, I explain how we conceptualized a dialogic warrant which was the key term in the first intervention. I then
introduce the conjecture and intervention that we developed for the first quarter. Lastly, I discuss the location of the first intervention in the classroom lessons in the first quarter.

**Developing a Specific Goal for the First Intervention: Learning Dialogic Warrant**

When we met in June 2013, the two teachers shared their curriculum plan for the first quarter of 2013. They explained that this was the first year during which they had tried to develop an entire year’s curriculum for eleventh grade based on argumentation and argumentative writing. Ms. Vale explained that the concept of warrant is fundamental to learning argumentation because it gives students a language to unpack both their and their audiences’ possible underlying assumptions and allows them to explore these assumptions in their argumentation. Mr. Moon agreed that starting from the concept of warrant would be helpful for students in overcoming their common tendency to develop arguments based on “me, me, me” (meeting note, June 23, 2013). He explained that students often fail to make their line of reasoning explicit and assume that what they argue is easily understandable and acceptable to others. Ms. Vale agreed that students need to learn how to carefully consider their own underlying assumptions and how to articulate their point of view.

The two teachers deliberated as to how to make “thinking through logic tangible for their students” (meeting note, 6/23/2013). They thought that introducing the concept of warrant could work as a thinking tool for students to explore their reasoning. In order to make the concept tangible for their students, they wanted to introduce warrant as a simple concept that students could easily understand and use in analyzing and developing
arguments. At the beginning, they introduced warrant as general rules and principles that are generally accepted by audiences.

After the new academic year began in August 2013, our research team met to discuss and analyze students’ current understanding of argumentation and their argumentative writing ability. The classroom lessons mostly followed the practices that Hillock (2010) developed for teaching warranting. The teachers developed two more practices using Hillock’s practice (cf. Appendix D). Students mainly learned about warrants in the context of arguments of fact. Most of the tasks involved crime scenes, and the students were tasked with developing an argument about who was the criminal in the scenes.

In these practices, the students’ warrants were mainly based on scientific principles, for example, “Someone falling will either drop what he’s holding to brace himself, or if he holds onto it, it will break, especially if it’s made of glass” (see Appendix D). After repeated practice, most students became familiar with the concept of warrants as general rules that connect claim and evidence, and they were able to identify warrants in others’ argumentative writing as well as bring warrants into their own argumentative writing. At the end of the practice, it was easy to find questions like “What is your warrant?” in their oral arguments (field note, 9/27/2013, Ms. Vale’s classroom).

After discussion of our observations, we decided that our first specific goal would focus on learning dialogic warrants. Our goal would be to help students understand the dialogic features of warrants and consider these features (different underlying assumptions, beliefs, worldviews, etc.) in their argumentation and argumentative writing.
Figure 4.1 shows how we located our intervention within the classroom curriculum in the first quarter.

![Diagram showing steps: Learning monologic warrants, Identifying monologic warrants in others' argumentative writing, Using monologic warrants in their own argumentative writing, Our first intervention: Extension of the monologic warrants to dialogic warrants.]

Figure 4.1: Location of our intervention within the curriculum in the first quarter

**Conceptualization of Warrant**

In this section, I briefly discuss how the concept of warrant was discussed in Toulmin’s model. I then introduce our heuristic division of the concept of warrant into monologic versus dialogic warrants.

**Warrant in Toulmin’s model.** One of Toulmin’s (1958/2003) contributions to argumentation is his use of the term *warrant* as one of the three main elements of argument, along with claim and evidence. Toulmin (1958/2003) explains that after finding data for their claim, an arguer “must bring forward not further data, for about these the same query may immediately be raised again, but propositions of a rather different kind: rules, principles, inference-licenses.” (p. 91)
Another of Toulmin’s (1958/2003) contributions is that he discusses the dialogic features of warrants. Toulmin (1958/2003) explains that having claim, data, and warrant might not be sufficient, and that we may need to add a modal qualifier, which refers to “the degree of force which our data confer on our claim in virtue of our warrant” (p. 93). Based on the dialogic features of warrant, Toulmin (1958/2003) adds rebuttal to his model. He explains rebuttal as “conditions of exception” (p. 93) and “circumstances in which the general authority of the warrant would have to be set aside” (p. 94).

Toulmin’s (1958/2003) last element, backing, is significant to his explanation of the dialogic features of warrants. Toulmin explains that the function of “backing” is “lending authority to our warrants” (p. 98) in relation to questions like “whether the warrant (W) is acceptable at all,” “why in general this warrant should be accepted as having authority,” and “does not that warrant in its turn rest on something else?” (p. 95). Toulmin (1958/2003) clearly explains the “variability or field-dependence of the backing” (p. 96). He sheds light on how, in this way, “backing called for by our warrants varies from one field of argument to another” (p. 96). Thus, Toulmin (1958/2003) emphasizes how possible warrants and backing differ based on the particular field of argument.

**Heuristic division: Monologic versus dialogic warrants.** Although the warrant is a well-recognized essential element of argumentation and logical reasoning, limited research has been undertaken on how to conceptualize and teach warrants in the field of literacy, including argumentative writing classrooms (cf. Hillock, 2010; Rex et al., 2010; Warren, 2010). In this study, warrant defines as a premise that connects claim and
evidence. This premise can be a general rule and principle or people’s different possible underlying assumptions and beliefs. For heuristic purposes, I have adopted conceptualizations of warrant as monologic warrants and dialogic warrants. A monologic warrant refers to a warrant based on the premise that the warrant is a generally accepted rule and/or principle. For instance, scientific principles could be treated as monologic warrants, akin to how Hillocks (2010) explains warrants as “commonsense rules that people accept as generally true, laws, scientific principles, or studies” (p. 26).

A dialogic warrant refers to a warrant which is treated by an arguer as one of possible underlying assumptions and beliefs that could be controversial and differ from one audience to another. If a warrant might be controversial, an arguer needs to deal with it as a dialogic warrant. If a warrant might be controversial to some audiences, but the arguer treats it as a monologic warrant, this could be problematic because audiences who do not agree with the warrant might think that the warrant is not reliable or sound.

If we only consider a warrant itself, identifying it as either monologic or dialogic might be difficult. Using a monologic versus a dialogic warrant usually reveals how an arguer provides further response(s) to the warrant. For a dialogic warrant, an arguer usually provides further responses to reflect possible different warrants. Although Toulmin (1958/2003) does not distinguish monologic versus dialogic warrants, his discussions about the elements of qualifier, rebuttal, and backing can be used as ways to respond to dialogic warrants. In this study, we planned to explore students’ development of warrant using the terms monologic warrant and dialogic warrant.
Developing a Conjecture and Intervention Based on Theoretical Considerations

We developed a specific conjecture for each intervention that could be tested after the intervention. With regard to our specific goal of understanding the nature and dynamics of dialogic warrant instruction, we developed the following conjecture: A dialogic conceptualization of warrants will contribute to the eleventh-grade students’ development of sophisticated argumentative writing in the two Language Arts classrooms.

Recall that the interventions we developed were drawn from theories of dialogic views of rationality. Based on the two teachers’ ideas, we chose Habermas’s (1984) communicative rationality as our main theoretical frame for the development of argumentative practices in the first intervention.

Table 4.1: Key components and the practices developed for our first intervention

<table>
<thead>
<tr>
<th>Inspirational source</th>
<th>Key components</th>
<th>How we used the components in our research</th>
</tr>
</thead>
<tbody>
<tr>
<td>Habermas (1984)</td>
<td>Working towards consensus practice</td>
<td>We developed a working towards consensus practice that asks students to work towards consensus about an argumentative issue.</td>
</tr>
<tr>
<td></td>
<td>Multiple perspectives</td>
<td>We developed the working towards consensus practice based on an issue in which students’ warrants (underlying assumptions and beliefs) differed greatly.</td>
</tr>
<tr>
<td></td>
<td>Open minded attitude</td>
<td>During the working towards consensus practice, an open-minded attitude to multiple perspectives, for example, active listening without emotional attack would be emphasized.</td>
</tr>
<tr>
<td></td>
<td>Intersubjectivity</td>
<td>During the working towards consensus practice, developing an argument based on what other students said would be emphasized.</td>
</tr>
</tbody>
</table>
Procedures for the First Intervention

In order to develop a specific intervention based on the key components from Habermas’s (1984) communicative rationality, Mr. Moon suggested his ‘Lifeboat’ activity. He explained that this was an activity that both he and Ms. Vale had used previously and that they had experienced students’ active participation and engagement with their different underlying assumptions and beliefs. Ms. Vale agreed that this was the best activity to help students experience the dialogic warrants of their classmates. Based on our discussions, we decided on the following procedures for the intervention.
Table 4.2: Procedures for the first intervention

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Individual writing</td>
<td>Before starting the activity, students wrote a short argumentative writing based on ‘Lifeboat Ethics: Who to save? Who goes under’ prompt (cf. Appendix E): “Choose ONE person whom you feel most strongly about saving and create a Toulmin paragraph in which you provide logical reasoning to support your argument.”</td>
</tr>
<tr>
<td>2. Sharing the new purpose and criteria for evaluating</td>
<td>Before students started group discussion, the teacher distributed a handout entitled “A Great Discussion” (cf. Appendix F) and shared the new criteria for evaluating their argumentation. This handout showed how their oral argumentation would be evaluated based on their active listening and building of ideas from interaction with other students.</td>
</tr>
<tr>
<td>3. Working towards consensus practice</td>
<td>Students participated in group discussions three times. The discussion began in a small group (3–4 students). Their goal was to come to a consensus about who they should save. They could save 9 people out of 16. Students then had a second group discussion by combining two small groups for a total of 6–8 members. The two small groups were to achieve a consensus about the 9 people to save. This was followed by held a whole group discussion.</td>
</tr>
<tr>
<td>4. Reflection practice</td>
<td>After the working towards consensus practice, students reflected on it. They wrote out their personal responses on the handout (cf. Appendix. G). They then shared their ideas in another whole-group discussion.</td>
</tr>
<tr>
<td>5. Individual writing</td>
<td>Students wrote an argumentative writing paper (4–6 pages) based on the same topic they wrote about at the beginning of the intervention. (During the writing process, students were allowed to discuss their argument with the teacher and other classmates. In particular, the teachers strongly positioned themselves as devils’ advocates in order to encourage students to continue to discuss their ideas with classmates who had different warrants.)</td>
</tr>
</tbody>
</table>
Before commencing our intervention, I was concerned that the lifeboat activity would give students the perceived right to choose who to save or not. In our meeting, Ms. Vale shared that in her previous classrooms, some students used unethical phrases such as “kill someone” (meeting note, 6/23/2013). Mr. Moon also shared the same experience. If we observed unethical discussions, the teachers planned to give students opportunities to critically reflect on their use of language. Some students actually used unethical phrases during the working towards consensus practices, so the teachers spent a portion of time during the reflection practice to guide students to rethink their use of language in the previous practice.

Classroom Interactions Focusing on Emerging Patterns of Argumentation

In this section, I discuss emerging patterns of argumentation in classroom interactions. First, I explore seven interaction patterns that emerged during small group discussions in working towards consensus practices: four emerging interaction patterns at the beginning of the practice and three emerging interaction patterns after the two teachers explicitly emphasized considering warrants during the middle of the practice. I then discuss the guidance practices utilized by the two teachers during the working towards consensus practice. Lastly, I discuss what happened in the reflection practices, that took place the day after the working towards consensus practice in each classroom.

To contextualize the discussion of these seven patterns, it is important to recall that the students had to achieve consensus about saving nine people from a list of 16 in a lifeboat situation. Drawing on two typical events (Mitchell, 1984), I discuss the emerging interaction patterns that we found in students’ small group discussions during the
working towards consensus practice in the two classrooms (one from Ms. Vale’s
classroom on 10/9/2013 and the other one from Mr. Moon’s classroom on 10/10/2013).

**Four Discussion Patterns at the Beginning of the Working towards Consensus
Practice**

The small group discussion selected from Ms. Vale’s classroom shows four
patterns during the beginning part of the students’ small group argumentation. The first
pattern emerged when the members of a group had similar perspectives about whether a
candidate should be saved. They easily achieved consensus but did not consider possible
stereotypes or biased ideas. The second pattern that emerged revealed students holding
different perspectives, which in turn, led them to explore in more depth as to whether the
candidate should be saved. They had opportunities to listen to their classmates’ different
perspectives. They also had opportunities to bring up their own perspectives and to
further develop their oral arguments. The third pattern that emerged was students’ failure
to express their warrants or to explore tensions between their dialogic warrants (different
underlying assumptions and beliefs). The fourth pattern to appear was students
responding to their classmates’ argumentation as unfair, illogical, or irrational when they
developed argumentation from different underlying assumptions and beliefs than their
own. Each of these patterns is described in detail below.

**Small group discussion pattern #1: Students’ achieving consensus from
similar perspectives.** Transcript 4.1 shows one of the patterns that was found in many
small group discussions: easily achieved consensus between group members when they
shared similar perspectives. In Ms. Vale’s classroom, the four group members argued
about a crippled boy. In the handout, the boy was described as “A crippled boy, paralyzed since birth. He cannot use his hands or do anything for himself, so he must be fed by others, Age 8” (cf. Appendix. E).

Transcript 4.1: Students’ achieving consensus from similar perspectives (Ms. Vale’s class, 10/9/2013)

<table>
<thead>
<tr>
<th>Line#</th>
<th>Speaker</th>
<th>Message Unit</th>
</tr>
</thead>
</table>
| 1-1   | Kevin   | And the crippled boy paralyzed  
| 1-2   | Kelly   | He is just like taking up space in the boat  
| 1-3   |         | The chances are more causing an issue than xxxx  
| 1-4   |         | Do we disagree with this one↑  
| 1-5   | Amanda  | Xxxxxx  
| 1-6   | Kelly   | So we can kill him off↑  
| 1-7   | Amanda  | Yeah  
| 1-8   | Kelly   | Okay and then the married couple  

In Transcript 4.1, group members easily achieved consensus as to whether they wanted to save a crippled boy or not. After Kelly provided some reasons (lines 1-2 and 1-3) to not save him, everybody agreed that the boy would be useless in a survival situation, and that, therefore, he could be removed. In this case, their conversations did not explore a different approach or perspective on the issue. When students agreed too easily, they failed to explore the issues further.

Small group discussion pattern #2: Failure of consensus from different perspectives. Another pattern that we found in students’ interactions occurred when consensus was not easily achieved because group members had different approaches. In this situation, the students were exposed to different perspectives and the issues were
usually explored more deeply. Transcript 4.2 is from the same small group as illustrated in Transcript 4.1. In this present example we see what happens when they did not agree on what to do about a married couple. In the handout to students, the couple was described as “A married couple deeply in love, but yet no children. She is studying to be a pharmacist. Age 24. He is unemployed, but volunteers for the homeless. Age 22”. (cf. Appendix. E).

Transcript 4.2: Different perspectives on having a child (Ms. Vale’s class, 10/9/2013)

<table>
<thead>
<tr>
<th>Line#</th>
<th>Speaker</th>
<th>Message unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-1</td>
<td>Kelly</td>
<td>And then the married couple</td>
</tr>
<tr>
<td>2-2</td>
<td></td>
<td>I kept both</td>
</tr>
<tr>
<td>2-3</td>
<td>Amanda</td>
<td>I kept both</td>
</tr>
<tr>
<td>2-4</td>
<td>Kevin</td>
<td>I just kept the guy</td>
</tr>
<tr>
<td>2-5</td>
<td>Kelly</td>
<td>Just the guy↑</td>
</tr>
<tr>
<td>2-6</td>
<td>Kevin</td>
<td>Yes</td>
</tr>
<tr>
<td>2-7</td>
<td>Amanda</td>
<td>Why↑</td>
</tr>
<tr>
<td>2-8</td>
<td>Kevin</td>
<td>First of all</td>
</tr>
<tr>
<td>2-9</td>
<td></td>
<td>And we already had a prostitute</td>
</tr>
<tr>
<td>2-10</td>
<td>Amanda</td>
<td>So xxxxxx what↑</td>
</tr>
<tr>
<td>2-11</td>
<td>Kevin</td>
<td>So we already have a nurse</td>
</tr>
<tr>
<td>2-12</td>
<td></td>
<td>And then a simple factor that they are a married couple deeply in love</td>
</tr>
<tr>
<td>2-13</td>
<td></td>
<td>We don’t know if she is pregnant or not</td>
</tr>
<tr>
<td>2-14</td>
<td></td>
<td>I am thinking about bad part</td>
</tr>
<tr>
<td>2-15</td>
<td></td>
<td>Because what if she is this xxxxxxxx</td>
</tr>
<tr>
<td>2-16</td>
<td>Kelly</td>
<td>The only thing is to me</td>
</tr>
<tr>
<td>2-17</td>
<td></td>
<td>Since she is a woman she can have children even though she has not had children</td>
</tr>
<tr>
<td>2-18</td>
<td></td>
<td>Eventually she will have children</td>
</tr>
<tr>
<td>2-19</td>
<td></td>
<td>So we will save more than just her life</td>
</tr>
</tbody>
</table>
With regard to the married couple, two female students, Kelly and Amanda, wanted to save both the wife and husband, but Kevin only wanted to save the husband. Kevin approached the possibility of pregnancy as a bad situation because a pregnant woman might not be helpful in a lifeboat situation. Kelly and Amanda approached the same issue positively. In line 2-19, Kelly made the point that “we will save more than just her life.” While Kevin was more focused on the immediate survival situation, Kelly was more focused on what would be beneficial for society in the long term. Although the group members failed to achieve consensus, they explored the issue by bring up different angles and perspectives.

**Small group discussion pattern #3: Missing exploring tensions between different underlying assumptions.** When students had different perspectives about who needed to be saved, one of the patterns that we found was that they often did not make their warrants explicit or explore tensions between their different underlying assumptions and beliefs. Reconsider the above oral arguments for a married couple in Transcript 4.2. Students had opposite claims based on the same evidence because of their different underlying assumptions and beliefs. What was missing in their arguments was further exploration of their different underlying warrants. Figure 4.2 illustrates Kevin’s argument.
In Transcript 4.2, Kevin used the evidence of the woman’s possible pregnancy to argue for not saving her. His underlying assumption was that a pregnant woman would not be very helpful in a lifeboat situation. Figure 4.3 illustrates Kelly’s argument.

On the other hand, Kelly used the same evidence to support the opposite claim, namely that the married woman should be saved. In lines 2-16 to 2-19, she provided her warrant: “Since she is a woman, she can have children even though she has not had children… so we will save more than just her life.” Although her underlying assumption was different from Kevin’s and those different assumptions led to different claims from the same evidence, no group members explicitly discussed or further explored these different warrants or the tensions and complex issues between them.
Small group discussion pattern #4: Students’ reactions to dialogic warrants as unfair arguments. In another common pattern, students said that their classmates’ arguments were not fair, logical, or rational when they encountered an argument that was developed from different underlying assumptions and beliefs. The group members from the previous section kept talking about the married couple. Their ongoing conversation shows this pattern in Transcript 4.3.

Transcript 4.3: Calling an argument unfair (Ms. Vale’s class, 10/9/2013)

<table>
<thead>
<tr>
<th>Line#</th>
<th>Speaker</th>
<th>Message unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-1</td>
<td>Amanda</td>
<td>The man is probably not gonna care after his wife dies</td>
</tr>
<tr>
<td>3-2</td>
<td>Kevin</td>
<td>Him like</td>
</tr>
<tr>
<td>3-3</td>
<td>Amanda</td>
<td>He’s probably not gonna do that anymore</td>
</tr>
<tr>
<td>3-4</td>
<td>Kevin</td>
<td>Volunteers↑</td>
</tr>
<tr>
<td>3-5</td>
<td></td>
<td>That’s not something you can assume</td>
</tr>
<tr>
<td>3-6</td>
<td></td>
<td>He is young and xxxx he is definitely strong and</td>
</tr>
<tr>
<td>3-7</td>
<td></td>
<td>He seems to be relatively good person because of the fact as I said</td>
</tr>
<tr>
<td>3-8</td>
<td></td>
<td>He doesn’t have a job but he volunteered</td>
</tr>
<tr>
<td>3-9</td>
<td>Kelly</td>
<td>If we save him</td>
</tr>
<tr>
<td>3-10</td>
<td>Kevin</td>
<td>That’s an unfair argument</td>
</tr>
<tr>
<td>3-11</td>
<td>Kelly</td>
<td>She will probably save a bunch of lives as a pharmacist</td>
</tr>
<tr>
<td>3-12</td>
<td>Kevin</td>
<td>This is an extremely unfair argument to make</td>
</tr>
<tr>
<td>3-13</td>
<td></td>
<td>Because you are assuming for the future that will happen</td>
</tr>
</tbody>
</table>

In Transcript 4.3, the female students, who seemed to approach the issue of whether to save the wife and husband through the lens of caring and relationship, made an argument that the man might not be helpful if he did indeed lose his wife. Kevin approached the same issue based on the man's healthiness and volunteer experience.
Based on a different angle, Kevin argued that the man might be helpful in the lifeboat situation.

In lines 3-1, 3-3, 3-9, and 3-11, the female students argued for the husband’s possible uselessness due to the loss of a loved one. With regard to the female students’ points of view based on their future expectations and relevant concerns, Kevin responded with “That’s an unfair argument” (line 3-10). In lines 3-12 and 3-13, Kevin asserted that “This is an extremely unfair argument to make because you are assuming for the future that will happen.” The female students brought up their assumptions and beliefs about the husband’s possible uselessness in relation to the loss of a loved one. In other words, Kevin argued that “assuming for the future that will happen” itself is an unfair argument. He seems to be saying that evaluating the usefulness of the husband based on his current condition and not considering his possible reaction to losing his wife would be a fair argument. Like Kevin, when they encountered an argument that was developed from different underlying assumptions and beliefs, many students said their classmates’ arguments were unfair, illogical, or irrational.

**Three Discussion Patterns from the Middle of the Working towards Consensus Practice**

As discussed, what was generally missing in these interchanges was that students did not explicitly identify their warrants and did not explore tensions between their different warrants at the beginning of their working towards consensus practice. The two teachers emphasized the need to consider their warrants by saying, “I really encourage you to use warrants,” “Unpack your warrant” (video analysis, 10/9/2013, Ms. Vale’s
classroom) and “Many of you missed warrants. Discuss warrants” (video analysis, 10/10/13, Mr. Moon’s classroom).

By responding to the teachers’ request to make their warrants explicit, three additional patterns developed in the students’ small group discussions from the middle of their working towards consensus practice onwards. The fifth pattern involved students actively asking the other group members for warrants when they found a logical gap between their claims and evidence. They often mimicked the teachers’ expressions for encouraging warrants. The sixth pattern was one in which students had difficulty developing warrants when they believed their underlying assumptions could be taken for granted. The seventh pattern revealed that students showed improvement in developing their warrants.

The small group discussion observed in Mr. Moon’s classroom was a typical event showing how students in small groups responded to the teachers’ requests for them to discuss warrants. In Transcript 4.4, three students worked towards consensus as to whether they wanted to save a teacher or not. In the handout, the teacher was described as follows: “A teacher considered one of the best in New York. Age 32.”

Transcript 4.4: Students’ active requests for warrants (Mr. Moon’s class, 10/10/2013)

<table>
<thead>
<tr>
<th>Line #</th>
<th>Speaker</th>
<th>Message Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-1</td>
<td>Beth</td>
<td>I say we kill the teacher</td>
</tr>
<tr>
<td>4-2</td>
<td>Eric</td>
<td>I think we should not</td>
</tr>
<tr>
<td>4-3</td>
<td>Beth</td>
<td>let’s kill the teacher</td>
</tr>
<tr>
<td>4-4</td>
<td>Anna</td>
<td>kill the teacher</td>
</tr>
<tr>
<td>4-5</td>
<td></td>
<td>I forgot about teacher</td>
</tr>
<tr>
<td>4-6</td>
<td></td>
<td>A teacher considered one of best in New York</td>
</tr>
</tbody>
</table>

Continued
Transcript 4.4 continued

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>4-7</td>
<td>Eric</td>
<td>(turning his head to Beth with a surprised face) No</td>
</tr>
<tr>
<td>4-8</td>
<td>Anna</td>
<td>(looking at Eric and raising one of her hands) Why would you not want to kill the teacher↑</td>
</tr>
<tr>
<td>4-9</td>
<td>Beth</td>
<td>(looking at Eric and raising her hands)</td>
</tr>
<tr>
<td>4-10</td>
<td>Eric</td>
<td>(clicking his desk with his pencil) He is a respectable teacher</td>
</tr>
<tr>
<td>4-11</td>
<td>Anna</td>
<td>(looking at Eric and raising her hands)</td>
</tr>
<tr>
<td>4-12</td>
<td>Beth</td>
<td>Okay</td>
</tr>
<tr>
<td>4-13</td>
<td>Anna</td>
<td>warrant there</td>
</tr>
<tr>
<td>4-14</td>
<td>Eric</td>
<td>Teacher is beneficial to society</td>
</tr>
<tr>
<td>4-15</td>
<td>Beth</td>
<td>Because the marginal benefit is having xxxxx</td>
</tr>
<tr>
<td>4-16</td>
<td>Beth</td>
<td>(looking at ceiling and raising her hands) That’s not a warrant</td>
</tr>
<tr>
<td>4-17</td>
<td>Beth</td>
<td>You are just spitting facts in my face</td>
</tr>
<tr>
<td>4-18</td>
<td>Eric</td>
<td>Xxxxxxx</td>
</tr>
<tr>
<td>4-19</td>
<td>Beth</td>
<td>Okay</td>
</tr>
<tr>
<td>4-20</td>
<td>Beth</td>
<td>You're just spitting supply and demand in my face xxxxxxx</td>
</tr>
<tr>
<td>4-21</td>
<td>Anna</td>
<td>(with an angry face) warrant</td>
</tr>
<tr>
<td>4-22</td>
<td>Anna</td>
<td>Give me warrant</td>
</tr>
<tr>
<td>4-23</td>
<td>Beth</td>
<td>You have five seconds</td>
</tr>
<tr>
<td>4-24</td>
<td>Anna</td>
<td>One</td>
</tr>
<tr>
<td>4-25</td>
<td>Eric</td>
<td>Oh</td>
</tr>
<tr>
<td>4-26</td>
<td>Beth</td>
<td>Give me a reason why I should kill number thirteen</td>
</tr>
<tr>
<td>4-27</td>
<td>Beth</td>
<td>Number thirteen</td>
</tr>
<tr>
<td>4-28</td>
<td>Eric</td>
<td>He is respected (looking at Anna, who is looking at him)</td>
</tr>
<tr>
<td>4-29</td>
<td>Beth</td>
<td>Number two∥ he is also an educational role model</td>
</tr>
<tr>
<td>4-30</td>
<td>Beth</td>
<td>Which∥ which</td>
</tr>
<tr>
<td>4-31</td>
<td>Beth</td>
<td>So∥∥ generally</td>
</tr>
<tr>
<td>4-32</td>
<td>Anna</td>
<td>(drawing a circle with her hands to encourage Eric’s response)</td>
</tr>
<tr>
<td>4-33</td>
<td>Eric</td>
<td>Teacher is young</td>
</tr>
<tr>
<td>4-34</td>
<td>Beth</td>
<td>Teacher considered one of the best in New York</td>
</tr>
<tr>
<td>4-35</td>
<td>Beth</td>
<td>So+++ generally+++</td>
</tr>
<tr>
<td>4-36</td>
<td>Eric</td>
<td>Generally∥ he will be needed to help shape the minds of people and when a respected teacher xxxx</td>
</tr>
</tbody>
</table>

Small group discussion pattern #5: Active requests for warrants. As they responded to the teachers’ requests to discuss warrants, students started to actively ask their classmates to provide warrants when their classmates’ arguments had logical gaps between claims and evidence. Students often found the logical gaps when they had
different perspectives and warrants about whether a candidate should be saved. Many of them mimicked how the teachers had pushed them to make their warrants explicit in the current and previous practices.

In Transcript 4.4, Beth and Anna did not want to save the teacher, while Eric strongly wanted to save him (lines 4-1 to 4-7). For Anna’s question about why the teacher should be saved, Eric answered that “He is a respectable teacher” (lines 4-8 to 4-10). Considering the gap between his claim (the teacher should be saved) and evidence (he is a respectable teacher), the warrant about how the evidence supports the claim (e.g., an assumption about why a respectable teacher should be saved in a lifeboat situation) is required in order to make clear his line of reasoning.

Beth waited for Eric and then added, “So, make your warrant” (line 4-12). Her tone mimicked Mr. Moon’s voice. In lines 4-21 and 4-22, Anna also said “Warrant. Give me warrant.” Beth mimicked how Mr. Moon encouraged students to provide warrants in their previous oral argument by saying “so, generally” in line 4-31. Beth repeated the phrase “so generally” and kept asking Eric to provide a warrant to connect his claim and evidence (Line 4-35). What I want to note here is that in the working towards consensus practices in the two classrooms, warrants were still often regarded as ‘general rules,’ and ‘generally’ or ‘in general’ was often used as a reference point for providing a warrant.

**Small group discussion pattern #6. Difficulty in developing a warrant when it was taken for granted.** The sixth emerging pattern was students’ difficulty in developing warrants to connect their claims and evidence. When students strongly
believed something and assumed that it could be taken for granted, they had difficulty developing their warrants.

In Transcript 4.4, although Anna and Beth explicitly asked Eric to provide a warrant (lines 4-12 to 4-35), the latter just mentioned the general usefulness of a teacher in society (“Teacher is beneficial to society,” line 4-14). Eric’s facial expression and gestures revealed his strong belief that teachers are worth saving and his difficulty in explaining his position better. Beth responded “that’s not a warrant” (line 4-16), and both she and Anna kept pushing him to provide a warrant until line 4-35.

Eric tried to move on to a different issue about another candidate, the married couple in line 4-26. Although Beth attempted to move on as well, Anna continued to watch Eric. In lines 4-28 to 4-29, Eric repeated the same reason (“He is respected”) and provided another reason (“He is also an educational role model”), but still failed to make any direct connection to the lifeboat situation. In lines 4-33 to 4-34, Eric provided more evidence in terms of the youthfulness of the teacher and repeated the same evidence about the teacher as being “considered one of the best in New York” from the handout. Like Eric, some students strongly expressed their beliefs about some groups of people and revealed their difficulties in further explaining their points of view regarding their taken-for-granted beliefs.

**Small group discussion pattern #7: Improvement in the development of warrants.** The seventh pattern we found was that over time, in the working towards consensus practice, some students successfully provided warrants and/or showed
improvement in their development of warrants by interacting with their classmates who had differing perspectives and warrants.

In Transcript 4.4, Eric finally provided a kind of warrant that could link his claim and evidence when he declared that “Generally, he will be needed to help shape the minds of people” in line 4-36. By bringing up a useful function that teachers could have in a lifeboat situation, he provided a connection between his claim for saving the teacher in a lifeboat situation and his subsequent evidence that the teacher is respected. He did not clearly articulate his entire line of reasoning, such as making clear why helping to shape the minds of people would be important in a lifeboat situation, or whether the assumption that a respected teacher would help shape the minds of people is generally acceptable. However, his kinds of warrant shows his improvement in developing a warrant in that he made some connection between his claim and evidence by identifying a function of a good teacher that might be helpful in a lifeboat situation.

**Teacher Guidance Practices during the Working towards Consensus and Reflection Practices**

At the beginning of working towards consensus practice, the teachers mainly observed students’ performance and interactions in their small group discussion and strongly encouraged them to explicitly discuss warrants. Half-way through working towards consensus practice, the teachers joined the small group and whole group discussions and led students to carefully consider the dialogic aspects of warrants.

Our research team found that the following four teacher guidance practices positively worked for students’ understanding of the dialogic aspects of warrants: 1)
embodied warrant and attachment question, 2) dialogic warrant and detachment question, 3) exploring tensions between different warrants, and 4) using interlocutors as resources in their writing process.

**Teacher guidance practice #1: Embodied warrant and attachment question.**

“Embodied warrant” refers to underlying assumptions and beliefs which were directly related to students’ background and experiences. In order to avoid students’ self-centric, simple arguments, the teachers tried to help students to explore the origin of their warrant and to understand that their warrants which they take for granted might be influenced by their own backgrounds such as relationships, direct and indirect experiences, family background, and so on.

As an example, the following guidance happened in a reflection practice in Mr. Moon’s class. After discussing students’ different warrants, Mr. Moon made the connection between their warrants and their backgrounds which include personal experience, knowledge, and their relationships with others. In other words, he explained the embodied aspect of warrant.

“You have been through all different experiences. Every parent taught you different things. You’ve had different relationships and experiences. Those things collectively shape all of these. I am gonna call these (the above red three things) as world view or your value systems, or your belief structure, whatever you call it. You had different arguments because different experiences shape who you are. If you had agreed with someone, chances are high you shared lots of these. Maybe not, but possibly… All of these things make up our world view. Belief systems. These sorts of beliefs
caused these warrants by filtering through a specific argumentative context” (Video analysis, 10/11/2013, Mr. Moon’s classroom)

Figure 4.4 shows how he visually depicted the relationship between students’ warrants, their backgrounds, and argument contexts on his whiteboard during the reflection practice.

Figure 4.4: Mr. Moon’s visual depiction of embodied warrants

In Figure 4.4, Mr. Moon wrote “religious belief, experiences of relationships, and our knowledge & environment.” And then, he drew an arrow from these to “worldview.” Underneath the worldview, he drew a half circle and wrote “context.” He then drew one more arrow from worldview to warrants. As his illustration shows, he explained that all different direct and indirect experiences and relationship shaped the students’ worldviews, and those worldviews cause their warrants which were filtering through a specific argumentative context.
The teachers guided the students to consider these embodied aspects of warrants by providing what we call an “attachment question,” that is a question which asks students to consider their argument and warrant in relation to their personal backgrounds and experiences. In other words, attachment questions ask students to consider how the warrant (or the argument) is attached to who they are and what experiences they have and to understand how their backgrounds and experiences affected their warrants and made them different from the warrants of others who have different backgrounds and experiences. The attachment questions were often used in the classroom conversations during which the teachers helped the students to develop their arguments in their small group discussion while working towards consensus practice. Attachment questions were also used in reflection practices.

The following conversation shows an example where Ms. Vale led students to consider the embodied aspects of warrants in their argumentation. This was the group that was introduced in Transcripts 4.1 to 4.3. At this time, the students were arguing about a retired man. In their handout, the retired man was described as follows: “A retired man, formerly a professor of literature who has a great sense of humor, showed courage in the Korean and Vietnam Wars, and was in a concentration camp for three years, age 82.” Kevin argued for saving him, but another student, Kelly, argued against saving the retired man.
Transcript 4.5: Teacher’s guidance on embodied warrant and attachment question (Ms. Vale’s class, 10/9/2013)

<table>
<thead>
<tr>
<th>Line #</th>
<th>Speaker</th>
<th>Message Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-1</td>
<td>Teacher</td>
<td>Because what do you believe</td>
</tr>
<tr>
<td>5-2</td>
<td>Teacher</td>
<td>Do you believe what↑</td>
</tr>
<tr>
<td>5-3</td>
<td>Kelly</td>
<td>As you become old</td>
</tr>
<tr>
<td>5-4</td>
<td>T</td>
<td>And your evidence for that is↑</td>
</tr>
<tr>
<td>5-5</td>
<td>Kelly</td>
<td>Do I need evidence for it↑</td>
</tr>
<tr>
<td>5-6</td>
<td>T</td>
<td>Where do you know that from</td>
</tr>
<tr>
<td>5-7</td>
<td>Kelly</td>
<td>Experience</td>
</tr>
<tr>
<td>5-8</td>
<td>T</td>
<td>Okay</td>
</tr>
<tr>
<td>5-9</td>
<td>Kelly</td>
<td>Okay</td>
</tr>
<tr>
<td>5-10</td>
<td>T</td>
<td>He won’t talk about war or anything like that</td>
</tr>
<tr>
<td>5-11</td>
<td>T</td>
<td>And</td>
</tr>
<tr>
<td>5-12</td>
<td>T</td>
<td>Because</td>
</tr>
<tr>
<td>5-13</td>
<td>Kelly</td>
<td>Because things that happened during the war</td>
</tr>
<tr>
<td>5-14</td>
<td>T</td>
<td>And therefore</td>
</tr>
<tr>
<td>5-15</td>
<td>Kelly</td>
<td>And therefore he is not capable</td>
</tr>
<tr>
<td>5-16</td>
<td>T</td>
<td>Good good good</td>
</tr>
</tbody>
</table>

When Kelly made an argument about why she did not want to keep him, the teacher asked her about her warrant in lines 5-1 and 5-2. When she tried to make a general rule, the teacher asked about the source of the warrant. “Where do you know that from?” (lines 5-6). Kelly answered, “Experience.” (line 5-7). The teacher responded with “Cite something from your life.” (line 5-8). Kelly brought up her grandfather who was a veteran and explained her warrant in relation to her personal experience. Here is a moment where students made the connection between their warrants and their backgrounds. The teacher’s question “Where do you know that from?” (line 5-6) and “Cite something from your life (line 5-8) could be regarded as types of attachment questions. The teachers’ probing guidance on embodied warrant and attachment
questions occurred when students explained the sources of their warrants in relation to their own background and experiences. By raising the attachment questions and asking students to provide backing from their personal experiences, the teacher helped students to understand the embodied aspect of dialogic warrants.

**Teacher guidance practice #2: Dialogic warrant and detachment question.**

The teachers also led students to connect the embodied aspects of warrants and dialogic aspects of warrant and to understand the embodied aspect of warrants as a reason of the dialogic warrants. In other words, a person’s different background and experiences generate their different warrants. For instance, Mr. Moon explained the dialogic aspects of warrants as a logical follow-up to his explanation of the embodied aspect of warrant based on Figure 4.4:

“The world view of belief system caused you to make the assumptions that you made… So these warrants then cause you to interpret the evidence that I gave you to justify your claims, your conclusion… So, when we argue, it’s not just about these (indicating claim). When you disagree with somebody, the disagreement often stems back to much much bigger things (indicating the parts of world views and relevant warrants). Because you have different warrants, so you see things different.” (Video, Mr. Moon’s classroom, 10/11/2013)

In ways such as this, the teachers regularly emphasized that different claims often come from different warrants. The teachers also shared with their students that the latter often reacted with irrational arguments when they had taken-for-granted warrants, but their classmates had held different values and assumptions.
With regard to dialogic warrants, the teachers also provided guidance based on detachment questions. “Detachment questions” refer to questions that provoke students to critically reflect on the controversial aspects of their warrants and reconsider their arguments by detaching from their own warrants. The teachers asked students to reconsider their arguments by detaching from their own warrants. Many students did not know how to do this. One strategy suggested by the teachers for the detachment questions was that students reposition themselves as someone who has a warrant that conflicts with their original warrant, and then proceed to reconsider their argument.

In particular, when small group members had different perspectives, the teachers often asked them to detach from their own warrant and reconsider their argument from the different warrants of other members of their group. This guidance is apparent in Transcript 4.6 which happened immediately following the above conversation in Transcript 4.5.

Transcript 4.6: Teacher’s guidance on dialogic warrants and detachment questions (Ms. Vale’s class, 10/9/2013)

<table>
<thead>
<tr>
<th>Line #</th>
<th>Speaker</th>
<th>Message Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>6-1</td>
<td>T</td>
<td>What you said counter that is↑</td>
</tr>
<tr>
<td>6-2</td>
<td>Kevin</td>
<td>Because he has a great sense of humor</td>
</tr>
<tr>
<td>6-3</td>
<td></td>
<td>So</td>
</tr>
<tr>
<td>6-4</td>
<td>T</td>
<td>Hang on++</td>
</tr>
<tr>
<td>6-5</td>
<td></td>
<td>How do you come back at</td>
</tr>
<tr>
<td>6-6</td>
<td></td>
<td>Now you are making a completely separate argument</td>
</tr>
<tr>
<td>6-7</td>
<td></td>
<td>But if you're gonna change her mind</td>
</tr>
<tr>
<td>6-8</td>
<td></td>
<td>You’ve got to address her thinking</td>
</tr>
<tr>
<td>6-9</td>
<td></td>
<td>So how do you counteract</td>
</tr>
<tr>
<td>6-10</td>
<td></td>
<td>Um</td>
</tr>
<tr>
<td>6-11</td>
<td></td>
<td>She believes this because her grandfather</td>
</tr>
</tbody>
</table>

Continued
Transcript 4.6 continued

| 6-12 | She experienced this with |
| 6-13 | Kevin | I was gonna say |
| 6-14 | T | So what’s her warrant↑ |
| 6-15 | Kevin | the warrant is that |||| he is too old to work |
| 6-16 | T | So what does she believe about people have fought in a war and their age |
| 6-17 | Kevin | Kinds of incapability |
| 6-18 | T | Yes | so |
| 6-19 | Prove her xxxxx |

From line 6-1, the teacher started to interact with Kevin, who disagreed with Kelly. When the latter started to share his argument, the teacher asked him to wait and first consider “her” argument and warrant. The teacher emphasized that if Kevin wants to “change her mind,” (line 6-7) he also needs to “address her thinking” (line 6-8). Through very specific questions and use of language, the teacher guided the students to start their discussion from others’ different warrants.

Another example of teacher guidance on dialogic warrant and detachment questions was shown in Mr. Moon’s classroom during the students’ reflection practice. Mr. Moon began by explaining the dialogic aspect of warrants, and how what students consider taken-for-granted warrants are possibly just their own assumptions and beliefs: “You know we talked about warrants as general rules. Warrants are general beliefs that you believe as a truth.” (Video, Mr. Moon’s class, 10/11/2013). He strongly emphasized the word “you.” He further emphasized the importance of detachment from students’ own perspectives and of carefully considering their interlocutor’s warrants:

“now, you are thinking argumentatively. Many times, you are me, me, me, me. That’s important parts. This is what I am passionate about. This is what I believe.
However, at some point, you need to realize that everybody me, me, me, me… If you actually sway somebody, you need to understand how they feel. You need to present in a way that strives to see how they see the world. Try to understand why they think in that kind of way and how your argument fits to their ideas… If someone disagrees with you, you have to carefully think about what kinds of different belief system they have to talk with them… We need to make it fit to their world view.” (Video, Mr. Moon’s class, 10/11/2013)

After that, the whole group of students reflected on detachment questions and dialogic warrants. For instance, there were students who had strong arguments for saving the elderly veteran with the warrant that “we should save people who fought for our freedom” (Video, Mr. Moon’s class, 10/11/2013). The teacher requested that they detach from their warrant and reconsider their argument from their classmates’ different belief that an elder might not be practically helpful in a lifeboat situation. Following the teacher’s request, one of the students said, “he might not be available to steer a boat a long time, but from a practical point of view, he knows lots of survival skills” (Video, Mr. Moon’s class, 10/11/2013). In this way, the teachers guided the students to carefully consider interlocutor’s warrants and to deal with them in their argumentative writing.

**Teacher guidance practice #3: Exploring tensions between different warrants.** As we saw in the classroom interactions, students often did not explore tensions between different warrants by themselves. With the guidance of the teachers in their small group conversations, and reflection practices, and through writing conferences with the teacher, students began to explore tensions between different warrants. We found three approaches to exploring tensions between different warrants: tensions
between people’s differing strong opinions about some special group of people, tensions between different aspects of a person, and tensions about how to differently contextualize a given situation.

First, the teachers guided students to explore their strong beliefs about special groups of people. For instance, in their reflection practice in Mr. Moon’s classroom, Nate said that some students had strong beliefs about the minister and he thought that “some of them are related to religious things.” After that, Mr. Moon asked, “How many people want to save ministers? How many of you guys call yourself religious?” Some students raised their hands. He further asked them, “So what would be the particular beliefs that caused you to choose him? and “How could they be conflicted with someone who is not religious?” (Video, 10/11/2013, Mr. Moon’s classroom). With regard to students who had strong opinions about veterans, Mr. Moon said, “You personally believe that veterans are important. Could you think of any relevant background? Maybe it comes from your experiences, from people who you know, from what you heard from your parents… or…” And then, a student said “Yes. My grandfather was a veteran.” Another student said, “That’s what we heard from our media.” Mr. Moon further asked them “What are your warrants about veterans?” followed by “Have you heard any different warrants about them?” (Video, Mr. Moon’s class, 10/11/2013). In this way, the teachers guided students to explore their own warrants in relation to their direct and indirect experiences and relationships. They further asked students to consider conflicted warrants.

Second, they explored tensions between different aspects of a person. In the handout that was given to students in working towards consensus practice in the lifeboat
situation, many pros and cons were provided for a lifeboat situation in which people with
different roles might be involved. For example, a doctor was described as “addicted to
drugs and very nervous, age 60.” Other examples include that of a prostitute, described as
“An excellent nurse. Has already saved a drowning child. Age 37;” a male criminal,
described as “Most capable of navigating the boat. Age 37;” a retired man, described as
“Formerly a professor of literature. He has a great sense of humor, showed courage in the
Korean and Vietnam Wars, and was in a concentration camp for three years, age 82.”
Following their reflection practice, students started to pay attention to the tensions
between conflicted warrants about a person. For instance, Sam noted that “regarding the
doctor, people were looking at different aspects.” Mr. Moon responded that “all of the
people have those balance things that you have to weigh.” He followed this comment
with “I am interested in what caused you to say doctors are more important to me. No.
Drugs are more important to me. What do you think—what causes you to decide to
think?” (Video, Mr. Moon’s class, 10/11/2013). The two teachers started asking
questions to connect students’ warrants with their backgrounds. The students and teachers
then explored tensions between different warrants.

Third, the teachers also explored tensions about how to differently contextualize
the situation or approach the situation. In the reflection practice, Mr. Moon asked, “How
does the context of a life and death situation create your ways of approach?” Some
students explained that because of the situation, their arguments were changed. A male
student said, “You experienced that your morals changed in the survival situation. Mr.
Moon said “Yes. Context affects how you approach the issue. It also brought out your
personal beliefs.” Another female student said that “For me, prostitute… did not matter. I was really focused on the situation of survival. Another student said, “My moral about taking care of someone who is vulnerable cannot be changed. I have a passion to fight for this child to have the best life possible” (Video, 10/11/2013, Mr. Moon’s classroom).

In particular, there were serious conflicts about how to approach this issue. Some students argued that they should take a practical approach. Others argued that they should look at what would be beneficial to society. Mr. Moon said, “There is no right or wrong answer. Everything is what you feel to be important as an individual. Aaden focuses on practicality. What’s the most important practical solution to him. Sounds like Heidi, you are willing to go to xxx. Because for you, ethical issues are more important than practical things. Right? There is no right or wrong answer because that’s what you believe. What you want to trade off” (Video, Mr. Moon’s class, 10/11/2013). In this way, the teachers tried help students to understand people’s different possible underlying assumptions and beliefs and carefully consider the tensions between different warrants in their argumentation.

**Teacher guidance practice #4: Using interlocutors as resources in writing**

process. The fourth and final guidance practice that conspicuously emerged was the teachers’ encouragement for students to use interlocutors such as the teacher and classmates as resources for their writing. In particular, the teachers emphasized that their interlocutors’ different arguments and warrants could be great sources for their argumentative writing.
For instance, after the reflection practice, students had one more discussion day before they went to the computer lab for their final argumentative writing task in Ms. Vale’s classroom. Transcript 4.7 shows how the teacher emphasized her and other classmates as resources for their argumentative writing at the beginning of the date.

Transcript 4.7: Teacher’s guidance on using interlocutors as writing resources (Ms. Vale’s class, 10/9/2013)

<table>
<thead>
<tr>
<th>Line #</th>
<th>Speaker</th>
<th>Message Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>7-1</td>
<td>T</td>
<td>You have today</td>
</tr>
<tr>
<td>7-2</td>
<td></td>
<td>You can use me as much as you need right now</td>
</tr>
<tr>
<td>7-3</td>
<td></td>
<td>You need to use me and others who have different opinions</td>
</tr>
<tr>
<td>7-4</td>
<td></td>
<td>Take advantage of today</td>
</tr>
<tr>
<td>7-5</td>
<td>Noah</td>
<td>Can we go to people who have different opinions and ask some questions ⬆</td>
</tr>
<tr>
<td>7-6</td>
<td>T</td>
<td>*Absolutely</td>
</tr>
<tr>
<td>7-8</td>
<td></td>
<td>You can use each other as resources</td>
</tr>
</tbody>
</table>

In lines 7-2 and 7-3, the teacher tells students that they “can use” her and other classmates, in particular “others who have different opinions” for their argumentative writings. In lines 7-5 and 7-6, Noah asked Ms. Vale about whether he could physically move to his classmates “who have different opinions” and ask some questions. The teacher answered “absolutely” with a loud voice. After that, she reemphasized that students “can use each other as resources” (in Line 7-8).

In this way, the teachers strongly emphasized that students use their dialogue (oral argument) with the teacher and other classmates as resources for their writing. In the same class session during which the above conversation occurred, students often
approached the teacher or their classmates who expressed different claims and/or warrants and had deep conversations about their arguments.

When they went to the computer lab for their final argumentative writing, students were allowed to talk with their classmates only about their writings in both Ms. Vale’s and Mr. Moon’s classroom. If needed, they could also ask the teachers to discuss their writing with them. In students’ argumentative writings, some students included some parts of the discussion in their argumentative writing as counterarguments or counter warrants that they wanted to refute. Some students included these in order to find a common ground. Thus, we could see that positioning the teacher and students as resources positively contributed to their consideration of the dialogic aspects of argumentation and argumentative writing.

**Reflection Practices**

The reflection practices consisted of two parts: 1) individual writing about reflecting on the previous working towards consensus practice and on whole group discussion and 2) reflection about the nature of argumentation in small group and whole group discussions.

**Reflection on consensus practice.** With regard to the reflection on previous working towards consensus practice, students wrote a response to the handout for reflection (cf. Appendix G). They then engaged in a whole group discussion about their previous working towards consensus practice.

Students’ written responses indicate their active engagement with their previous consensus practice and their different learning points. In this section, I focus on the fourth
question in the reflection handout and discuss students’ responses. The fourth question was as follows:

Table 4.3: The fourth question in the reflection handout

4. What final thoughts, observations, insights or questions do you have about this activity or what you learned (or were supposed to have learned) from it? What would you like to communicate to the teacher about this activity in general? Or, is there anything else important you have thought of as a result of this exercise? Please do not leave this blank, but do some unstructured reflecting on what you gained from the activity. Strive to be deep. **Please write your answer to this question on the back of the sheet.**

Tom, a student, provided the following response:

*I like this activity because it gave me the opportunity to see how my classmates are and their thought process. It also was fun to debate our opinions because it helped me understand a real life use for warrants in arguments and how helpful they can be.*

Figure 4.5: A segment of Tom’s reflection about the working towards consensus practice

As he pointed out, many students wrote that they had opportunities to see their classmates’ thought process. He regarded the warrant as “a real life use for warrant in argument,” an indication that he understood the dialogic aspect of warrants. Many
students wrote how useful the working towards consensus practice was in understanding the actual use and helpfulness of warrant.

Many students also indicated that they learned how people have different beliefs. For instance, Mike wrote the following response:

_Everybody has a different perspective on who they believe should stay. Practically everyone wouldn’t budge on their beliefs. In my opinion, whoever helped in the moment should be saved. I gained some knowledge to how differently people think about things. I had no idea how different people’s morals could be. The activity was effective in allowing the students to use their Toulmin skills._

Figure 4.6: A segment of Mike’s reflection about the working towards consensus practice. Like Mike, many students pointed out their surprise about their classmates’ different warrants. Moreover, many students pointed out the connection between students’ different warrants and logic in relation to their background. The following is Lilia’s response.
This activity really show people who everyones true colors are. If they want to be beneficial to society or only to themselves. Everyone is different and these arguments help to structure arguments to show people where you as the arguer is coming from.

Figure 4.7: A segment of Lilias reflection about the working towards consensus practice

Lilias comment that “Everyone is different, and these arguments help to structure arguments to show people where you as the arguer is coming from,” demonstrates that she understands and connects the structure of an argument to the nature of the arguer him/herself.

Some students pointed out that the practice was helpful in understanding themselves, especially their own thinking and beliefs. For instance, Sam wrote the following response:
I thought this was a great activity. It taught me how to connect this all and as long as you have evidence and a warrant supporting your claim, you’ll have a good argument. This specific activity also taught me something about myself and my decision making. I also learned how to use the other person’s argument as a part of my argument (counter argument). Overall, I learned a lot from this.

Figure 4.8: A segment of Sam’s reflection about the working towards consensus practice

Sam’s comment that “This specific activity also taught me something about myself and my decision making,” suggests he understands the potential usefulness of the processes of exploring one’s own warrants in relation to what generated these warrants. Some students also showed their increased open-mindedness to different arguments and warrants. For instance, Jennie was a student who strongly argued for her warrants. She often considered different warrants as illogical arguments. In the reflection sheet, she wrote the following response:
I think that people base their opinions off of what’s normal for them. Even though it could be completely odd, they may think it’s right. It’s based on how you were taught or how you learned as you were younger.

Figure 4.9: A segment of Jennie’s reflection about the working towards consensus practice

Although many students acknowledged different possible warrants depending on the person involved, Jenny often revealed her difficulties in understanding others’ different perspectives and approaches. In the reflection sheet, she wrote, “I think that people base their opinions off of what’s normal for them. Even though it could be completely odd, they may think it’s right based on how you were taught or how you learned as you were younger.” Although she did not totally agree with the reasonableness of a different opinion, she started to show her understanding about the connection between what would be normal and right in her mind, and people’s different backgrounds and experiences.

**Reflection on the nature of argument.** At the beginning of the quarter, the teachers asked students to explore their ideas about ‘what is argument’ and ‘what is not argument’ and develop a chart based on the two issues. As they learned more, the teachers often asked the students to revise/add/delete their chart based on their new
understanding of argumentation during the first quarter. The followings are examples of two groups’ lists about what argument is and what it is not from Mr. Moon’s class.

![Figure 4.10: Two groups’ lists about what argument is and what it is not](image)

During the reflection practice after the working towards consensus practice, the first group of students added “must listen to each other,” and “must understand opponents” on the side of “argument.” They also added “interrupting” on the side of “not argument.” The second group of students added “understanding where someone’s belief comes from” and “responding to opposing viewpoint” on the side of “argument.” We suggest these examples indicate that the working towards consensus practice affected these students’ extended understanding about argumentation, in particular, the importance of dialogic aspects. In these examples, we can also see evidence that asking
students to reflect on the nature of argumentation can contribute to improving their meta-
thinking about doing argumentation.

**Students’ Final Argumentative Writing for the First Quarter**

In this section, I provide my analysis of the students’ argumentative writings in
terms of their use of warrants, since the most conspicuous changes happened in this area.
I first discuss emerging patterns of students’ use of warrant, including their extensive use
of warrant by considering the dialogic aspects of warrants. I then discuss a continuum of
warrant usage emerging from students’ use of warrants in their final argumentative
writing in the first quarter.

**The Prompt for the Final Argumentative Writing for the First Quarter**

Table 4.4 shows the writing prompt for the first quarter in both classrooms:

<table>
<thead>
<tr>
<th>Table 4.4: The writing prompt for the first quarter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Writing prompt: Choose the ONE person who you feel most strongly about saving and create an argumentative writing in which you provide logical reasoning to support your argument.</td>
</tr>
</tbody>
</table>

Students wrote a short argumentative essay (about one paragraph) before they
engaged in the working towards consensus practices and reflection practices. After
completing those practices, the students wrote a longer augmentative essay (around 4–6
pages) based on the same prompt.
Students’ Extended Use of Warrant in Their Argumentative Writing

After our first intervention, the most consistent change was apparent in students’ use of warrants in their argumentative writing. In their earlier essays, most students used warrants only as general rules. However, after our intervention, we found that students used warrants in a variety of ways, suggesting that they extended their repertoire for using warrants in their argumentative writing.

Before discussing emerging patterns of the use of warrants, I discuss a basic requirement for using warrants. The basic function of the warrant is to connect claim and evidence. Therefore, smooth linking of claim and evidence is a requirement for all warrant usages. It does not need to be a single relationship between claim, evidence, and warrant, but how the warrant connects a claim and evidence should be clear. These singular and/or multiple relationships will be discussed later.

After our intervention, we found that some students still included warrants that did not clearly connect a claim and evidence, and this is problematic. For instance, Amanda made an argument that she herself should be saved. Her evidence was “[She likes] figuring things out like puzzles and has [she] always been good at doing things on [her] own.” In order to connect her claim and evidence, she provides the following warrant: “When you are able to think logically for yourself, you hardly need a generous amount of help.” In this case, the connection between the evidence and warrant is weak. It is not clear that having a liking for puzzles and being good at doing things on one’s own are naturally connected to being able to think logically for oneself.
In this next section, three patterns of warrant use will be discussed. Two of the patterns, which were shown in students’ argumentative writings before and after our intervention, do not reflect students’ improvements in extending their use of warrants. These two patterns are discussed in order to show the bigger picture of students’ warrant use in their argumentative writing. Using dialogic warrants, the third pattern of warrant use, includes various ways in which students actually showed their extended use of warrants.

Figure 4.11: Three patterns of warrant usage in argumentative writing

The first pattern is one in which the warrant is missing. A small number of students still failed to provide any warrants after our intervention although there was a logical gap between their claim and evidence. The second pattern is using monologic warrants. In this case, we found both effective and problematic uses of warrant depending on how controversial the warrant might be for their audiences. The third pattern is using dialogic warrants to reflect different possible assumptions and beliefs when there is a possibility that the audience might not agree with the warrant or might have different warrants. The marker of this use of warrant is showing awareness of different possible
warrants. In this case, different ways of dealing with dialogic warrants were shown: some students provided rationales for their warrants and/or an applicable or inapplicable context for their warrants; some students explored tensions between different warrants, and some students worked toward consensus between different warrants.

**Use of warrant pattern #1: Missing warrants.** There were students who did not explicitly include any warrant in their whole essay. We found cases of this before our intervention, but not after the intervention. This change could be related to a strong emphasis on using warrants in this classroom. However, after our intervention, we still found cases in which a limited number of students included warrant(s) at some places in their writing but missed warrants at other places in their writing where there was a gap between their claims and evidence.

For instance, Brenda argued for saving a veteran. Her evidence was that “he risked his life for his country's people time after time.” Her underlying assumption was that if a person risked his life for his country, we should save him to show our gratitude. However, she did not include any warrant to explicitly link her claim and evidence. She also did not show any awareness about different possible warrants. We surmise that she just assumed some unarticulated warrant by considering it as taken for granted, an assumption that made her line of reasoning unclear.

**Use of warrant pattern #2: Using monologic warrants.** The second category is using a monologic warrant to reflect a general rule or principle. In the use of monologic warrants, we found both effective and problematic cases. When a warrant could be regarded as generally accepted for the audience, the monologic warrant mostly worked
effectively. On the other hand, when a warrant could be controversial to audiences but an arguer dealt with it as a generally accepted rule or principle, it was problematic and negatively affected the sophistication of the argument. In the following sections, I further explain the effective and problematic uses of monologic warrants based on students’ examples.

**Effective use of monologic warrants.** Sometimes monologic warrants were used in an effective way. In this case, students met the requirement of successfully connecting the claim and evidence. Furthermore, the warrant used seemed to be generally accepted by the targeted audiences. For instance, Zach argued for saving the 82-year-old veteran. His sub-claim was that the veteran has the knowledge and skills necessary to survive. His evidence was “he has already survived 3 years in a concentration camp and has fought in two very big wars.” His warrant was, “Generally people who have already been in a survival situation are going to know more about how to survive.” In this case, we regarded his warrant as having successfully connected his evidence and claim.

**Problematic use of monologic warrants.** Sometimes monologic warrants were used in problematic ways. The problem involved using possibly controversial warrant as a general rule without showing any awareness of different possible warrants. For instance, Nicole made an argument that a prostitute should be saved. Her sub-claim was, “It’s times like these when you would pick someone who has more street smarts than book smarts.” By providing the candidate’s experiences as a nurse and prostitute as evidence, she provided a warrant as follows: “Generally prostitutes have more common sense or street smarts to make more logical decisions.” Although she provided this
warrant as a general rule, she did not show any awareness that this warrant might be controversial to audiences. Nor did she indicate awareness that the she did not provide evidence for arguing that warrant implies that the prostitute’s life experiences should result in making “logical decisions.”

**Use of warrant pattern #3: Using dialogic warrants.** The third category, using dialogic warrants to reflect different possible assumptions and beliefs, was evident where students actually showed their extended use of warrants. After our intervention, students showed their awareness of the need to consider the possibility that their audience(s) might not agree with their warrants or might have different warrants.

Regarding using dialogic warrants, we found four common patterns from students’ argumentative writing: 1) showing awareness of different possible warrants; 2) persuading the audience by providing a rationale or an applicable/inapplicable condition for their warrants; 3) persuading the audience by exploring tensions between different warrants; and 4) developing common ground between different warrants.

**Use of dialogic warrant pattern #1: Showing awareness of different possible warrants.** Many students showed their awareness of different possible warrants with regard to their own warrants. For example, Connor argued for saving the 82-year-old veteran. His sub-claim was that “he is mentally tough.” His evidence was that “he has fought in two wars.” His warrant was “some people might not agree, but I believe that people who go through wars are generally very mentally tough.”

Although there were many students who went beyond showing their awareness of different warrants, some students just stopped here. Connor, for example, just showed his
awareness of a different warrant(s) and stated that his belief might not be acceptable to others, but he did not further explore any complex issues regarding the different possible warrants.

*Use of dialogic warrant pattern #2: Providing a backing, rationale, and/or an applicable/inapplicable condition for the arguer’s warrant.* A limited number of students provided a backing for their warrants. For instance, Katherine argued for saving a crippled boy. Her evidence was that “The boy is eight years and has not had the chance to live his life.” She provided her backing: “In the Declaration of Independence Jefferson states,” in front of her warrant: “everybody has the right to life, liberty and pursuit of happiness.”

In some cases, students provided a rationale for their warrant after they showed their awareness of different warrants. For instance, Evan argued for saving a crippled boy. His evidence was that “He is the only one that truly needs the most help… Everyone else in this scenario is able to put forth at least a little effort towards their own survival. That could mean anything from swimming to find a new lifeboat or just treading water until more help comes.” His warrant was that “if he is the only one that truly needs the most help, the crippled boy should be saved.” He also revealed his awareness of a different possible warrant: “Some people will be choosing people that will only be beneficial to survival.” He then provided a rationale for his warrant by emphasizing the importance of sticking to morals: “When you are placed into a life or death situation, many things change. The way you think, the way you see and the way you perceive changes. I believe it is very important to stick to your morals in these types of situations.”
In some cases, students provided an applicable or inapplicable condition for their warrant after they showed their awareness of different warrants. Shiloh argued for saving a criminal. Her sub-claim was that “the criminal would be a good leader.” Her evidence was that “he has the best navigating skill.” Her warrant was that “the criminal who has the best navigating skills would be a good reader.” As a response to her warrant, she revealed a possible assumption about a criminal which might be different from her underlying assumption that a criminal could be a good leader, and then she pointed out that in a specific condition (a life-threatening situation), her warrant might work: “People might not think a criminal would have the abilities to step up and serve others, but in a life-threatening situation, everyone would help in order to get home smoothly.” Although she stated that the different assumption might not be true in the situation without a possible reason, she did not further explore any complex issues regarding the different warrants.

*Use of dialogic warrant pattern #3: Persuading their audiences by exploring tensions between different warrants.* Some students not only showed their awareness of different warrants, but also actively moved to persuade their audiences by exploring tensions between different warrants. For instance, Evan, who argued for saving the crippled boy, wrote the following question to encourage his audience to carefully consider his warrant: “Would you be able to look the young, hopeless eight year old in the eye and reject him? Would you be able to just let him sink? Would you be able to watch him die? Would you be able to live with your decision if you did so?”
He further explored tensions between different warrants. For people who were advocating a practical warrant for this issue, he provided a sub-claim that “this boy may have some benefit towards the survival of the others.” His evidence was that “the fact that this boy is paralyzed in his arms does not mean he cannot contribute. The boy still has a voice and can speak. Nowhere in the simulation does it say he has an inability to talk.”

He then provided the following warrant: “Generally, having a voice is key to communication and relaying information to others.” By providing this sub-claim, evidence, and warrant, he explored the tensions between a practical warrant and ethical warrant implying that a practical warrant and ethical warrant should not be regarded as mutually exclusive.

Evan also dealt with another tension between warrants with a practical basis involving the advantages vs. the threat entailed by a physically strong person. He provided the following data: “We also know he is unable to commit any wrong actions against anyone else.” He then provided the following warrant: “Generally, when you are paralyzed you cannot perform many physical actions to hurt anyone.” He then raised the following question: “Do you think a kid of his physical condition could really pose a threat to anyone on the boat?” By expressing his concern about the possible threat posed by some candidates with strong physical abilities, such as a criminal, he responded to a practical approach and the related warrants that held that strong physical abilities are highly useful in a lifeboat situation. By providing a conflicting warrant that acknowledges that a physically strong person can be a threat to others, he raised a
question about whether being physically strong should always be regarded in a positive way.

*Use of dialogic warrant pattern #4: Developing a common ground between different warrants.* Some students tried to develop a common ground with different warrants including their opponents’ possible warrants. For instance, Thomas argued for saving the prostitute. He explicitly explored his possible opponent, a practicing Christian, and provided their possible response to disagree with his assumed opponent’s argument as follows: “there are several more survivors who are pure… more necessary to save.” He then positioned himself as a Catholic and tried to develop the common ground based on the Christian religion by formulating the following warrant: “One’s sin no matter how disturbing and atrocious can always be absolved in the eyes of God.” He tried to resolve the prejudice about prostitute by providing a conflicting warrant about sinners and tried to further develop his argument for saving the prostitute with a focus on practical issues. The following paragraph shows how he actually developed his paragraph with the conflicting two warrants and tried to develop the common ground with his opponent:

The main objection that any common person, especially a practicing Christian, would say about saving a prostitute would be her life choices previous to this see liner crash would not deem her worthy of being saved when there are several more survivors who are pure and therefore more necessary to save. As a Catholic myself I can see how the beliefs of someone else could bring disapproval in saving the prostitute, however, one’s sins no matter how disturbing and atrocious can always be absolved in the eyes of God, which makes it an even easier matter to overlook for anyone who may object in saving her to resolve all prejudice and look
forward to the best interest of the nine chosen survivors. (Excerpts from Thomas’s final argumentative writing in the first quarter)

A Continuum of Warrant Use

Based on what we found in this study, we can draw a continuum of use of warrant (see Figure 4.12).

<table>
<thead>
<tr>
<th>Monologic warrant</th>
<th>Intersubjectivity-based dialogic warrant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Using a monologic warrant as a general rule and principle</td>
<td>Using a dialogic warrant by showing awareness of others’ different warrants</td>
</tr>
<tr>
<td>Using a dialogic warrant by providing a backing, a rationale, and/or an applicable/inapplicable condition</td>
<td>Using a dialogic warrant by exploring tensions between different warrants to persuade the audience to the arguer’s warrant</td>
</tr>
<tr>
<td>Using a dialogic warrant by developing common ground between warrants</td>
<td></td>
</tr>
</tbody>
</table>

Figure 4.12: Continuum of use of warrant

The left column refers to using monologic warrants and the right column to using dialogic warrants; in particular, intersubjectivity-based dialogic warrants (dialogic warrants considering communication and cooperation with different warrants). As explained previously, when students dealt with dialogic warrants, their basic response was showing awareness about different possible underlying assumptions and beliefs. Some students then actively did something more with their warrant. A limited number of students provided a backing for their warrant. One common response to a dialogic warrant was to provide a rationale for their warrant. Another common response to a dialogic warrant was to provide an applicable or inapplicable condition of their warrant. We thought exploring tensions between different warrants could be regarded as a more
intersubjective use of dialogic warrant by engaging in active interaction with a different warrant(s), although some of the students showed their closed-mindedness to different warrants. Exploring common ground warrants with different perspectives is the most intersubjective dialogic use of warrant, because it considers mutual (or interconnected) points with others. We did not regard using more intersubjectivity-based dialogic warrants as a sophisticated use of warrant, but we could generally see a connection between the active interaction with dialogic warrants and the students’ sophisticated use of warrant in their development of sophisticated argumentation.

Among the students who used dialogic warrants, some did not clearly show their attitude toward the different warrants, but others showed closed or open minds toward different warrants. For instance, the above-mentioned student, Evan, showed a closed mind toward different warrants. After raising the ethical questions regarding the crippled boy, he wrote that “If you answered yes to those questions, then you are no better than the man convicted of murder that you let aboard the boat before that boy… This is why sticking to your morals is so important.” Although he showed awareness of different warrants in approaching this issue in both a practical and ethical way, he showed a closed mind towards different warrants about whether to save the crippled boy. On the other hand, some students showed open-mindedness towards different warrants. In the case of Nicole, her thesis was for saving a prostitute. Her evidence was based on the prostitute’s practical usefulness as a nurse. She showed open-mindedness towards different warrants by acknowledging that “In a time of life or death it is only implied that people will judge you based on who you are or what their morals are and how you fit into those categories.”
During the classroom interactions, we found that revealing an extremely closed mind toward a possible different warrant(s) negatively affected the arguer’s interactions with an interlocutor(s) who revealed a different warrant. In students’ argumentative writing, we found that students’ closed or open attitudes to different warrants were not, however, directly linked to their development of sophisticated argumentative writing. Regarding the students’ development of sophisticated argumentative writing, a more complicated issue was that in their argumentative writings, students dealt differently with their warrants. In some students’ cases, they carefully dealt with possible different beliefs for some of their warrants, but they left some other warrants that could be very controversial without any further comment. For instance, the above student, Nicole, showed her open mind to a moral approach to a lifeboat situation. However, she used possible controversial warrants as monologic warrants, as I shared in a previous section: “Generally prostitutes will have more common sense or street smarts to make more logical decisions.” This kind of inconsistent use of warrant made us pay attention to students’ development of a set of warrants. What we generally found was that students’ active interactions with a possible different warrant(s) that led to the progression of their idea, seemed positively related to their development of sophisticated argumentative writing.

**Discussion**

In this section, I first discuss the results of the intervention in terms of our conjecture. I then discuss the theoretical constructs relative to a system of warrants that we generated for developing sophisticated argumentative writing in the first quarter. Last,
I discuss the dialectical relationship between our theoretical framing and actual practices as well as how actual practices in the first quarter confirmed, extended, and challenged the theories that we used for designing the first intervention in an argumentative writing classroom context.

The Results of the Intervention in Terms of Our Conjecture

In the first quarter, with regard to our specific goal of dialogic warrant instruction, we developed the following conjecture: A dialogic conceptualization of warrants will contribute to the eleventh-grade students’ development of sophisticated argumentative writing in the two Language Arts classrooms. In this section, I discuss a conceptualization of the development of sophisticated argumentative writing as a process rather than as the development of a product. I then discuss students’ improvement in their use of warrants. I will then discuss the emerging key issue of multiple layers of warrants.

Sophisticated argumentative writing as a process. While analyzing students’ classroom conversations during our intervention and students’ final lifeboat argumentative writing in our research team meetings, we realized that each product (their argumentative writing) can only show where one student is at that time in his/her development and of argumentation. We were not able to discuss these essays divorced from who the student is, how s/he wrote previously, and how s/he participated in the intervention.

At first, we thought that it was not clear that an extended use of warrant and a variety of responses to dialogic warrants were indicative of improvement in the development of sophisticated argumentative writing. Students who had a high level of
writing ability to start with usually produced well-developed writing, but some struggling writers failed to provide a clear position and/or concise organization when they tried something new in their writing. Generally, students tried to actively respond to possible controversial warrants in their argumentation, although some of them were successful and others were not. By analyzing those new writing experiments, we realized that the process of trying new and more flexible responses should be understood as a necessary step for them to develop sophisticated argumentation and argumentative writing.

As many studies have pointed out (see Newell et al., 2011), developing sophisticated argumentative writing is not an easy task that all students can achieve within two to three months. This is especially difficult for students who do not have very sophisticated ways of thinking and/or ways of writing. Through our research process, our team realized that we needed to conceptualize our sophisticated argumentative writing goal as a process rather than as a product. As a result of our intervention, we cannot say that most students achieved sophisticated argumentative writing by considering the dialogic aspects of warrants. However, we can say that many of them were in the process of improving the sophistication of their argumentative writing.

It is true that there are still several issues we need to further explore in students’ use of warrants and its relationship to their development of sophisticated argumentative writing. This study provides some cases that could lead to insights and questions for future research. What seemed clear to us was that students were willing and eager to develop warrants and respond to controversial warrants in their oral and written arguments during and after our intervention, although some of their experiments were
successful and others were not. By analyzing these new writing experiments, we realized that the process of trying new and more flexible strategies should be understood as a necessary step for students develop sophisticated argumentation and argumentative writing. With regard to our findings, one implication was that students need to further extend their repertoires for using warrants in different argumentative contexts by understanding the dialogic aspect of warrants and how to deal with potentially controversial warrants in their argumentative writing.

**Reflections on the intervention by teachers and students.** During the intervention involving the reflection practice, when the teachers asked, “What did you think of yesterday?” (Video files, Ms. Vale’s classroom, 10/11/2013, Mr. Moon’s classroom, 10/11/2013), referring to the working towards consensus practice, many students said that they were so surprised that others had different approaches, assumptions, and beliefs (field notes from Ms. Vale’s classroom, 10/11/2013, Mr. Moon’s classroom, 10/11/2013). In Ms. Vale’s class, a male student even remarked that, “We had different beliefs about almost everything” (video file, 10/11/2013). It was clear that students clearly understood that people, even their classmates, could have different warrants for their arguments.

In our research meetings and teacher interviews, the two teachers were excited about our findings so far and evaluated the intervention as successful. The following was from an interview with Ms. Vale right after the working towards consensus practice, during and right after our intervention in the first quarter:
“For me, today is a huge victory about curriculum. The huge victory of Hillock’s work, and huge victory of what we tried to do with kids. They are not nicer kids. They are not the smartest kids. They are not the easiest kids. I have questions, questions, and questions. This is the right thing for AP, but is this right thing for them?... To think through logic, they have to change their tools and toolbox. They come in with the inability to think through logic. They jumped each other. Students did not have strategies to think… (Interview with Ms. Vale, 10/9/2013)

Ms. Vale mentioned “the huge victory of Hillock’s work,” which referred to introducing the concept of warrant as a general rule based on crime scene investigation situations. She and Mr. Moon felt that learning this concept provided a good grounding to further extend the concept. Ms. Vale also mentioned the “huge victory of what we tried to do with kids,” by which she meant introducing the dialogic aspects of warrants and extending the concept of warrant as people’s different possible underlying assumptions and beliefs. She and Mr. Moon reported that extending the concept of warrant helped students to think through logic when they engaged in an argument in which different underlying assumptions and beliefs were displayed by using the term “warrant” as a thinking and communication tool.

Mr. Moon pointed out that the importance of “bringing out personal beliefs” for authentic argumentation and understanding themselves and each other.

We wanted them to think about themselves, their belief systems. Other kinds of belief systems. Competing belief systems. Understanding each other. We could observe that the intervention brought out personal beliefs. Authentic pushback to each other. (Interview with Mr. Moon, 10/11/2013)
In her later interview, Ms. Vale also pointed out how the intervention contributed to students’ engagement in not only their oral argumentation but also written argumentative writing.

“Students said that they really like how other people think. They were surprised by others’ different beliefs… Our intervention is beyond fantastic. A student who doesn’t like school things. He pulled me aside and asked me, ‘Could you read it?’ It was the best thing that he wrote. He knows where to expand. Where to respond… When you take a student who is not academically interested in, have him be very engaged. It was the longest thing that he written. He usually said ‘I don’t want to write’… Students were really engaged in thinking. This is what it does. Challenges them at a whole different level… Authentic argumentation in which they start to think about themselves.” (Interview with Ms. Vale, 10/11/2013)

In addition, during eight student interviews after the first intervention, six explicitly mentioned that learning the concept of warrant was helpful in their argumentation and writing. The following is an excerpt from one of the student interviews:

Researcher: Can you explain anything about what you learned in this course about argumentation and argumentative writing?
Micaha: We’ve learn a lot of warrants which I think is new to a lot of us this year, and I think that it really helped to build a strong argument. And um… I think that the development of warrants and like counterarguments something like that… I think that it overall improves like the quality of your argument. I think that really
help at least me and my papers. I saw a big difference. My mom did, too. She used to be an English teacher. She really saw the difference in my writing…

Warrants are not easy to learn, but starting from common sense everybody can agree on… everybody finds to be true and fits your argument… bring a home, a logical point, oh, yeah, that makes sense. Something like… forced you to something like somewhat given… Then… it is important to know when the warrant might not be agreeable and how to work on it… I think that is really helpful in building arguments. (Student interview, Mr. Moon’s class, 10/24/2013)

Micah explained that learning the concept of warrant was very helpful in his argument and writing. In particular, he mentioned that starting from common sense could provide a logical point to persuade others. At the end, he pointed out the importance of knowing “when the warrant might not be agreeable and how to work on it.” His interview implies that he understood the useful function of warrant for making his logic clear and the importance of working on possibly controversial warrants.

**Extensive use of warrants.** As shared previously, students’ final argumentative writings showed their extensive use of warrants. In their pre-intervention argumentative writings based on the same topic, three students did not include any warrant. In the post-intervention argumentative writing, all students included at least one warrant. In the pre-writing, all students who included at least one warrant, did so only using monologic warrants. In the post-writing, while 35%\(^\text{15}\) of students included only monologic warrants, 67% students included at least one dialogic warrant in their argumentative writing. The

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\(^{15}\) In this dissertation, with regard to analyzing students’ final argumentative writings, the percentages were rounded to the nearest whole number. In the first quarter, one student’s final argumentative writing was missed, so I calculated the percentage based on 45 students’ argumentative writings from the two classes.
students who included dialogic warrants revealed a variety of responses to possible controversial warrants. We evaluated that students’ extensive use of warrants revealing their consideration of the dialogic aspects of warrants could be regarded as a marker of their improvement in developing sophisticated argumentative writing, especially for a given argumentative topic that deals with people’s different possible beliefs and values. In the following section, I will further discuss how students’ use of dialogic warrants can be regarded as a marker of their developing sophisticated argumentative writing in the given writing task.

**Limitations of Using Warrants as Only a General Rule.** If teachers and students conceptualize warrant based primarily on arguments of fact in which the nature of warrant is mainly based on general rules from scientific knowledge or common sense rules, they might experience difficulty in using this concept of warrant in other contexts, such as arguments of judgment in which the nature of the warrant is based more on different possible underlying assumptions and beliefs. In our study, we found a general limitation when students only used warrants as general rules in this type of argument situation (argument of judgment), regardless of whether they developed monologic warrants in an effective way or not. For instance, students often included warrants that indicated why some functions would be important in a lifeboat situation. However, they often missed warrants regarding which criteria (as reflected in their warrants) were more important than other criteria and what made these criteria more important.
I will further discuss these limitations by introducing two emerging types of important warrants, *foundational warrant* and *priority warrant*, in arguments of judgment and the important aspects of multiple-layer warrants in the next sections.

**Two Emerging Types of Warrants.** When we analyzed students’ warrants in their oral and written arguments, we found two types of warrants: foundational warrants and priority warrants. I should note that these types of warrants emerged from the specific context of an argument as judgment in two high school classrooms. These types of warrants are not comprehensive or mutually exclusive. A discussion of these warrants may be somewhat preliminary, but may also provide some insights for future explorations of the uses of warrants and warrant instruction, and in particular, how we need to further extend warrant instruction for the development of students’ sophisticated argumentative writing.

**Foundational warrant.** The first emerging type of warrant was what we call foundational warrant, which refers to a warrant that provides a foundation for several specific warrants that connect sub-claims and evidence. This warrant applies to the overarching claim of the argument. In our research meetings, when we analyzed students’ argumentative writings after our intervention, we found that several students provided this type of warrant, and this warrant made their line of reasoning clearer.

For instance, in the previous section, Evan provided his foundational warrant: “It is very important to stick to your morals in these types of situation.” This warrant provides a foundation for his other warrants. As an example, he argued for saving the crippled boy. His evidence was, “When you put him up against all the other candidates to
choose from, he is the only one that truly needs the most help. It is said that he is unable to move his arms, and he even needs people to feed him.” He provided a specific warrant to connect the claim and evidence: “Generally when you are paralyzed you are unable to swim.” If we do not consider his foundational warrant, his line of reasoning is not clear. As we observed in many students’ group discussions, the above-mentioned evidence and warrant, which clearly showed the weakness and limitation of the crippled boy, could be used for the exact opposite argument of not saving him. Because of his foundational warrants, we could easily connect his thesis and other warrants.

**Priority warrant.** The second type of warrant is what we call a priority warrant. This refers to a warrant that reveals the arguer’s priority among multiple options based on his/her underlying assumptions and beliefs. In the context of arguments of judgment, many warrants could be related to the arguer’s assumptions and beliefs about which criteria should be prioritized. A priority warrant is by its nature not simply a general rule. In our research meetings, when we analyzed students’ argumentative writing after our intervention, we found that the students who provided only warrants based on general rules failed to provide priority warrants. Examples of priority warrants in our lifeboat scenario that were shown in students’ argumentative writings were those regarding practical issues such as whether it is more important to have navigational skills, medical knowledge, speech skills, or survival knowledge and experience. Other examples dealt with personality issues, such as a calm and strong personality, an active and outgoing personality, a sense of humor, a positive outlook, or an honorable nature.
Those students who failed to use a priority warrant missed exploring why this rule should be regarded as a more important criterion than other criteria in the given situation, and thus failed to completely make the connection between their claim and their evidence in a convincing fashion. Students who did use priority warrants constructed arguments that were perceived as much clearer. Thus, the presence of priority warrants could be considered a step in the direction of more sophisticated argumentative writing in the given specific writing task.

When we consider an argumentative writing as a whole, a warrant that we previously discussed as an example of an effective use of monologic warrant could also show the limitation of warrants used only as a general rule. Zach’s warrant was, “Generally people who have already been in a survival situation are going to know more about how to survive.” Although this warrant itself could be generally accepted, whether this criterion is more important than any other for deciding who needs to be saved could be controversial. However, Zach did not include a priority warrant in his argumentative writing, Thus, at some level (at a micro-level), he successfully connected his evidence and sub-claim through his warrant by explicitly articulating why his choice's survival experience would be helpful in a lifeboat situation, but he did not further explain how/or why this function was more important than others anywhere in his argumentative writing. As a result, there seems to be a step missing in making a complete connection between his thesis and evidence using warrants, considering his whole argumentative writing (the macro-level of his argumentative writing).
Multiple Layers of Warrants

Multiple layers of warrants are one aspect of warranting that emerged from our analysis of students’ use of warrants. When we analyzed students’ use of warrants focusing on a single warrant between one claim and one piece of evidence, we found that in some cases, in order to connect their claim and evidence, students developed several warrants, which were often expressed in several sentences. These several warrants were sometimes found in one place, near their single claim and evidence. In other cases, the several warrants were distributed in different places in order to connect a claim and more than one piece of evidence. We also found several cases where the warrants had a close relationship and supported each other. The key examples of students’ development of multiple layers of warrants are the emerging categories of foundational warrant and priority warrant that I introduced above.

Although no one has explicitly conceptualized warrants based on a single claim, evidence, and warrant, most researchers and textbook writers including Toulmin (1958/2003) have provided examples of warrants based on the relationship between a single claim, evidence, and warrant. In addition, we have not found any extended discussions about what we call multiple layers of warrants in articles about warrants in the field of literacy (Hillock, 2010; Rex et al., 2010; Warren, 2010) or any textbooks on argumentation (e.g., Hillocks, 2011; Lunsford & Ruszkiewicz, 2004; Smagorinsky, Johannessen, Kahn, & McCann, 2011; Smith, Wilhelm, & Fredricksen, 2012).

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16 In Toulmin’s case, this (focusing on the relationship between a single claim, evidence, and warrant – what could be called the micro-structure of argument) is related to his purpose of development of the layout of argument. I will further discuss this issue in Chapter 7.
This preponderance of examples of single claims, evidences, and warrants could give a false idea of the true nature of the warrant in argumentation and restricts the theoretical and practical exploration of warranting in argumentative writing. This finding led us to develop the concept of a system of warrants, which will be discussed in the following section.

**Building Theoretical Constructs Related to a System of Warrants for Sophisticated Argumentative Writing**

In the first quarter, developing warranting was emphasized. In particular, considering dialogic aspects of warrants was highlighted in our intervention. Our retrospective analysis revealed students’ improvements and struggles in terms of their development of warrant. Regarding warrants, many issues emerged during and after our intervention. I must note that many questions remain for future research (e.g., a continuum of warrant use, foundational warrant, priority warrant, multiple layers of warrants). Nevertheless, we generated the theoretical constructs that seemed most obvious to us at this stage based on the findings evidenced in this study.

In this section, I introduce the emerging area of a system of warrants, which is a set of interacting and interdependent warrants in an argumentative writing for developing sophisticated argumentative writing. I generated four theoretical constructs in this area: 1) No logical gap from missing warrant, 2) Successful connection between evidence and claim, 3) Response to controversial warrants, and 4) Consideration of all warrants as a system (or consideration of the relationship between warrants). Figure 4.13 shows these theoretical constructs:
The meaning of theoretical constructs (what would be regarded as logical gaps, what would be regarded as successful connections between claim and evidence, what would be regarded as controversial warrants, and what would be regarded as meaningful responses to controversial warrants) can differ between communicative fields. We tried to provide specific examples to show our meaning of the constructs in our research context.

**Theoretical constructs about a system of warrants 1: No logical gap from missing a warrant.** In order to develop a sophisticated argumentative writing, developing a clear line of reasoning and avoiding logical gaps were emphasized. After our intervention, some students still missed warrants in some places in their argumentative writing, even though there was a logical gap between their claim and evidence. This often happened when students regarded some warrants as taken for granted.
To develop sophisticated argumentative writing, students need to carefully check whether they need to explicitly include a warrant to link the claim and evidence. Although the places where people see a logical gap between evidence and claim could be subjective, efforts to identify and avoid logical gaps from missing warrants may be important for instructors teaching argumentation, so we generated this as a theoretical construct for sophisticated argumentative writing.

**Theoretical constructs about a system of warrants 2: Successful connection between evidence and claim.** When a writer identifies a logical gap between evidence and claim, s/he needs to know how to successfully connect them. In this study, smooth linking of claim and evidence was regarded as a requirement for all warrant usages. However, some students still expressed difficulty or problems in providing a warrant that could logically link their evidence and claim. Developing a warrant that successfully connects evidence and claim is another theoretical construct for sophisticated argumentative writing.

**Theoretical constructs about a system warrants 3: Response to a controversial warrant.** In students’ final argumentative writings in the first quarter, they showed a variety of responses to potentially controversial warrants. The determination of which responses would be regarded as more meaningful and/or sophisticated needs to be further explored. However, this study suggested that dealing only with monologic warrants resulted in less sophisticated argumentative writing, at least in the argumentative writing context in which an arguer’s beliefs, values, and priority played a large role, as in our first intervention. When a warrant is highly controversial, providing responses to the
controversial warrant is necessary, so a response to the controversial warrant was generated as a theoretical construct for sophisticated argumentative writing.

In addition, students’ responses to controversial warrants in their argumentative writing provide diverse possibilities to deal with controversial warrants in an argumentative writing. As previously discussed, Toulmin (1958/2003) discusses how to deal with a dialogic aspect of warrant. He suggests providing a backing to show where the warrant can be authorized, providing a qualifier to show the degree of the force of the warrant, and providing a rebuttal to show where the warrant might not be applicable. In our study, while providing a qualifier or an applicable/inapplicable context in a warrant or claim was shown in some students’ argumentative writing, providing a backing was shown in fewer students’ writings. We thought that this pattern could be related to the given argumentative topic, or because it was related to students’ own beliefs and values, and would, therefore, inhibit their chances of finding a backing. It might also be possible that students did not belong to (or were regarded as not belonging to) a specific communicative field that shares underlying assumptions and beliefs, so they might have difficulty in finding a backing for their warrant. Rather, students showed a variety of responses to potentially controversial warrants. Exploring tensions between different warrants and developing common ground between different warrants could be regarded as more active ways of dealing with possibly controversial warrants. What might be regarded as more appropriate and sophisticated responses can differ depending on the writing context, so we need to more carefully examine possible multiple ways of responding to potentially controversial warrants and extending students’ repertoires of
them. However, it is clear that we can consider possible multiple, creative ways of responding to potentially controversially warrants.

**Theoretical constructs about warrant 4: Consideration of all warrants as a system.**

In order to develop a sophisticated argumentative writing, considering all warrants that are developed in an argumentative writing as a system can be worthwhile. In our study, we created the concept of foundational warrant, which refers to a warrant that provides a foundation for several other warrants. This means that the interaction and interdependency between warrants need to be considered. After developing all warrants, considering all warrants that are developed as a whole system and checking how the developed warrants interact with each other and whether there is a missing warrant, problematic warrant, and/or conflicting warrants, can be regarded as a meaningful step in developing a sophisticated argumentative writing.

**How Actual Practices Influenced Our Theoretical Framing After the First Intervention**

In formative and design experiments, the reciprocal relationship between explicit theory and an intervention is mutually informing (Brown 1992). In this section, I will discuss the dialectical relationship between our theoretical framing of the first intervention and the actual practices.

**Challenges to Habermas’ theories and affirmation and extension of Gadamer’s theories.** For the first quarter, we developed our theoretical framing based on Habermas’ communicative rationality and developed interventions based on key elements
from his view. In the classroom settings, the actual classroom practices challenged some part of the selected theory. Habermas (1984) describes achieving consensus as an ideal goal and as the final conclusion of an argument. However, our actual classroom observations show, achieving consensus might not always be possible or even ideal in argumentation in high school language arts classrooms as Gadamer (2004) argued.

Having a goal of achieving consensus can be counter-productive if the members of a group start out with rather similar ideas. When students had similar perspectives, they easily achieved consensus, but they did not explore the topic in any depth. In such cases, they did not carefully consider their possible stereotypes or biased ideas. On the other hand, several groups who did not achieve consensus because their perspectives were different, found themselves having discussions that explored the topic with a greater variety of lenses.

Our research team agreed that working towards consensus practices and discussion rubrics helped students to actively listen to and respond to different perspectives. However, we still thought that many students put lots of efforts to support their own perspectives, tried to resist different perspectives, and/or tried to find limitations in others’ perspectives in order to strengthen their point of view (meeting note, 10/22/2013). In addition, as the classroom interaction shows, many students responded their classmates’ argument as illogical or irrational argument when they developed argument from different warrants.

The teachers’ emerging guidance practices in the small group discussions and reflection practice reminded us of Gadamer’s view of investigational rationality.
Gadamer (2004) premise that historicity is a fundamental condition for human understanding, knowledge, and consciousness. The teachers helped students to understand historicity in their own understanding of and the embodied nature of warrants in helping them understand how the students’ own backgrounds and experiences affected their taken-for-granted warrants. The teachers also asked students to detach from their own warrants and reconsider from their classmates’ beliefs and assumptions.

These findings remind us of what Gadamer (2004) wrote about productive prejudices. Gadamer (2004) distinguishes productive prejudices, which enhance understanding, and negative prejudices, which hinder understanding, and even “lead to misunderstandings” (p. 295). For productive prejudices, Gadamer (2004) enumerates three conditions: expressing prejudice, interacting with different prejudices, and raising thoughtful questions. In the classrooms observed, the first two of these conditions in the form of opportunities to express students’ own underlying assumptions and beliefs (what Gadamer calls prejudices) and interacting with other classmates’ different underlying assumptions and beliefs were found to be important constructs in developing a sophisticated argument especially in judgment based arguments.

Gadamer points out that “it is impossible to make ourselves aware of a prejudice while it is constantly operating unnoticed” but it is possible to become aware of the prejudice when it is “provoked” (p. 298). We found that ‘provoking the prejudice’ was a useful approach since when that happened the students explored the topic more deeply. As students shared in their reflection practices, many wrote that they were very surprised that their classmates had different underlying assumptions and beliefs. In the reflection
practice and student interviews, some students shared that they were able to rethink their own beliefs, others’ beliefs, as well as how to interact with others when they were confronted with different beliefs. Students’ final argumentative writing also showed their increased awareness and consideration of their own underlying assumptions and beliefs which seemed to be different from others. Our analysis revealed that dealing with controversial warrants as taken-for-granted warrants could be problematic or a sign of less sophisticated argumentation. Thus, one could say that expressing prejudice and interacting with different prejudices positively worked towards the development of sophisticated argumentative writing. In any case, our data align with this part of Gadamer’s theory.

With regard to Gadamer’s third condition of raising thoughtful questions pertinent to productive prejudice, our data extends the theory in the context of the high school language arts classroom. First, what we observed was that this condition did not happen effortlessly in students’ small group discussions although they were in a situation where the first two conditions naturally occurred. Second, the teachers’ questions about their historicity and different positioning had a large impact on students’ exploration of their prejudice and development of arguments. Thus, in the context of the language arts classroom, it seems that for the third condition of asking thoughtful questions, the teachers’ guidance might be necessary unless students are not available and/or fully trained (practiced) to develop thoughtful questions.

In addition, the research findings reminded us of Haraway’s (cite year of publication) positioning rationality. Although Haraway’s idea about positioning,
repositioning, and mobile positioning was mainly discussed in the context of academic fields or communities, we found that the terms of positioning and repositioning could reveal the key part of changing perspectives in the teachers’ guidance on attachment question and detachment questions. We also found that positioning, repositioning, and exploring tensions are also closely related to Gadamer’s investigational rationality. Our research team decided to further explore the found dialogic constructs of positioning, repositioning, and exploring tensions by further developing theoretical frames from Haraway’s positioned rationality and Gadamer’s investigational rationality in the second quarter.

**Rethinking the idea of working towards consensus.** Another finding was that in the high school classroom context, the practice of working towards consensus can be used as a tool for helping students to acknowledge multiple perspectives and be open-minded, and as a result, it was used for helping students to deeply explore different perspectives. After the intervention, in an interview, Ms. Vale said:

> But the work toward consensus isn’t real. It's a ploy. The bigger and broader goals are, you know, the work toward consensus is this idea I am working towards so I listen to all the stuff… Consensus building is not consensus building literally… If you do, you do. That’s great. Usually it’s because kids end up with the same groups and have the same mentality. They share beliefs. And it’s an accident. It’s not literally working towards consensus… and so, an understanding of how to deploy flexible thinking. So right now, the game is not real. They are not gonna hit consensus. I want them to have discussed and used warranting and see what else comes out. And so, because of that, when you guys work through ideas, they don’t know how to work through ideas. They don’t know because they don’t have
experiences to do that. So this is a practice for it. (Interview with Ms. Vale, 10/11/2013)

While we were developing the intervention, we did not discuss that the working towards consensus practice might have a goal other than actually achieving consensus. However, after the intervention, the two teachers both shared the idea that working towards consensus could be a practice to help students experience listening to others’ perspectives carefully and to help them develop their own ideas based on others’ points of views. It appeared to have also helped students to detach from their own opinions. In Habermas’ (1984) communicative rationality, working towards consensus and achieving consensus was described as the final stage of argumentation. However, what we actually saw in the classroom was that working towards consensus was a tool to help students do their deep individual investigation.
Chapter 5: Second Intervention

In this chapter, I discuss how we developed our intervention in the second quarter by considering the multiple factors that emerged from the results of previous interventions, the teachers’ curriculum needs, and theoretical considerations arising from dialogic views of rationality. With regard to the classroom interactions, the teachers’ guidance practices that emerged as enhancing factors for the effectiveness of our intervention are also introduced.

During the second quarter, we developed the following conjecture: *Exploring complex thinking focusing on evidence will contribute to the eleventh-grade students’ development of sophisticated argumentative writing in the two Language Arts classrooms.* Our retrospective analysis of students’ writing process indicated that exploring complex thinking focusing on evidence may contribute to students’ development of sophisticated argumentative writing except for the lower 20% of struggling writers, who had difficulty handling the system of evidence and exploring tension at the same time. I discuss new theoretical constructs that we generated about a system of evidence and response to complexity for developing sophisticated argumentative writing based on our analysis on students’ struggles and improvements.
The Development of the Second Intervention

In contrast to the first intervention in which we developed one set of practices focusing on dialogic aspects of warrant at the end of quarter, in this phase, we developed a sequence of interventions which includes the four sets of repeated practices based on the specific goal of exploring tension and the focus on the system of evidence for the second quarter. The sequence of intervention was developed by considering limitations and explorative factors that we found from the previous intervention, the teacher’s curriculum plans, and theoretical considerations from dialogic views of rationality.

Within the sequence of intervention, we repeated the four sets of practices based on four different texts. In this section, I discuss our design processes for the second intervention.

Limitations and Modifications of the Previous Intervention

Figure 5.1 represents the sequence of enhancing factors and questions we found in our first intervention and how we modified our interventions in the second quarter based on our findings and relevant questions.

Figure 5.1: Development of the second intervention based on the results of the first intervention
In our first intervention, we found the components of positioning, repositioning, and investigating tensions which occurred, the teachers’ guidance practices as enhancing factors which contributed to the effectiveness of our intervention. With regard to the enhancing factors, we also found some limitations. The first limitation was related to the limited opportunities for some students to actually do positioning, repositioning, and/or exploring tensions. In both the small group discussion and the whole group discussion, the teachers provided guiding questions based on selected students’ arguments. Examples can be seen in the small group discussions that occurred in the first intervention in Transcripts 4.5 and 4.6. In those transcripts, when the students involved talked about a retired veteran, Ms. Vale asked Kelly (a student) to explore her background in relation to her perspective. Kevin (another student) was asked to reposition his argument from Kelly’s perspective and explore tensions between the different perspectives. Unfortunately given time constraints, it was impossible in the small group discussion, and even more so in the whole-class discussion, for every student to actually experience positioning and repositioning within the context of their own arguments. In other words, there simply was not enough time to enable all students, after listening to their classmates’ positioning and repositioning and exploring tensions together, to experience the same practices first-hand, and therefore, enable them to develop their own arguments as well as to explore tensions based on those arguments.

Another limitation was that classmates’ arguments were not easily investigable. The students mainly experienced multiple perspectives based on their classmates’ different warrants. Hearing these multiple perspectives, was, nevertheless, a very
meaningful process in that students realized that their classmates had very different underlying assumptions, beliefs, and perspectives. However, when the teachers guided students to explore their classmates’ different perspectives and relevant tensions with their own perspectives, their interlocutors’ ideas were often not fully developed. Although some students provided fairly well-developed ideas, other students’ reactions showed they were having difficulties in fully understanding and exploring the different perspectives in their ongoing interaction. Some students wanted to use their interlocutors’ perspectives in their argumentative writing, and therefore, often attempted to review what classmates with different perspectives had recorded.

The third limitation was students’ negative attitudes toward classmates’ different claims and/or warrants and relevant tensions. Over time, students revealed their increased understanding about the fact that their classmates might have different warrants, but that the different warrants did not mean that their own arguments were illogical or irrational. Small group discussions enabled us to learn what tensions students’ considered as well as the sources for those tensions. However, students often responded negatively to those tensions and attempted to circumvent them by arguing, instead, for their original positions and/or justifying their warrants.

Through the process of conducting our first intervention, we found what we call explorative factors, which refers to factors that had positive effects in our previous intervention but had some aspects that we wanted to further explore. In our first intervention, the components of positioning, repositioning and investigating tensions emerged in teachers’ guidance, and we saw positive effects on some students’
argumentative writing. However, we also found the above-mentioned limitations. Thus, we considered the main components of positioning, repositioning, and exploring tensions to be explorative factors. We decided to examine how incorporating these components in developing argumentative practices might affect students’ argumentative writing. As a result, we modified these components as the goals of argumentative practices in the second intervention.

**Developing a Specific Goal for the Second Intervention: Exploring Complex Thinking Focusing on Evidence**

When we met in October 2013 to plan our second intervention, our research team realized that although we originally intended to have a different focus for each intervention based on different elements of argument, such as warrant and evidence, we also wanted to further explore the emerging issues and questions from our first intervention. We found that the key part of our question was how to help students move beyond their “boxed thinking” and embrace “complex thinking.” We did not clearly conceptualize our meaning of complex thinking, but as a starting point, chose to follow Mr. Moon’s notion that it incorporates “considering multiple perspectives and relevant tensions” (meeting note, 10/22/2013). We wanted to provide more opportunities to explore complex thinking and be “messy” in order to help students more deeply explore their own points of view, understand others’ points of views, and develop more sophisticated arguments.

In addition, I hoped that the two teachers would keep their main focus on warrant instruction in the second quarter, because although we saw positive results related to
using warrants in students’ argumentative writing, I felt that the teachers could still further develop their students’ argumentative writing by focusing on warrant instruction. For the second intervention, I wanted to keep the same conjecture about warrant instruction and further revise our intervention based on the limitations that we found in the first intervention. However, I met with resistance from the two teachers. They said that although my point was valid, they had to consider a whole year’s curriculum for the class, and they wanted to provide opportunities for their students to deeply explore other important elements. They mentioned that they particularly wanted to focus on evidence in the second quarter. They emphasized that this did not mean they would not explore warrant anymore. Students would still have lots of opportunities to explore their warrants, but the teachers would put more emphasis on evidence in their instruction. They also explained that this different focus would be helpful in relation to our main purpose of helping students explore complex thinking and develop sophisticated argumentative writing. After much discussion, we decided that the main goal of their second quarter and our second intervention would be exploring complex thinking. However, with regard to the elements of argumentation, they would put more emphasis on evidence.

**Conceptualization of System of Evidence**

As stated in the preceding section, in our second intervention, the two teachers had as their main focus the teaching of evidence. In line with this focus, they developed and used the term *system of evidence.*
Figure 5.2 shows how we positioned our ideas about the system of evidence. For heuristic purposes, our research team divided evidence into what we labeled universal rules of evidence and context-specific rules of evidence. The universal rules of evidence share the underlying assumptions of the autonomous model of literacy, which assumes universal, neutral rules of evidence for argumentation. On the other hand, context-specific consideration of evidence entails that what would be regarded as appropriate, convincing, sufficient evidence can be different depending on context, and is related to the ideological model of literacy. Our concept of evidence is based on context-specific considerations.

We can think about context-specific evidence, in terms of external context consideration and internal context consideration. External context consideration, in our view, is consideration of a kind of context that usually refers to broader space and time boundaries as they relate to culturally and historically constructed literacy practices especially with regard to disciplinary fields. For instance, Toulmin’s (1958/2003) emphasis on contexts which was mainly based on different disciplines such as science,
art, law, and ethics. The National Council of Teachers of English (2012) also brought up some context issues in evidence-based arguments and emphasized that what counts as evidence can vary across disciplines.

However, considering the external context for evidence was difficult during our second intervention. In the context of the selected classrooms, students did not yet belong to a specific discipline. In addition, preparing them for not only literature but also multiple disciplines was emphasized in this course. In particular, the second quarter was more focused on developing thinking, doing, and writing argumentation beyond a specific discipline. So in the selected research sites and time period, it was difficult to consider a specific context from an outside discipline.

In order to deal with the problem, our research team chose to emphasize the consideration of internal context, what we were calling “a system of evidence” in the second quarter. A system of evidence refers to the close relationship between each piece of evidence in an argument, such that each piece of evidence complements other pieces of evidence in an argument. The consideration of internal context for evidence is closely related to what a writer’s current claim and selected evidence provide contexts for his next choices of evidence. This meaning of context is closely related to what Goodwin & Duranti (1992) discussed as language as context, “in which talk itself both invokes context and provides context for other talk” (p. 7).

Of course, what would be regarded as an appropriate system of evidence should be considered in relation to external contexts, so it is actually difficult to distinguish between external and internal context consideration for evidence. However, we try to
distinguish these two constructs in order to emphasize the importance of the consideration of internal context which have not been emphasized in argumentation.

**How to Investigate the Quality of Evidence**

During our research team meeting on October 29, 2013, our team had to decide what criteria we would use to investigate and evaluate students’ development of a system of evidence. We explored references about how to evaluate the quality of evidence. We were surprised that we could not find research that specifically focused on evidence issues (including the quality of evidence) in the language arts classroom. What we found as the most recent, comprehensive guidance was drawn from the National Council of Teachers of English (2012) which provides a guideline for checking the quality of evidence. Those guidelines provide five categories which include relevance, sufficiency, sourcing, credibility, accuracy and verifiability as follows:

- **Relevance**: Assessing whether the evidence is appropriately topical and timely
- **Sufficiency**: Accounting for all evidence, including counterarguments, alternative perspectives, and/or conflicting reports
- **Sourcing**: Noting the author (including his or her intentions) and context of the evidence
- **Credibility**: Considering whether the source of the evidence offers expertise on the subject
- **Accuracy & verifiability**: Judging whether the evidence is valid and trustworthy

National Council of Teachers of English (2012, p. 2)

While analyzing students’ work for the first and second sets of practices based on the above criteria, we decided that credibility and sourcing would not be useful for our purposes. We found that credibility is not directly related to what we were investigating. In our research, students’ main sources of evidence were a shared written text (textual evidence) and their life experiences, which are not a kind of recognized expertise. With
regard to sourcing, in the imagined situations in which students wore the lens of the 
author and developed an argument, noting where they got the information and the context 
of evidence were not key issues for us. We acknowledge that students will eventually 
need to carefully explore these criteria in their argumentative writing but they are not 
related to the main goals or the focus of our research.

The other three categories of relevancy, sufficiency, and accuracy and verification 
emerged as important criteria although these differed with different proficiency levels of 
students based on their performance of developing a system of evidence. We planned to 
further refine our ways of investigating and evaluating students’ development of evidence 
based on students’ writing.

**Developing a Conjecture and Intervention Based on Theoretical Considerations**

Our general plan was to develop a specific conjecture for each intervention that 
could be tested after the intervention. With regard to our specific goal of exploring 
complex thinking, we developed the following conjecture: *Exploring complex thinking 
focusing on evidence will contribute to the eleventh-grade students’ development of 
sophisticated argumentative writing in the two Language Arts classrooms.*

With regard to our theoretical consideration for the second quarter, we mainly 
relied upon Gadamer’s (2004) investigational rationality and Haraway’s (1988) 
positioning rationality which emerged in our first intervention. In the second quarter, for 
students’ complex thinking, we wanted more carefully consider insights from Gadamer’s 
(2004) view of rationality which emphasizes investigation and Haraway’s (1988) view of 
rationality (Table 5.1) which emphasizes mobile positioning.
Table 5.1: Key components and the practices developed for our second intervention

<table>
<thead>
<tr>
<th>Inspirational sources</th>
<th>Key components</th>
<th>How we used the components in our research</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gadamer (2004)</td>
<td>Exploring tensions</td>
<td>We developed ‘exploring tension practices’ that ask students to postpone their fixity of opinion and explore tensions from multiple perspective, approaches, and lenses.</td>
</tr>
<tr>
<td>Haraway (1988)</td>
<td>Positioning</td>
<td>We developed ‘positioning practices’ that ask students to experience positioning themselves with a specific lens. For instance, we developed practices that ask students to position the author’s lens or to position one of the characters in a text make an argument with the lens.</td>
</tr>
<tr>
<td>Haraway (1988)</td>
<td>Repositioning</td>
<td>We developed ‘repositioning practices’ that ask students to change their position in their arguments. After using a specific lens, we ask them to change their position and redevelop their argument.</td>
</tr>
</tbody>
</table>

In *Truth and Method*, Gadamer (2004), discusses different tensions that could arise because of differences and distances. Our research team paid less attention to what kinds of tensions Gademer (2004) discussed, than on his attitudes toward dealing with the different and relevant tensions. In contrast to students’ general negative responses to tensions in our first intervention, Gadamer does not see differences and tensions as something negative that needs to be removed or overcome. Rather, he deals with them as positive and productive things that lead to advanced understanding. Gadamer argues that investigation (the hermeneutic task) should not cover up the tensions between different approaches or perspectives and that we should not attempt “a naïve assimilation” of them.

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17 Gadamer mainly discussed the distance and tension issue based on temporal distance and relevant tensions between closeness and strangeness in the context of historical discussion about hermeneutic.
but explicitly reveal, reflect, and explore them for the productive purpose of a better understanding (p. 305).

In the second quarter, we developed an exploring tensions practice which asks students to explore tensions resulting from different lenses, perspectives, and approaches. When we designed the second interventions, we wanted to give opportunities for students to not feel negative about difference and tensions but acknowledge them and explore them for their value for complex thinking. For inquiry, Gadamer (2004) emphasizes the key roles of questions, noting that “As against the fixity of opinions, questioning makes the object and all its possibilities fluid” (p. 361), a stance we embraced for our project.

Our research team wanted students to reject their fixity of opinions and consider discourse as fluid by exploring tensions. However, we also found as in our previous intervention, that what we regarded as insightful questions were often apparent in the teachers’ guidance but seldom seen in students’ interactions. With the teachers provoking them, students, often asked warrant questions to each other such as “what is your warrant”, but their questions were open-ended and stopped there and often failed to further explore different perspectives and relevant tensions. Gadamer (2004) argues that questioning is not technique, “a craft that can be taught” (p. 360) and that “In order to be able to ask, one must want to know, and that means knowing that one does not know” (p. 275). Our research team did not have clear ideas about developing our interventions regarding how to help students to develop thoughtful questions. Rather, based on the
insights from the first intervention, our research decided to develop positioning practice and repositioning practice in relation to exploring tension practice.

In the first quarter, in some small group discussions, in order to help students detach from their taken-for-granted warrants and rethink their arguments in response to their classmates’ warrants, the teachers gave some students opportunities to reposition their arguments in response to their classmates’ warrants. Although Haraway’s (1988) explanations about mobile positioning (positioning and repositioning) was based on knowledge from various disciplines and communities, we thought that his ideas of were useful regarding changing positioning and could be applied in classroom contexts and used as a primary goal for dialogic argumentative practice.

Based on the ideas of changing positioning, our research team concretized the positioning and repositioning practices from Gadamer’s (2004) theories. Gadamer (2004) refers to the usefulness of imagining the other situation in the following: “If we put ourselves in someone else’s shoes, for example, then we will understand him – e.g., become aware of the otherness, the indissoluble individuality of the other person-by putting ourselves in his position” (p. 304). In order to help students to avoid their finality of opinion at the beginning of their argumentation, we want to give them opportunities for transposing themselves into the other. As a result, we combined Haraway’s (1988) positioning idea and Gadamer’s ideas of “transposing himself into the other” (p. 387) and developed ‘positioning practice’ which asked students to reposition themselves with different persons’ points of view. We decided to develop the positioning practice by asking students to position themselves as the authors and consider what the author’s
claim, evidence, and warrant might be from non-argument type texts. Through this kind of practice, we expect that Gadamer’s (2004) explanation about conversation enabling us to come to an understanding might be more likely to happen, so that “each person opens himself to the other, truly accepts his point of view as valid and transposes himself into the other to such extend that he understands not the particular individual but what he says” (p. 387). This, at least, was our hope and intention.

We then designed a way for students to participate in ‘exploring tension practices’ through which students could explore possible tensions from different perspectives, approaches, and lenses. We anticipated that students could more openly participated in exploring tensions because they were not asked to take their own position or claim and could experience positioning with another person’s point of view as well as explore tensions in the author’s arguments which might be similar or different from their original perspective and warrants.

Last, we designed a repositioning practice drawing ideas from Haraway’s (1988) mobile positioning for network understanding from different positioning and Gadamer’s (2004) temporal imagination. Repositioning practice asks students to reposition with themselves and develop an argument about the argumentative topic from the author’s perspective (lens) and then explore the tensions that emerged as a result of that positioning.

Gadamer (2004) explains that “transposing himself into the other” is a temporal strategy in order to vividly understand others’ point of views and/or situations, but “Transposing ourselves consists neither in the empathy of one individual for another nor
in subordinating another person to our own standards; rather, it always involves rising to a higher universality that overcomes not only our own particularity but also that of the other” (p. 304). Our research team expected that positioning practice could work as a form of temporal imagining for students to deeply consider the author’s point of view and/or situations. By exploring tensions and repositioning themselves as authors or in other roles, we hoped to enable students to understand the complexities of argumentative topics and to develop, themselves, arguments with greater understanding.

**Sequence of Interventions**

In contrast to the first quarter, in which we developed one intervention at the end of the quarter, for the second quarter, we developed a sequence of interventions based on the same specific goal of exploring complex thinking. With regard to the limitation that we discussed in our first intervention, our research team decided to develop positioning, repositioning, exploring tensions practices based on written texts which would allow students to explore multiple perspectives and any emerging tensions. Thus, for the second intervention, we decided to use some written sources for the development of arguments.

**Selection of a theme for written texts.** In order to select written materials, we decided on the theme based on three criteria: students’ high interest, proximity to students’ lives and concerns, and ease of locating tensions around a specific issue. Ms. Vale suggest “decision making” as a big theme because how to make decisions is a very important and interesting issue for students. Mr. Moon also agreed with the theme and explained that students could easily make the connection between the topic and their
daily lives and should easily find some tensions arising because of the issues (Meeting note, 10/29/2013).

We then decided to select written texts which speak to each other and provide multiple perspectives on the theme of decision-making. Our first choice was the main text (John Krakauer’s *Into the Wild*) for the second quarter. We did not want to select something which was written as an argument because the argumentative writing format might have too much influence on the students' writing. Instead, we wanted to find a different format to ask students to position themselves using the author’s lens and write their argument in an argumentative writing format. In addition, the two teachers did not want to use a fictional novel which could be too open to interpretations in terms of experiencing the author’s point of view. As a result, we decided on the above nonfiction work in which students could explore tensions around some issue. Mr. Moon suggested *Into the Wild*. Ms. Vale agreed that students usually showed high interest and engagement with this book. As a result, we selected *Into the Wild* by Jon Krakauer as the main text for the second quarter.

Another consideration in choosing the written material was length. We wanted to start with a shorter piece and move to a longer one. Mr. Moon suggested that a short excerpt (five sentences) from Steve Job’s commencement speech would be a good start because it is short and closely related to students’ interests. We wanted to find something longer than five sentences but no more than a page. Ms. Vale suggested the poem *The Unknown Citizen* by W. H. Auden would be good because it provides reasonably clear evidence to support the author’s idea and it would be easy to explore tensions.
around the ideas in relation to Steve Job’s quote. For the next text, Mr. Moon suggested an excerpt of 5 pages from the book, *Moral Courage* by Rushworth Kidder which could provide a good example about how that author used multiple evidence to support his ideas about moral courage. Ms. Vale agreed that the author used multiple examples from contemporary classrooms, history, and from a philosopher’s ideas. She also said that students could also see how the writer compared the concept with other concepts. In this way, we selected the four reading materials for our second intervention and developed the sequence of intervention (Figure 5.3) in the following order:

![Figure 5.3: The order of selected written sources for the sequence of second intervention](image)

During the second quarter, our research team planned to conduct repeated sets of practices based on the selected four materials for the same goal of improving students’ system of evidence and complex thinking. With regard to our iterative processes, we considered each set of practices as one intervention for which we need to conduct retrospective analysis about the procedures and results of the intervention.
**Procedures for Each Set of Practices**

We planned to provide specific procedural knowledge to identify ways of complex thinking through positioning, repositioning, and exploring tension practices. The following are the main procedures for each set of practices based on the selected four materials. With regard to the first, second, and fourth set of practices, the following procedures were actually used. For the third set of practices, revised procedures were developed (cf. Table 5.6: Procedures for working with Moral Courage).

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positioning practice</td>
<td>Students were asked to position with a specific lens and develop an argument. For instance, while reading written material, students were asked to position themselves as the author’s lens and develop an argument. The teachers usually recommended the use of what they called an evidence chart (Appendix H) to develop their arguments. Students were asked to use textual evidence that the author already provided in his writing or asked to bring up more evidence to support the author’s claim.</td>
</tr>
<tr>
<td>Exploring tension practice</td>
<td>After developing an argument with a specific lens, students were asked to explore tensions within the previously developed argument. They explored tensions by considering different perspectives, approaches, and angles to the issues. They were often asked to explore tension from the evidence chart by drawing lines out of the chart and writing down possible tensions (cf. Appendix I: A sample of exploring tensions based on their evidence chart from a group of students).</td>
</tr>
<tr>
<td>Repositioning practice</td>
<td>Students were asked to change their position in their previous argumentative writing and reposition themselves with a different lens and develop a new argumentative writing on the same topic.</td>
</tr>
</tbody>
</table>
Classroom Interactions and Revised Interventions

In this section, I discuss what happened in the classroom interactions during our interventions and what kinds of revisions we made for our intervention. First, I discuss the emerging guidance practices by the two teachers that we found as important enhancing factors in our second intervention, namely, top-down guidance and bottom-up guidance. After a general discussion of these kinds of guidance, I provide typical patterns and examples of top-down guidance based on the teachers’ introduction of the goals of the second quarter. I then discuss modifications we made for the third set of the second intervention and students’ common problems in developing system of evidence based on their classroom group writings during the third set of the intervention. Last, I introduced the teachers’ bottom-up guidance practices on their problems and difficulties.

Two Emerging Teacher Guidance Practices: Top-down Guidance and Bottom-up Guidance

During the process of analyzing classroom interactions, we found the teachers’ guidance practices played an important role for our intervention. In the two classrooms, we identified two guidance practices in which the teachers provided guidance to students, what we call top-down and bottom-up guidance. Although the two types of guidance were closely interconnected and intermingled, we were able to identify these two guidance practices that allowed us to explore and explain the emerging patterns of the unique conversations and the positive effects of in our second intervention.

Top-down guidance refers to guidance that a teacher shares with students in which the teacher sets forth clear, specific learning goals and an elaborately designed
practice(s) to understand and achieve the goals. For top-down guidance, there are three requirements: 1) a carefully chosen specific learning goal; 2) clear sharing of the goal with the students in relation to their past learning and life experiences; and 3) a carefully designed practice or sequence of practices in which students can participate to achieve the goal.

In our research, at the beginning of the second quarter, the teacher shared the learning goals, namely, developing the system of evidence and complex thinking by providing specific examples from a fictional scenario; establishing the overall goals and an approach to a sequence of practices this quarter. These learning goals also included general teaching points that the two teachers want to ensure are covered. During the learning process, the teachers often had whole group discussions and emphasized what the students were doing in the present moment, what is expected, and why it is important for their argument.

Bottom-up guidance refers to guidance in which a teacher provides very specific guidance based on students’ work (argument) during their actual participation in an elaborately designed practice. For bottom-up guidance, there are two requirements: 1) students’ participation in the carefully designed practices to achieve the learning goal; 2) teacher’s engagement with students in their performance of the practice and specific guidance and feedback based on students’ actual work produced in the practice.

In our research, there were elaborately designed sequences of practice to achieve the goal of complex thinking and developing a convincing system of evidence. These practices consisted of positioning practice, repositioning practice, and exploring tension
practices. During the practices, students collaboratively worked with their small group members to achieve the goals. The two teachers actively joined their small group discussions and provided very specific guidance from the argument that the students were developing. Here, the conversation patterns between the teachers and the students did not follow common Initiation-Response-Evaluation or Initiation-Response-Feedback patterns which are still regarded as the dominant conversation pattern between a teacher and student (Mehan, 1979; Cazden, 2001). Instead, the conversations in the classrooms of the teachers involved in this study, often involves several sequences of teacher questions and student answers. There is typically no evaluation based on right or wrong answers. Rather, the teacher includes some feedback based on which parts the students have been doing well and which parts need to be improved to achieve the goal. During the teacher’s guidance, the teacher also often makes a connection between what the students are doing and the larger purpose they are working towards.

**Top-down Guidance Practice: The Two teachers’ Introduction of the Main Goals and Practices of the Quarter**

In this section, I will discuss the four patterns of top-down guidance practices that emerged in the two classrooms based on Ms. Vale’s first two lessons of the second quarter. The first pattern is connecting the learning goal with students’ past learning and life experiences. The second pattern is sharing clear learning goals with students. The third pattern is continuing to connect each practice with their learning goals. The fourth pattern is providing supporting material and general questions that help students to achieve the goals.
Top-down guidance practice #1: Making connections to students’ past learning and life experiences. On October 28, Ms. Vale started her second quarter by asking what the students thought about argument at that moment. She also asked students to write down three arguments they had been recently engaged in. The main part of her class consisted of repeated checking of students’ current understanding about argumentation and making the connection between this course and students’ daily lives and arguments.

Top-down guidance practice #2: Sharing clear learning goals with students. On this same date, Ms. Vale introduced the main focus of the second quarter. On the white board, she drew the evidence chart and titled it as System of Evidence.

Figure 5.4: The evidence chart on the white board in Ms. Vale’s classroom
Providing a narrative to help students understand the goals. Rather than just stating the main goals of the second quarter were system of evidence and complex thinking, Ms. Vale provided a fictional story that she and Mr. Moon wrote about dating and cheating. She included the names of the main female and male characters of the story with those of two students in the classroom. “Say Brenda and Nick are dating… since sophomore year.” (Video, Ms. Vale’s class, 10/18/2013). After introducing that the two students were presumed to be dating, she provided the first evidence of texting. “Brenda went over Nick’s house. And um… they were watching a movie.” (Students were laughing with excited faces). And… Um… He's just gotten up to go to the kitchen. He was gone kind of a long time. She walks into the kitchen and sees him texting. When he sees her, he immediately put his phone into his pocket. (Some students said “woo.”)

Interacting with students to ensure clear understanding of the goal from the narrative. While sharing the narrative, Ms. Vale also interacted with students. When students responded with comments such as above “woo” expression, she asked a question(s) such as “why did you just say ‘woo’?” In this way, sharing the narrative is not her solo performance but rather interaction with students based on her leading story.

Ms. Vale continued sharing the story. “Nick did that, and Brenda did ah… And so… Then, they go back in and sit down. And… um… All of a sudden, his phone goes off. And it's definitely text messaging in his pocket. That happens. His phone keeps going off up to the point… Brenda, what do you think? ” Brenda said that “the guy is cheating.” She then asked about the reasons why they thought Nick might be cheating. The class then discussed possible reasons for this. Ms.Vale responded with the following
question: “if she thinks he is cheating by just that, how does she look?” (Video file, October 28, 2013).

After the discussion, she provided a second kind of evidence. A female student uploaded a picture with Nick on Instagram. Ms. Vale asked “How many of you at this point would actually say something?” Some students raised their hands. She asked one of the students: “Kelly, you feel pretty strong about something, but why would you not say something?” Kelly replied, “I need more evidence rather than just suspicions. “ Ms. Vale then provided a third kind of evidence (Video, Ms. Vale’s class, 10/28/2013).

*Clear articulation of the goal, the system of evidence, in relation to the narrative.* After providing the third piece of evidence, Ms. Vale introduced the main concept of the quarter, the system of evidence.

Ms. Vale: What I want you to start thinking about is… This is the system of evidence. That’s what I want you to write down. This quarter, we are gonna work with a system of evidence. Because you were back and forth and back and forth. Is this enough evidence or not? What kinds of evidence are there? How many details of evidence do you have? You need to have more evidence to determine your claim. You really pushed what evidence you needed. Your conclusion depends on what your evidence is. Depending on each piece of evidence, doesn’t make him look like cheating. If one of the things happened in isolation, do you still think that he is cheating? This is the system. This works together. (Video, Ms. Vale’s class, 10/28/2013).

*Sharing another goal of exploring tension through a brief exposure to designed practices of repositioning and exploring tensions.* Following the preceding activity, Ms.
Vale wrote “Brenda” on the left side of the evidence chart and wrote “Nick” on the right side of the evidence chart. She then asked the students to explore the tensions from Brenda’s position. This practice combined the exploration of tensions with repositioning by having students use Brenda’s lens. The following conversation showed how the students explored tensions around the claim that Brenda is making about Nick by considering other factors which might complicate the claim.

Transcript 5.1: Exploring tensions from a character’s point of view in a scenario (Ms. Vale’s class, 10/28/2013)

<table>
<thead>
<tr>
<th>Line #</th>
<th>Speaker</th>
<th>Message Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>8-1</td>
<td>T</td>
<td>We already said that if Brenda says something</td>
</tr>
<tr>
<td>8-2</td>
<td></td>
<td>It might be too early</td>
</tr>
<tr>
<td>8-3</td>
<td></td>
<td>She looks crazy right ↑</td>
</tr>
<tr>
<td>8-4</td>
<td>Ss</td>
<td>Yeah+</td>
</tr>
<tr>
<td>8-5</td>
<td>T</td>
<td>What else does she have at risk</td>
</tr>
<tr>
<td>8-6</td>
<td></td>
<td>What other some issue surround this for Brenda</td>
</tr>
<tr>
<td>8-7</td>
<td></td>
<td>Why does this make difficult</td>
</tr>
<tr>
<td>8-8</td>
<td>S</td>
<td>xxxxxxxxxxxxxxxxxxxxxxxxxxxxxx</td>
</tr>
<tr>
<td>8-9</td>
<td>Kelly</td>
<td>What about losing friends</td>
</tr>
<tr>
<td>8-10</td>
<td></td>
<td>Because you said that they had friends together</td>
</tr>
<tr>
<td>8-11</td>
<td></td>
<td>Typically when they like++</td>
</tr>
<tr>
<td>8-12</td>
<td></td>
<td>Relationships are broke up</td>
</tr>
<tr>
<td>8-13</td>
<td></td>
<td>There is a usually like an awkward relationship with friends</td>
</tr>
<tr>
<td>8-14</td>
<td>T</td>
<td>What else ↑</td>
</tr>
<tr>
<td>8-15</td>
<td>Tyler</td>
<td>Pride</td>
</tr>
<tr>
<td>8-16</td>
<td>T</td>
<td>Why</td>
</tr>
<tr>
<td>8-17</td>
<td></td>
<td>Why pride ↑</td>
</tr>
<tr>
<td>8-18</td>
<td>Tyler</td>
<td>If she is wrong</td>
</tr>
<tr>
<td>8-19</td>
<td></td>
<td>She went xxxxxx</td>
</tr>
<tr>
<td>8-20</td>
<td>T</td>
<td>What if she is right</td>
</tr>
<tr>
<td>8-21</td>
<td></td>
<td>He is cheating</td>
</tr>
<tr>
<td>8-22</td>
<td></td>
<td>and she never said anything</td>
</tr>
<tr>
<td>8-23</td>
<td>Jake</td>
<td>Stupid</td>
</tr>
</tbody>
</table>

Continued
Based on the foregoing conversation, Ms. Vale wrote down the key words from students’ discussion on the white board. She recorded several words such as “crazy,” “relationship,” “price,” and “gratification.” She also talked with students about why making an argument that Nick is cheating might not be easy for Brenda although the latter has several pieces of evidence.

The teachers then asked students to rethink the situation with Nick’s lens and explore the tensions from his position. By reconsidering the same situation through the eyes of another character, students could perceive how the situation might not be easy for him as well. “What other tensions was he dealing with?” (Video, Ms. Vale, class, 10/28/2013). Figure 5.5 shows how the teacher wrote the key words from the students’ conversation on the white board.
After discussing difficulties in the scenarios, Ms. Vale asked the students to explore warrants connected to the evidence and claim. She then introduced the main goal of the quarter. “We are gonna look at some ideas about tensions. You think by exploring. You are gonna explore ideas. In order to explore ideas, you have to understand and break down the tensions that involves.”

In Mr. Moon’s class on October 29, 2013, he also introduced the same story with the names of students from his class and discussed whether each piece of evidence was enough and then discussed relevant tensions. He then introduced the main goal of the quarter as follows:
Transcript 5.2: Introducing the main goal of the second quarter (Mr. Moon’s class, 10/29/2013)

<table>
<thead>
<tr>
<th>Line #</th>
<th>Speaker</th>
<th>Message Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>9-1</td>
<td>T</td>
<td>I want you to stop here</td>
</tr>
<tr>
<td>9-2</td>
<td>C</td>
<td>Can you <strong>really</strong> think about this situation without these ↑ (indicating what the teacher wrote about tensions in the whiteboard from the classroom discussions)</td>
</tr>
<tr>
<td>9-3</td>
<td>I</td>
<td>It seems like a very simple situation</td>
</tr>
<tr>
<td>9-4</td>
<td>H</td>
<td>He is cheating</td>
</tr>
<tr>
<td>9-5</td>
<td>C</td>
<td>Cheating is bad+</td>
</tr>
<tr>
<td>9-6</td>
<td>B</td>
<td>But you know++ people in this situation</td>
</tr>
<tr>
<td>9-7</td>
<td>I</td>
<td>It is not that simple</td>
</tr>
<tr>
<td>9-8</td>
<td>Y</td>
<td>You really cannot think about these things</td>
</tr>
<tr>
<td>9-9</td>
<td>W</td>
<td>We as a human</td>
</tr>
<tr>
<td>9-10</td>
<td>W</td>
<td>We tried to look for a <strong>simple answer</strong></td>
</tr>
<tr>
<td>9-11</td>
<td>H</td>
<td>However</td>
</tr>
<tr>
<td>9-12</td>
<td>D</td>
<td>Developing mature understanding about <strong>anything</strong></td>
</tr>
<tr>
<td>9-13</td>
<td>O</td>
<td>Over this quarter</td>
</tr>
<tr>
<td>9-14</td>
<td>B</td>
<td>By thinking about exploration</td>
</tr>
<tr>
<td>9-15</td>
<td>B</td>
<td>Because when we think simply</td>
</tr>
<tr>
<td>9-16</td>
<td>W</td>
<td>What do I mean by polarize ↑</td>
</tr>
<tr>
<td>9-17</td>
<td>S</td>
<td>xxxxxxx</td>
</tr>
<tr>
<td>9-18</td>
<td>C</td>
<td>Congress really polarizes right now</td>
</tr>
<tr>
<td>9-19</td>
<td>S</td>
<td>Divide xxxxxxxxxxx</td>
</tr>
<tr>
<td>9-20</td>
<td>T</td>
<td>When you think simply</td>
</tr>
<tr>
<td>9-21</td>
<td>B</td>
<td>Black and white</td>
</tr>
<tr>
<td>9-22</td>
<td>G</td>
<td>Good and bad+</td>
</tr>
<tr>
<td>9-23</td>
<td>I</td>
<td>If we understand these factors</td>
</tr>
<tr>
<td>9-24</td>
<td>C</td>
<td>Cut and dried</td>
</tr>
<tr>
<td>9-25</td>
<td>T</td>
<td>Things are <strong>complex</strong></td>
</tr>
<tr>
<td>9-26</td>
<td>T</td>
<td>This influences how they worked</td>
</tr>
<tr>
<td>9-27</td>
<td>T</td>
<td>To be mature thinking</td>
</tr>
<tr>
<td>9-28</td>
<td>W</td>
<td>We need to <strong>discover</strong></td>
</tr>
<tr>
<td>9-29</td>
<td>I</td>
<td>It is multi-dimensionality</td>
</tr>
</tbody>
</table>

Continued
In his top-down guidance, Mr. Moon emphasized exploration and complex thinking. Exploring tensions was emphasized as the important part of the exploration. Enduring messiness was emphasized. In the classroom, both teachers made visible their thinking about students’ habitual boxed thinking and complex thinking. Based on Mr. Moon's statements, we can draw the following contrasting table.

Table 5.3: Complex thinking versus students’ habitual boxed thinking

<table>
<thead>
<tr>
<th>Complex thinking that this quarter aims for</th>
<th>Students’ habitual Boxed thinking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multi-dimensionality</td>
<td>Think simple and over simplified</td>
</tr>
<tr>
<td>Examine tensions surrounding the issues</td>
<td>Polarized - black and white, good and bad</td>
</tr>
<tr>
<td>Use the messy and find sophisticated solutions</td>
<td>Provide easy, simple answers to the counterargument</td>
</tr>
</tbody>
</table>

In this way, the two teachers shared the goals of the quarter in a clear manner with specific examples that students could easily comprehend and further explain the meaning of the goals and the importance of the goals to students in relation to what they were habitually doing and the goals that they need to aim for.
Top-down guidance practice 3: Continuing to connect each practice with the learning goals. Both teachers were conscious about reminding students of goals that had been set on previous lessons while students worked on the designed practices. Table 5.4 provides information on the procedures that they worked with their students with a quotation from a commencement speech given by Steve Jobs to the graduating class of Stanford University in 2005. I then provide more information about what actually happened in the classrooms based on Mr. Moon’s classroom.

Table 5.4: Procedures for working with Steve Jobs’ quotation

<table>
<thead>
<tr>
<th>Practice</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positioning practice</td>
<td>Students participated in whole group discussion about what the main argument is from the excerpts (five sentences) from Steve Job’s commencement speech. Then, students participated in small group discussion. In each group, all students needed to position themselves with the lens of Steve Job and develop an argument by filling out the evidence chart. In particular, students needed to explore and provide three specific examples to support the claim.</td>
</tr>
<tr>
<td>Exploring tension practice</td>
<td>The title of this work is “Is it REALLY that simple.” Students participated in small group discussion. They brainstormed a list of tensions that surround Job’s ideas and explored the following questions: “What factors complicate his claim? What does a person risk if he/she lives according to the quotation? What is at stake for someone who lives according to these principles?”</td>
</tr>
<tr>
<td>Repositioning practice</td>
<td>Students worked individually to make their own argument. They needed to position as themselves and explored Steve Job’s argument and the possible tensions they discussed. In their argument, students could not take a simple conclusion such as agreeing or disagreeing with Job’s argument. Rather, they had to come up with a concluding statement about what all of this means. “What does it mean to YOU if one lives according to the principles in the quotation?” Their argument should try to make sense of the tensions that surround the idea in the quotation.</td>
</tr>
</tbody>
</table>
On October 30, 2013, Mr. Moon gave students opportunities to participate in the designed sequences in practices of positioning, exploring tensions, and repositioning. He continued connecting each practice with the learning goal from the previous day. For instance, the following classroom interaction shows how he connected the positioning practice of developing an argument from the author’s lens and the learning goal that was shared earlier, developing a system of evidence.

**Positioning practice: Develop an argument from the author’s lens.** Mr. Moon talked about the quotation by Steve Jobs:

“Your time is limited, so don’t waste it living someone else’s life. Don’t be trapped by dogma—which is living with the results of other people’s thinking. Don’t let the noise of others’ opinions drown out your own inner voice. And most importantly, have the courage to follow your heart and intuition. They somehow already know what you truly want to become. Everything else is secondary.”

At the end of the day, he asked students to develop an argument from Steve Job’s lens by studying a handout (cf. Appendix J). Mr. Moon started a whole group discussion by making a connection between what the class had done the previous day with the dating scenario and what they planned to do on the day in question. He said,

“We are going to think that what makes his argument is not that simple. We are also talking about building a system of effective system of evidence. Yesterday, we talked about how different pieces of evidence complemented each other… How different things kind of come together. So when you write an argument, don’t just cherry pick whatever evidence that you can think of, but good arguers and mature arguers really think about sorts of gaps and sorts of limitations that
evidence has... I want you to think about evidence as system.” (Video, Mr. Moon, 10/30/2013).

**Top-down guidance practice # 4. Providing supporting material and general questions that help students to achieve the goals.** For each practice, both teachers provided specific guidance. They asked students to use an evidence chart for their explorative argument and provided general questions to help students to do the practices and to achieve the learning goal. I provide a typical example from how Mr. Moon guided the three practices of positioning, exploring tensions, and repositioning based on Steve Jobs’ quotation by providing general questions that students can consider.

*Guiding questions for positioning practice: Develop an argument from the author’s lens.* First, Mr. Moon asked students to use the author’s lens and position themselves as Steve Jobs and summarize the main claim. During a whole group discussion, Mr. Moon wrote the argument on the white board as follows:

*Follow your heart, live your own life, not someone else’s ideas*

*Figure 5.6: Developing the main claim from Steve Jobs’ quotation on the white board*
Mr. Moon then asked students to work with their small group members to fill out the evidence chart to create an argument through Steve Jobs’ lens. In particular, they had to include a better system of evidence than their individual homework which had consisted of three pieces of evidence from their knowledge, experience, reading, familiarity with history, pop culture, etc. He emphasized that evidence should be specific and relevant.

Students were also asked to include warrants to connect the evidence to the claim. Mr. Moon repeatedly emphasized that they consider the following three questions: a) What kind of evidence best fits the claim? Why? b) How does each piece of evidence complement your other pieces of evidence? (Think of it as a system), and c) Is that the best system for this kind of argument? Why or why not?

**Guiding questions for exploring tension practice: Reconsider your argument based on relevant tensions.** After students selected three pieces of evidence and filled out the chart, Mr. Moon raised the following questions: “Okay. I am gonna push you to do the next thing. It’s really fun. You’ve got a quotation. You’ve got evidence to support the quotation. Let me ask you. Is this true? You guys just proved this argument. Is this true?” (Video, Mr. Moon’s class, 10/30/2013) The classroom had a short conversation about whether it is true. Mr. Moon then said, “Now, what we are gonna do is what we did with the dating activity yesterday. Now you have the basic argument. Now, I want you to think about tensions that surround this idea. If you want to like this way, what makes this messy? What factors complicated it? What do they risk? What I want you to do is you’ve got room around the chart. I want you to draw lines out and surround the argument with
the tensions and make it messy. Show what the quote is saying is not so simple.” Students then worked in small groups and explored tensions by drawing lines from the evidence chart to margin notes. At the end of this process the whole group had a conversation about the tensions.

*Guiding questions for repositioning their lens and making an argument.* Mr. Moon checked that all groups had a good list of tensions. He then provided the final task. “Now that you have fleshed out Jobs’ argument as well as some of the tensions that complicate his argument, it is your job to make sense of all of the mess. In your groups, come up with a concluding statement about what all of this means. What does it mean to you if one lives according to the principles in the quotation? Your statement of meaning should try to make sense of the tensions that surround the ideas in the quotation.” (Video, Mr. Moon’s class, 10/30/2013).

In the above ways, both teachers provided what we call top-down guidance to their students. In both classrooms, the teachers had very active roles in providing specific goals and introducing carefully designed sets of practices accompanied by guiding questions.

**Refinement about the Criteria about How to Investigate Students’ Development of a System of Evidence**

Our research team meeting to follow up on the preceding activities, was held on November 2, 2013. It focused on our retrospective analysis after conducting the first and second sets of practices based on Steve Jobs’ quotation and a poem, *The Unknown*
Citizen, respectively. Ideally we would have had two meetings for retrospective analysis, one after each set of practices, but the teachers' schedules prevented this.

During this meeting, our team had to refine what criteria we would use to investigate and evaluate students’ development of a system of evidence. Before we started the second quarter, we planned to consider three categories of relevancy, sufficiency, and accuracy and verification. After conducting two sets of practices in the second quarter, we found that different issues emerged based on students’ different proficiency levels.

From high-achieving students, we mainly found problems with the sufficiency of evidence. For average-achieving students, we mainly found problems with both relevancy and sufficiency. For low achieving students, we found evidence problems not only of relevancy and sufficiency issues but also of accuracy. After deep discussion, our research team decided to focus on the relevancy and sufficiency issues in the second quarter because these two criteria were relevant to most students in their development of systems of evidence. Based on students’ work and responses, we further refined what we mean when we use the terms relevancy and sufficiency. But first, I will briefly discuss what accuracy problems we found from low-achieving students.

**Low-achieving student problems with accuracy in the development of evidence.**

Before providing an example of inaccurate evidence from students’ work, I need to mention that our meaning of accuracy might differ from the NCTE (2012) guideline, which combines the criteria of accuracy and verifiability and explains them as “judging
whether the evidence is valid and trustworthy” (p. 2). Verifiability was not an issue in our research because what the students argued was mainly based on their values and a shared literary text, not on scientific data. In our research, accuracy refers to how the arguer brings up literally exact evidence from the data.

When students used their subjective interpretation of a text as evidence rather than the actual information given in the text, they often showed a problem with the accuracy of their evidence. We found this to be the case for some students when we analyzed their work on the poem, *The Unknown Citizen* (cf. Appendix K: Handout which includes the poem *The Unknown Citizen*). Before I share the students’ difficulties, I will present the procedures about how students worked with the poem in the classrooms.

<table>
<thead>
<tr>
<th>Table 5.5: Procedures for working with <em>The Unknown Citizen</em></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Positioning practice</strong></td>
</tr>
<tr>
<td>Students participated in small-group discussion about the poem, <em>The Unknown Citizen</em>. Students positioned themselves with the lens of the poet and find six important pieces of textual evidence in his poem. They had to fill out the evidence chart, especially for evidence and warrant. For the warrant, they needed to write down more general ideas or interpretations about the specific evidence that they found in the poem. They then went through their evidence and discover patterns. They lastly had to write down what the poet’s main claim is. Then, students participated in whole-group discussions.</td>
</tr>
<tr>
<td><strong>Exploring tension practice</strong></td>
</tr>
<tr>
<td>Students participated in small-group discussion about the tensions surrounding the evidence chart that they developed. Students needed to find tensions, contradictory ideas, and disagreements by drawing arrows to reveal tensions from the chart. In particular, making a connection to their lives was emphasized. Students participated in whole-group discussion and explore the tensions together.</td>
</tr>
</tbody>
</table>

Continued
Table 5.5 continued

| Repositioning practice                        | Students worked as a group. They needed to position as themselves and made a final argument about the poem and relevant tensions. They had to submit their final group’s work to the teacher. |

One group’s example shows the common accuracy problem in the evidence of low achieving students: providing overgeneralized evidence from actual data. The small group of students filled out the evidence chart with their evidence, warrant, and thesis for the positioning practice on *The Unknown Citizen* as viewed through the author’s lens. During the process, they tried to find the main argument of the author. They then explored relevant tensions by drawing arrows outside the evidence chart. The following image shows the evidence chart that was developed by the group.
Figure 5.7: One of the low-achieving groups' evidence chart

The evidence chart shows how the students did not provide specific evidence from the poem, but rather, they provided very brief, overgeneralized evidence based on their interpretation. For instance, as one piece of evidence, they wrote, “He has a good family.” However, in the poem, the author only provided that “He was married and added five children to the population.” Getting married and having five children does not equate to having a good family, especially without clear articulation of the meaning of a good family.

Thus, we could see some students’ tendency to provide evidence by interpreting data (poem) through their own lens. With their inaccurate evidence which often conflicted with other evidence they found in the same poem, these groups often had
difficulties in exploring the main argument of the author. We realized that accuracy should be regarded as an important foundation for the development of a system of evidence, perhaps especially when students make an argument based on literature.

Although our research team thought this was an important issue, accuracy problems were only displayed by a small number of low-achieving students. Most of these students also had difficulties in developing relevant and sufficient evidence. As a result, we decided to focus on the relevant and sufficient criteria for our second intervention, which was relevant to more students. The two teachers wanted to provide individualized guidance to the students who had difficulties in acquiring accurate evidence from data during the second quarter and consider this issue further in the next quarter.

**Our definitions of relevant and sufficient evidence.** With regard to the selected two criteria of relevancy and sufficiency, our research team had to redefine the two criteria based on our research context. Our definitions may differ to some degree from those of the NCTE (2012) model. In our research, “relevance of evidence” means how closely a piece of evidence is connected to the thesis. In the NCTE’s (2012) explanation of relevance, we found that the meaning of the phrase “appropriately topical and timely” is not very clear. If this means that the evidence is relevant to the topic, this seems to broad a definition. We found that some students’ evidence was connected to the topic but was not directly connected to their thesis. We mainly evaluated the relevancy based not on the relevancy to the topic but rather on its relevancy to the thesis.
In our research, “sufficiency” means how fully the evidence as a whole supports the entire claim but is not a part of the claim. With regard to sufficiency, it is interesting that the NCTE report (2012) develops the meaning of sufficiency of evidence in relation to counter-arguments, alternative perspectives, and/or conflicting reports. Our research team acknowledges the importance of considering counter-arguments, alternative perspectives, and/or conflicting reports for evidence. In particular, we emphasized the importance of response to tensions that surround the issue and/or selected evidence. However, we found that it was difficult to evaluate sufficiency of evidence in relation to counter-arguments, alternative perspectives, and/or conflicting reports because responding to the tensions could be done in multiple ways, and including counter-evidence or controversial evidence would be one way to do this. We evaluated the sufficiency of evidence based on whether the evidence as a whole fully supported the thesis. Including counter-evidence was not required for sufficiency of evidence, but if there were controversial issues surrounding the issue and/or selected evidence, carefully responding to the tensions was recommended.

With regard to the meaning of sufficiency, we want to stress that we took a context-relevant approach to evidence. What we would regard as sufficient evidence can differ in different contexts. In the context of our research in which students did not belong to a specific academic field or discipline, how to evaluate the sufficiency of their evidence was not straightforward. In our research, we mainly evaluated whether the selected pieces of evidence covered the scope of what the thesis was arguing for. For instance, if a student selected the scope of society in general, we expected a similar scope
of evidence. This means that the evidence must be relevant to the society as a whole. In this case, if a student only provided a personal anecdote, it would not be sufficient since the scope of a personal anecdote might be restricted to the person. As another example, in the case of our moral courage practice, the main thesis that students needed to develop was a selected real world dilemma is moral courage from the lens and logic by Kidder (2001). If they covered the main definitions of moral courage from Kidder’s points, we did not expect that they would consider other aspects of moral courage beyond Kidder’s points. In this way, we tried to find a match between the scope of the thesis and the scope of the evidence.

Modification to the Third Set of the Second Intervention

Based on the results of the retrospective analysis, our research team decided to slightly modify the third set of practices considering students’ current difficulties in developing a system of evidence. What we found was that many students were struggling with developing relevant and sufficient evidence. At the same time, they were struggling with dealing with contrasting evidence and warrants that were emerged while they explored tensions. Students’ final thesis often did not include their exploration of tensions and relevant contrasting evidence and warrants, as a result, their system of evidence had a serious problem in terms of their sufficiency. I provide more specific explanations about this issue of exploring tensions and developing a system of evidence in a later section on “progress and limitation in dealing with the controversy and response” based on students’ final argumentative writing in the second quarter.
In order to further investigate the patterns of students’ difficulties in developing relevant and sufficient evidence and provide students with more specific guidance, we decided to simplify the third set of practices. Table 5.6 shows the newly developed third set of practices based on Moral Courage (Kidder, 2001).

Table 5.6: Procedures for working with Moral Courage

<table>
<thead>
<tr>
<th>Positioning practice 1: Figuring out the author’s warrants</th>
<th>Students participate in small group work. On reading the selected nine pages of Moral Courage by Kidder, each group has to make a list of all of the distinctions of moral courage the author made. Based on the author’s argument, they have to develop an evidence chart including his claim, evidence, and warrant.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positioning practice 2: Developing an argument from the author’s warrants</td>
<td>Each group needs to find an example of a real world dilemma that fits the author’s argument (criteria) on moral courage. They have to write a convincing argument about how the real world dilemma is a case of what the author argues to be moral courage. In their argument, the warrants should not come from their perspective but from the author’s, which they found in their previous positioning practice.</td>
</tr>
</tbody>
</table>

In the newly designed practices, the main change was that we only carried out positioning practice rather than a positioning practice followed by an exploring tension practice and repositioning practice. In their argumentative writing, the students already had their thesis statement (the example is moral courage from Kidder’s lens). In addition, the foundational warrants for the claim (what criteria would be regarded as moral courage) were already determined by the given text. Through these controls, we tried to help students to focus more on developing of a system of evidence.
In the foregoing, what I called the foundational warrants could be differently called depending on researcher and teachers. As I stated earlier, the concept of foundational warrant emerged in the first quarter. We conceptualize it a warrant which provides a foundation for the several specific warrants which connect thesis (or sub-claims) and evidence. For the third set of the second intervention, the main argumentative topic is whether a selected case by students is moral courage or not based on Kidder’s (2001) lens. In the classrooms, what Kidder (2001) defines as the main criteria (precondition) of moral courage was regarded as the foundational warrants which provide foundations for the several specific warrants which connect thesis and evidence.

Thus, the revision was based on our research team’s realization of the need for simplifying practices in order to focus a specific issue regarding students’ difficulties. If we opened the discussion about what moral courage is, students could deal with different approaches and perspectives, and as a result, the issues of system of evidence are closely connected to other issues. For the purpose of focusing on students’ system of evidence, we tried to fix the foundational warrant in the third set of the second intervention.

**Common Problems in Developing a System of Evidence**

Common problems that we noted with developing a system of evidence related to the relevancy and sufficiency of the evidence in their small group argumentative writing. Before sharing the common problems, I want to note two things. First, in our analysis, what we called evidence, warrant, and thesis followed how students identified them in their evidence chart and/or in their discussions. Second, our description of the common problems is based on students’ moral courage task. We found similar problems of
developing evidence in their other argument development tasks. In this section, I provide a context for the argumentative writing task accompanying the third set of practices in the second quarter. I then discuss common problems that students exhibited in developing relevant and sufficient evidence.

A context of the argumentative writing task: Moral courage. In the above section, I explained how we planned the practices for the reading, *Moral Courage* (Kidder, 2001). In this section, I provide more information about what actually happened in the classrooms based on Ms. Vale’s classroom.

On November 4, Ms. Vale started the class by checking whether students had read the assigned reading about *Moral Courage* (Kidder, 2001). The students who admitted to not reading the text were sent out to the hall to read it to do the task alone. In her class, Ms. Vale always emphasized that reading the materials is the most important assignment for students to participate in classroom interactions.

After the students who had not read the material left the classroom, she started the lesson. She emphasized that students needed to carefully consider how the author, Kidder, did not oversimplify his ideas and how he developed his system of evidence in his writing. She often emphasized that students can gain ideas about how to develop their arguments by examining others’ arguments. She particularly emphasized that carefully looking at how the author used a variety of evidence to support his argument would be very helpful in understanding the system of evidence (field note, Ms. Vale’s class, 11/4/2013).
Ms. Vale explained the goal of the day’s practice was to do explorative argument with their group; in particular “applying the written argument of a text to a new rhetorical situation, using the text’s logic to evaluate evidence.” (Video, Ms. Vale’s class, 11/4/2013). She emphasized that on this day, they would practice developing an argument from the author’s warrants rather than their own warrants. In order to do that, what they had to do first as a group was to make a list of warrants about what moral courage is from Kidder’s point of view. She said, “this list will be warrants for your argument.” She emphasized the importance of “paying attention to his definitions of moral courage” and preparing a specific list of warrants in order to come up with a good argument (Video, 11/4/2013).

After each group developed their list, Ms. Vale asked the students to do a collaborative argumentative writing task with their small group members. They had to find a real world dilemma which could be regarded as an act demonstrating moral courage through Kidder’s lens and to create a group argument showing how the example (evidence) depicts moral courage. Based on the result of the collaborative argumentative writing, each group would be given a quiz grade.

**Symbols used for visual maps of investigating students’ system of evidence.**

During the process of investigating students’ development of a system of evidence, I thought that drawing a visual map for each student’s or each group’s work would allow us to clearly see their common difficulties and improvement. Thus, I developed the symbols used in our visual maps of investigating students’ development of a system of evidence. Figure 5.8 shows the marking symbols.
Common problems: Less relevant evidence. One of the common problems that students had was that they included less relevant evidence. There were two major reasons for this problem. First, small number of students included some evidence which was not closely related to the thesis but is related to the main topic. We sometimes observed that some of the students had difficulties in developing an appropriate warrant(s) because their selected evidence was not closely related to the thesis. The second reason could be applied to most students who were struggling with the relevancy issue. The students included evidence which could be relevant to the thesis, but because of their limited articulation of the connection, the relevance of the evidence is not clear. Since the function of a warrant is to connect claim and evidence, when students did not include appropriate warrant(s) to connect the evidence and thesis, this often raised questions of relevancy.

Common problem #1: Less relevant evidence - connecting evidence with an argument topic rather than the thesis. A small number of students provided evidence
related to their argument topic but not directly related to their thesis. For instance, in one group, their thesis was Martin Luther King Jr. had moral courage. Figure 5.9 shows the micro-structure of their argument.

![Figure 5.9: An example of less relevant evidence: connecting evidence with an argument topic rather than the thesis](image)

In their argumentative writing, they included the example: “in Kennedys’ family Dotty Dishman, her grandma, feels very strong about religion and she doesn’t care what anyone thinks because she feels so strongly about her morals.” This is related to the topic that moral courage is related to someone’s strong morals. However, why the students included this example about Dotty Dishman in their argument about Martin Luther King and how this evidence could be related to and supports their thesis is not clear. In this way, some students included evidence which was loosely related to the argument issue but not directly related to the thesis.

**Common problem 2: Less relevant evidence—providing a warrant that was directly connected to evidence but not directly related to the thesis.** Sometimes students included what they called a warrant which provided a general rule regarding the evidence but could not connect the evidence to the thesis. The following is an example from the
same group which argued that Martin Luther King had moral courage. Figure 5.10 shows the micro-structure of their argument.

Figure 5.10: An example of less relevant evidence: providing a warrant which is not directly related to the thesis

In their argumentative writing, students included the following evidence: “His words helped moved many people with his ‘I Have a Dream Speech.’” After the evidence, they provided the following warrant: “As a rule, if you give a moving speech, it changes peoples’ ideas on their morals.” This warrant could be regarded as a general rule regarding the above mentioned evidence. However, the students did not further explain or articulate how this evidence and warrant are relevant to the thesis. They did not make the connection between their warrant and one of the foundational warrants about what could be regarded as moral courage in Kidder’s lens. As a result, the relevance of their evidence to their thesis is in question.

Common problem 3: Less relevant evidence - missing warrants to connect evidence and thesis. Sometimes students did not include any warrant and just provided their evidence. In the case of the above group, they provided the following evidence:
“When Martin Luther King Jr.’s home got bombed but he didn’t give up.” Figure 5.11 shows the micro-structure of their evidence.

![Diagram](image)

Figure 5.11: An example of less relevant evidence due to lack of warrant

Our research team understood why the students included this evidence for their thesis. It was related to Kidder’s definition of moral courage: “the quality of mind and spirit that enables one to face up to ethical dilemmas and moral wrongdoings firmly and confidently, without flinching or retreating.” (Kidder, 2001, p. 5). However, the students did not include any warrant in their argument. Without a clear articulation of how not giving up is related to moral courage, the relevance of the evidence to their thesis is not clear.

**Common problems: Insufficient evidence.** Insufficient evidence was also a common problem for students. Before discussing this problem, I want to note the relationship between less relevant evidence and insufficient evidence that our research team found in this research.

We found that relevancy of evidence is closely related to what we call micro-structure of evidence: how a piece of evidence is connected to a thesis. Sufficiency is
more related to the macro-structure of evidence: how all the pieces of evidence in an argument work together to fully support the thesis. Based on a single piece of evidence and its connection to the thesis, it might be difficult to evaluate how the evidence fully supports the thesis. Based on all the evidence in an argument, we can evaluate whether the totality of the evidence fully supports the thesis or not.

In relation to the above points, we found that relevant evidence is often one of the necessary conditions for sufficient evidence. When students’ essays had less relevant evidence in more than one micro-structure of their argument, their essay often had insufficient evidence. However, this does not mean that relevant evidence guarantees sufficient evidence. When students developed limited numbers of micro-structures of argument or had a loose connection between the micro-structures of an argument, we often observed that although they included relevant evidence, the totality of their evidence was not sufficient to fully support the thesis.

We found three main patterns for students’ insufficient evidence. First, students missed one or more key points from the thesis and did not provide any evidence to support the point(s). Second, students did not provide any evidence to support some part of the warrants that they provided. Third, students provided less specific evidence; as a result, they failed to fully support the thesis.

*Common problem 4: Insufficient evidence—missing key points of the thesis.*

Some students failed to include a discussion about a key part of the thesis. This often happened when students provided a quite long thesis and/or a larger scope of thesis. In addition, if a conceptualization and/or premise of a key term(s) in the thesis is provided in
an argumentative writing, evidence should fully support this conceptualization and/or premise. Students often neglected to provide sufficient evidence to support the conceptualization and/or premise of a key term that they used. Figure 5.12 shows the macro-structure of this type of argument.

![Diagram showing evidence, warrant, and thesis in an argumentative writing]

Figure 5.12: An example of insufficient evidence due to missing key points of the thesis

In the case of moral courage, students’ theses were quite short in that their example is moral courage based on Kidder’s lens. In this case, their argumentation should include the key discussions about what were regarded as moral courage by Kidder in order to fully support the thesis. Some groups of students did not include Kidder’s key points (premises) about moral courage. For instance, some groups of students did not include the points that moral courage is related to what someone believes as ethical (the morally right thing) and did not provide any relevant evidence. If they did not include this point, they could not fully support the thesis.

**Common problem 5: Insufficient evidence – missing piece evidence to support a warrant discussed.** Some students did not provide any evidence to support a warrant that
they discussed or failed to provide any evidence to support an important part(s) of
warrants that they provided. For instance, one of the small groups argued that Hayden’s
intervention in the two girls’ fight is an example of moral courage. Figure 5.13 shows the
micro-structure of their argument.

![Figure 5.13: An example of insufficient evidence due to missing evidence to support key part of a given warrant](image)

In their argumentative writing, they included the following evidence as shown in
this particular example: “When intervening, Hayden did not flinch in the fact of possible
reputation damage. When putting oneself in the middle of a situation, like Hayden did, it
is possible that one could develop a reputation for getting in the middle of things like this,
which could be a negative reputation depending upon the person.” In order to connect
this evidence and the thesis, they provided a warrant such as shown in this example:
“Moral courage has also been defined as, ‘…the quality of mind and spirit that enables
one to face up to moral wrongdoings firmly and confidently, without flinching or
retreating.’” The evidence provided is closely related to the thesis and warrant and
supports the thesis. However, students did not include any evidence regarding how the intervention in the fight between two girls could be regarded as facing up to moral wrongdoings. Even close friends can have a fight. In addition, a fight does not always have a negative consequence. In order to argue that the intervention in the fight was related to ethical issues and moral wrongdoings, they needed to provide more evidence about how the fight could be regarded as an ethical issue. By missing evidence for an important part of the warrant, those students, therefore, failed to develop sufficient evidence.

**Common problem 6: Insufficient evidence – less specific evidence to fully support the thesis.** Some students failed to provide specific evidence to fully support the thesis. For instance, in the case of the above group, which argued that Hayden’s intervention showed moral courage, they provided a warrant that “moral courage is connected with the defense of the intangible.” Figure 5.14 shows the micro-structure of their argument.

![Figure 5.14: An example of insufficient evidence due to less specific evidence to fully support the thesis](image)

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With regard to this warrant, they provided evidence that “moral courage was shown by the defense of the two girls’ friendship.” However, they did not provide specific information about how the fight was serious enough to lead to ending their friendship without the intervention. If they had provided more specific evidence that the two girls might lose their friendship, their evidence would more fully support their thesis.

Bottom-up Guidance: The Two Teachers’ Guidance in Students’ Small Group Performance

As I discussed, we developed the term, “bottom-up guidance” because the teachers’ guidance was not coming from outside of the small group’s argumentation but from inside of the group’s ongoing argument development. The guidance was geared to the argument that the small group was developing and provided opportunities for the group to expand their argument and to consider more factors, if necessary. Based on the group's ongoing development of argumentation, the teacher provided very specific questions and guidance to achieve the stated goal of the practice, development of a system of evidence. The teachers did not position themselves as evaluators who have the authority to evaluate whether students have the right answers or not. Rather, the teachers positioned themselves as conversation partners and facilitators and had real conversations to support the students’ progress in developing their system of evidence.

Three patterns of bottom-up guidance practice emerged in the two classrooms. The first pattern is engaging students’ in conducting an explorative argument in the role of a conversation partner. The second pattern is providing specific questions based on
arguments that students are in the process of developing. The third pattern is providing feedback on where the students need to improve in order to achieve the learning goal.

I will discuss the teachers’ bottom-up guidance practices that emerged from the two classroom interactions based on Ms. Vale’s classroom interactions about *Moral Courage* on November 4, 2013. While students worked with their small group members to develop their system of evidence, Ms. Vale came across different groups and joined their conversations. She mainly asked the question “how” and helped students to increase the relevancy and sufficiency of their evidence.

One group of three students worked on providing evidence for their thesis that Rosa Parks demonstrated moral courage. For their thesis that Rosa Parks showed moral courage, they discussed four pieces of evidence: 1) she was an African American who was segregated by society; 2) she broke the law; 3) she experienced humiliation, and 4) she redefined her class in society. With regard to their first point of evidence, they provided a general rule (situation) regarding the evidence: “African Americans did not have the right to defy segregated society.” However, this was not directly connected to the thesis. This could be regarded as common problem #2 that was discussed in the previous section: providing a warrant which was not directly related to the thesis.

Our research team does not think that the connection between a piece of evidence to the thesis must happen in every micro-structure of argument. Some micro-structures could provide background for other micro-structures. In this case, the key is how the micro-structure is clearly connected to another micro-structure(s) and contributes to supporting the thesis. In this example, the group’s micro-structure could work to provide
social and historical background to their argument. However, the group failed to make a clear connection between this micro-structure and possible other micro-structures to support their thesis.

With regard to their second point of evidence, the group also provided the warrant: “Breaking the law shows someone’s strong moral belief.” This evidence and warrant are regarded as relevant to the thesis. However, this could be regarded as common problem #4: Missing key points and evidence relevant to the thesis. With regard to Kidder’s (2001) definition of moral courage, including the point that moral courage is related to what someone believes to be the morally right thing is emphasized. The group failed to make the important point about how Parks’ action of breaking the law was related to her moral belief about moral wrongdoings. They could have done this by making the connection with their first micro-structure about segregated society. However, they did not make a clear connection at this point.

With regard to their third and fourth points of evidence, they did not provide any warrants to connect the evidence to the thesis. This could be regarded as common problem #3: missing warrants to connect evidence and thesis. Although the two pieces of evidence have a close relationship with the main topic of the argument, it is not very clear how they can support the thesis without warrants.

I will discuss four bottom-up guidance practices based on a continuing conversation between Ms. Vale and the small group students.

**Bottom-up guidance pattern #1: Engaging students’ doing explorative argument.**

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While participating in the group’s conversations, Ms. Vale asked how their explorative argument was going. She asked what they selected as a real world dilemma to match Kidder’s (2001) definition of moral courage and what their specific evidence was.

Transcript 5.3: Teacher’s engagement in students’ doing explorative argument (Ms. Vale’s class, 11/4/2013)

<table>
<thead>
<tr>
<th>Line #</th>
<th>Speaker</th>
<th>Message Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-1</td>
<td>T</td>
<td>Let’s talk about it</td>
</tr>
<tr>
<td>10-2</td>
<td></td>
<td>Have a conversation</td>
</tr>
<tr>
<td>10-3</td>
<td></td>
<td>Ready ↑</td>
</tr>
<tr>
<td>10-4</td>
<td></td>
<td>Okay ↑</td>
</tr>
<tr>
<td>10-5</td>
<td></td>
<td>Who are you using ↑</td>
</tr>
<tr>
<td>10-6</td>
<td>Kelly</td>
<td>Rosa Parks</td>
</tr>
<tr>
<td>10-7</td>
<td>T</td>
<td>Do you think she is an example of moral courage ↑</td>
</tr>
<tr>
<td>10-8</td>
<td>Ss</td>
<td>Yes</td>
</tr>
<tr>
<td>10-9</td>
<td>T</td>
<td>Okay</td>
</tr>
<tr>
<td>10-10</td>
<td></td>
<td>Why ↑ What’s your evidence ↑</td>
</tr>
</tbody>
</table>

In the above conversation, we do not see the common IRE or IRF pattern. There was no right answer for Ms. Vale’s questions which are open-ended and appear to be inviting students to explore the topic rather than provide a right/wrong answer. In other words, Ms. Vale seems to be encouraging students to engage in collaborative argument.

**Bottom-up guidance pattern #2: Providing questions based on students’ current argumentation.** After the students’ brief introduction of their argument, Ms. Vale kept asking ‘so’ questions about the argument that the students had developed.
Transcript 5.4: Teacher’s questions based on students’ current argumentation (Ms. Vale’s class, 11/4/2013)

<table>
<thead>
<tr>
<th>Line #</th>
<th>Speaker</th>
<th>Message Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-1</td>
<td>Kelly</td>
<td>She was an African American</td>
</tr>
<tr>
<td>11-2</td>
<td></td>
<td>She was segregated by society</td>
</tr>
<tr>
<td>11-3</td>
<td>T</td>
<td>So ↑</td>
</tr>
<tr>
<td>11-4</td>
<td>Kelly</td>
<td>So+++</td>
</tr>
<tr>
<td>11-5</td>
<td></td>
<td>as a rule</td>
</tr>
<tr>
<td>11-6</td>
<td>T</td>
<td>So ↑</td>
</tr>
<tr>
<td>11-7</td>
<td></td>
<td>What's that have to do with moral courage ↑</td>
</tr>
<tr>
<td>11-8</td>
<td></td>
<td>That’s just who she is</td>
</tr>
<tr>
<td>11-9</td>
<td></td>
<td>That’s the situation</td>
</tr>
<tr>
<td>11-10</td>
<td></td>
<td>That’s the context</td>
</tr>
<tr>
<td>11-11</td>
<td></td>
<td>So what ↑</td>
</tr>
<tr>
<td>11-12</td>
<td></td>
<td>How did she demonstrate her moral courage ↑</td>
</tr>
<tr>
<td>11-13</td>
<td>Gael</td>
<td>xxxxxx</td>
</tr>
<tr>
<td>11-14</td>
<td></td>
<td>When some passengers asked her to leave</td>
</tr>
<tr>
<td>11-15</td>
<td>T</td>
<td>So ↑</td>
</tr>
<tr>
<td>11-16</td>
<td>Gael</td>
<td>broke the law</td>
</tr>
<tr>
<td>11-17</td>
<td>T</td>
<td>So ↑</td>
</tr>
<tr>
<td>11-18</td>
<td>Kelly</td>
<td>humiliation and xxxxxxxxx in the bus</td>
</tr>
<tr>
<td>11-19</td>
<td>T</td>
<td>So ↑</td>
</tr>
<tr>
<td>11-20</td>
<td>Kelly</td>
<td>Tensions occurred</td>
</tr>
<tr>
<td>11-21</td>
<td>T</td>
<td>So ↑</td>
</tr>
<tr>
<td>11-22</td>
<td>Tony</td>
<td>She showed moral courage by redefining her class in society</td>
</tr>
</tbody>
</table>

In lines 11-7 and 11-12, Ms. Vale revealed her guiding goal. She wanted to help guide the students to expand on the relevance of their evidence to the thesis. She asked “what's that have to do with moral courage?” and “How did she demonstrate her moral courage?” With the guiding goal, the teacher continued to explore with the students their current arguments by asking ‘so’ questions. However, as apparent in the above
conversation, students just enumerated several pieces of evidence without clearly connecting them to the thesis.

**Bottom-up guidance pattern #3: Providing feedback on what students missed and need to improve regarding the learning goal.** While continuing to ask very specific questions about the students’ argument, Ms. Vale also often repeated some important points regarding the goal of the practice during their conversations, the connection of evidence to the thesis.

Transcript 5.5: Teacher’s specific feedback on what students need to improve (Ms. Vale’s class, 11/4/2013)

<table>
<thead>
<tr>
<th>Line #</th>
<th>Speaker</th>
<th>Message Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-1</td>
<td>T</td>
<td>How ↑</td>
</tr>
<tr>
<td>11-2</td>
<td>You</td>
<td>You are missing the how part</td>
</tr>
<tr>
<td>11-3</td>
<td>Kelly</td>
<td>↑</td>
</tr>
<tr>
<td>11-4</td>
<td>You</td>
<td>You did the same thing when you struggled in your paper</td>
</tr>
<tr>
<td>11-5</td>
<td>Where</td>
<td>Where you got to and you have to make the connection</td>
</tr>
<tr>
<td>11-6</td>
<td>You</td>
<td>You have all the pieces there</td>
</tr>
<tr>
<td>11-7</td>
<td>But</td>
<td>But you have to make the connections</td>
</tr>
<tr>
<td>11-8</td>
<td>You</td>
<td>You have to explain how it is moral courage</td>
</tr>
<tr>
<td>11-9</td>
<td>You</td>
<td>You have the evidence</td>
</tr>
<tr>
<td>11-10</td>
<td>You</td>
<td>You have the warranting</td>
</tr>
<tr>
<td>11-11</td>
<td>You</td>
<td>You are thinking in the right direction</td>
</tr>
<tr>
<td>11-12</td>
<td>But</td>
<td>But you have to make the argument about how it is</td>
</tr>
<tr>
<td>11-13</td>
<td>What</td>
<td>What specific did she do that displays moral courage</td>
</tr>
<tr>
<td>11-14</td>
<td>You</td>
<td>You are talking about the bus I am assuming +</td>
</tr>
<tr>
<td>11-15</td>
<td>Right</td>
<td>Right ↑ Yes ↑</td>
</tr>
<tr>
<td>11-16</td>
<td>You</td>
<td>You mentioned that</td>
</tr>
<tr>
<td>11-17</td>
<td>So</td>
<td>So +++</td>
</tr>
<tr>
<td>11-18</td>
<td>How</td>
<td>How is that specific incident an example</td>
</tr>
<tr>
<td>11-19</td>
<td>How</td>
<td>How did she display moral courage there in that moment</td>
</tr>
<tr>
<td>11-20</td>
<td>Tony</td>
<td>She breaks the law</td>
</tr>
</tbody>
</table>
| 11-21  | She     | She showed her strong moral belief ↑

Continued
During this segment, Ms. Vale’s turn-taking was longer than at other times. She often provided specific feedback on what students missed (line 11-2). She also often made the connections between what they were engaged in doing at the present moment, what they were doing previously (line 11-4), and/or what they need to do in future (lines 11-4 to 11-8). By analyzing what they were presently doing in relation to what they were doing previously, Ms. Vale provided a clear goal for their argument. They needed make clear how the evidence that they provided had strong relevancy to their thesis.

In line 11-20, Tony provided relevant evidence that Rosa Parks broke the law. In lines 11-2, Ms. Vale asks “Why did she break the law?” Here, she tried to help students develop a key point (Warrant) that moral courage should be in regard to an ethical issue.

**Students’ Final Argumentative Writing for the Second Quarter**

In this section, I first discuss prompts for the final argumentative writing for the second quarter and then provide our analysis on students’ final argumentative writing. With regard to students’ system of evidence, we could see general improvement in their relevant and sufficient evidence, but many students still showed the kinds of problems and limitations that were discussed in a previous section entitled “common problems in
developing a system of evidence.” Thus, I do not further discuss their development of a system of evidence in this section. Rather, the incidents in which we found conspicuous progress, was in students’ discussion of controversial ideas, so I turn to now discussing emerging patterns in how students dealt with controversial issues in their argumentative writing.

**The Prompts for the Final Argumentative Writing for the Second Quarter**

After generally sharing the same curriculum, the two teachers had different opinions on the final argumentative writing prompt for the second quarter (meeting note, 11/2/2013). Mr. Moon wanted to give a prompt which explicitly emphasized an explorative argument. He explained that “in relation to the goal of this quarter, I want to give students more opportunities to experience being messy and explore argument.” He also wanted to give students the opportunity to select the topic of their argument and to collect their evidence by themselves.

Ms. Vale had a different goal. She wanted her students’ classroom discussions and practices to be directly related to the final writing exercise based on the text, *Into the Wild*. She also said that “considering the academic gap between students in my class, having the same prompt would be helpful for me to guide them.” Ms. Vale thought that her students had a wider academic gap than did those in Mr. Moon’s class, and she explained that when students share the same topic, they have opportunities to listen to other students’ questions and concerns in order to gain more ideas about their argument and argumentative writing.

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Our research team considered how different final prompts could affect our intervention and research. Methodologically, we thought that it would be acceptable because our design experiment generally evaluated the results based on qualitative analysis and explored the patterns of progress and limitation in the two classrooms rather than quantitatively comparing the results of the two classrooms. Pedagogically, we thought that the two teachers wanted to use different writing prompts based on their evaluation of what would be more needed and helpful for their students, so it would be good to follow what they evaluated as useful and needed. As a result, we decided that the two teachers would use different prompts for their students’ final argumentative writing in the second quarter.

**Final writing prompt in Ms. Vale’s class.** Table 5.7 shows the writing prompt for the second quarter in Ms. Vale’s classroom (The full handout for the prompt, cf. Appendix L).

Table 5.7: Final writing prompt for the second quarter in Ms. Vale’s class

| Prompt: After reading Into the Wild, reflect on the following question: Is Chris McCandless a hero? Your response should specify what it means to be a hero. Therefore, you need to create a system of evidence that allows your reader to understand how you view Chris as a person, and it should consider the various tensions that surround your argument. Finally, be sure to explain what implications our society might be faced with based upon the answer you have arrived at in your thinking. |

The prompt mainly asks whether the main character of the *Into the Wild* is a hero. As she frequently did during the second quarter, Ms. Vale specifically emphasized two parts in the above prompt: developing a system of evidence and considering tensions that
surround students’ arguments. She also emphasized that students need to carefully consider their conceptualization of “hero” and the implications of their argument for our society.

Final writing prompt in Mr. Moon’s class. Table 5.8 shows the writing prompt for the second quarter in Mr. Moon’s classroom (The full handout for the prompt, cf. Appendix M)

Table 5.8: Final writing prompt for the second quarter in Mr. Moon’s class

Choose an issue, question, or debate about an idea that does not have an easy answer. You are to suspend your personal judgments and opinions about your topic so that you approach the assignment with an open mind. You will write an account of your thinking process as you investigate this issue/question/debate. Your goal is to examine your issue, question, or debate from a variety of perspectives, assessing the strengths and weaknesses of different positions and points of view. You must also find and integrate the most compelling evidence you can find to explore your topic. You will be rewarded for the depth of your exploration and thinking, not necessarily for arriving at the “right answer.” In other words, your goal is not to present a simplified answer to your question, but to report on the process of wrestling with it.

Mr. Moon referred to the final writing as explorative writing, and he emphasized students’ exploration of the topic with thoughtful questions rather than just defending a specific position. In the same vein, he emphasized that the students needed to follow their thinking process and develop their writing based on thinking moves rather than on structural moves. In addition, he emphasized the importance of exploring multiple perspectives and tensions with an open mind. As shown in the prompt, he kept emphasizing that he rewarded complex thinking and the depth of students’ exploration
rather than a simplified answer to the question. Lastly, he also emphasized the importance of the system of evidence. For the final writing, he wanted students to add the credibility of their source, which we did not specifically deal with in our interventions. In this writing, students needed to include at least four high-quality sources. Students could decide whether to include *Into the Wild* as one of their sources or not.

**Progress and Limitation in Final Argumentative Writing in the Second Quarter**

Right after students submitted their final essays for the second quarter, I met with the two teachers separately in their classrooms. We analyzed students’ writings and discussed their progress and limitations. When I stayed for Mr. Moon’s class on December 16, 2013, he called Ms. Vale several times and shared his excitement about students’ progress. The same thing happened when I stayed for Ms. Vale’s class on December 18, 2013. She called Mr. Moon and shared her impressions about students’ progress.

Generally, we could see improvement in students’ relevancy and sufficiency of evidence, although many students still revealed the same problems or limitations in some parts of their writing that I have already discussed in a previous section. However, we also saw significant progress in the students’ discussions of controversial ideas. We could see that the amount of talking about different perspectives and approaches, contrasting claims, evidence, and warrants, and response to these different and contrasting ideas had increased through their writing.

In order to investigate students’ progress and limitations, our research team took a close look at the concept of *counterargument*. We were especially interested in seeing if
students were able to carefully consider possible doubts and objections to their claims, evidence, and warrant that their audience might have. However, our research team was concerned that the term counter-argument implies a polarized position. We wanted students to consider not only objections to their arguments but also multiple perspectives, approaches, and lenses.

In addition, we were not satisfied with the traditional notion of counter-argument because it refers to the arguer’s fixed position. In our research, one of the main goals of the second quarter was to help students to develop complex thinking beyond their boxed thinking, so our research team did not want the students to have a fixed position and just rely on their own perspective or opinion. Rather, we wanted them to further explore their position and thesis. Explorative aspects of arguments and using argumentation as a tool for thinking, learning, and communicating were emphasized as shown in the positioning practice, exploring tension practices, and repositioning practices we developed.

Our research team shared that elements like counter-argument might have to be reimagined to fit. As a result, as an umbrella term and an important element of argumentation, we decided to use the term “complexity” to refer to complex ideas including not only opposing claims, evidence, and/or warrants but also multiple perspectives, approaches, and lenses which might reveal the tensions of the argumentative topic.

As was the case for counter-argument, our research team also considered the notion of rebuttal. Toulmin’s (1958/2003) term rebuttal mainly refers to a condition under which the argument or “the general authority of the warrant” might not work
We thought that it could be one way of considering the dialogic aspect of argumentation. However, we realized that having this kind of rebuttal might not always be easy or applicable for the students. We also knew that rebuttal often refers to a possible response to counter-argument (Kuhn, 2016), a concept that is closer to Habermas’s (1984, p. 74) notion that an arguer would anticipate “a negative answer to his own speech act, and [raise] against himself an objection that another might raise.” Therefore, considering a negative response and/or objection for an argument could be another way of considering dialogic aspects of argumentation.

Nevertheless, we still thought that rebuttal, which mainly indicates responses from a polarized position of counter-argument, might not adequately refer to our students’ responses which included interactions of multiple perspectives, multiple lenses, and approaches which were not always based on polarized positions. In order to include this possible variety of responses, we decided to develop a descriptive term, response which refers to a response to the consideration of complexity: not only providing an answer for a counterargument(s) and providing a condition in which the argument and/or warrant might not work but also including a response to multiple perspectives, approaches, lenses, and relevant tensions and complexities of the argumentative topic.

In addition, in the process of analyzing students’ responses, we found that some responses were more sophisticated in their approach and other responses were superficial. For heuristic purposes, we distinguished superficial response and sophisticated response when we analyzed students’ argumentative writing. Superficial response refers to a simple response to complexity. For instance, students often introduced a counterclaim
and then provided a simple evaluation such as that the counterclaim is incorrect without any specific reason, explanation, or further discussion. Superficial response often happens when students totally refute the counterargument or relevant tensions. If students introduce a different approach to the argumentative issue but just provide a simple evaluation of the approach such as it is useful or not useful and fail to include the approach into a further progression of their ideas related to their argumentative issue and/or thesis, this response can be regarded as superficial.

Sophisticated response refers to a deeper response, which includes discussion based on active interaction between the complexity and response and/or integration of the insights of the discussion into a more nuanced, thoughtful position. With regard to counter-arguments, we can consider sophisticated responses. For instance, students may partially refute or acknowledge a counterargument. In this case, if the students show further progression of their idea in relation to the partial agreement, it can be regarded as a sophisticated response. If the students develop a more nuanced, thoughtful thesis by integrating the insights from the partial agreement, it can also be regarded as a sophisticated response. In the case of explorative argument, if students find a counterargument which they totally agree, they can show their thought process and develop a new thesis based on the complexity. This can also be regarded as a sophisticated response. With regard to multiple perspectives, approaches, lenses, and relevant tensions and complexities of the issues, we can also consider sophisticated response. For instance, if students include active interactions between two perspectives on the argumentative essay topic and their response to these two perspectives and
emerging complexities, this can be regarded as a sophisticated response. In addition, if students introduce different types or roles in relation to the key term of the argumentative topic, and then respond to possible tensions and complexities in relation to their argumentative topic and thesis, this can be regarded as a sophisticated response.

Although we could see a quality gap in students’ response to complexity, it is true that some responses were near the boundary between superficial and sophisticated responses and were difficult to distinguish as superficial responses or sophisticated responses. Our research team did not try to clearly distinguish such responses. Rather, by using the two categories for our heuristic investigation, we tried to find students’ patterns of developing complexity and response and their implications.

**Progress and Limitation in Dealing with Complexity and Response**

Our data, which consisted of students’ oral and written arguments during our interventions and their final argumentative writing in the second quarter, indicated that students may improve their dealing with the complexity by actively changing their positions and exploring the tensions embedded in argumentative issues. Based on their final argumentative writing at the end of the second quarter, I discuss emerging patterns in relation to complexity and relevant response in students’ written discussions. We found four emerging patterns: 1) some students showed limitations in dealing with complexity by identifying complexity without any response, 2) some students showed limitations in manifesting what we described as a superficial responses, that is, providing a simple, perfunctory response to the complexity, 3) some students showed their progress by including what we described as sophisticated responses, which showed logical
progressions of the ideas based on the interaction between their discussion of complexity and their response to it, and 4) some students also showed their progress by including what we described as sophisticated responses which showed integration of insights from exploring the complexity and their responses into their position and thesis.

**Pattern 1: Including complexity without response.** Some students still revealed their limitation in dealing with complexity by including complexity without any response. This pattern was shown when students brought up a counterclaim but did not provide any response to it. However, in our research, with the exception of one student, the students provided at least a simple refutation to their counterclaim, but this pattern most often appeared when students discussed multiple perspectives. They often introduced multiple perspectives, approaches, or lenses without any further progression of their ideas. The lower end of the continuum was when students’ discussion of complexity brought up contrasting evidence and/or warrants, but they omitted comment related to responses to tension.

For instance, Rian explored the issue of conformity by including different types of conformity. He wrote “In our society you can see the subject being an individual, a group, a rule or regulation. But at the end of the day it boils down to two different types of conformity. Both rational and irrational conformity are the two building blocks to the action.” His mention of rational and irrational conformity revealed possible different approaches to conformity: a possible positive conformity and a possible negative conformity. Discussing these different types could be a starting point to further explore relevant tensions.
He then wrote, “But from those two types, branch several types of an act of following the leader. There is herd behavior, which is following what the majority is doing. There is also obedience, which is being trained by a higher status being to do what you do.” Here, he referred to two cases of following the herd and obeying a higher being. Discussing these different cases could also be a starting point to further explore relevant tensions.

However, he did not follow either of these options. Rather, he simply moved on to the next topic of positive and negative evidence for conformity without making the connection between his next discussion or thesis on rational and irrational conformity or following the herd and obeying a higher status. In this way, some students simply introduced controversy, especially different perspectives, approaches, types, and cases regarding the main topic, but failed to show the logical progression of their exploration and/or develop a thoughtful, nuanced position and thesis.

Some students’ discussions about complexity brought up contrasting ideas in their arguments, but they failed to respond to newly emerging tensions and complexities. An example of this problem can be seen in an essay written by Micah. He raised a question about what a patriot is. At the beginning of his writing, he explored tensions by considering how time has changed people’s ideas about war. He raised a more specific question: “Is [patriot] that simple in the modern day sense?” With regard to the past, he explained that “It is this big grand idea patriotism. In the past it was viewed as just going to war and serving/dying for your country.” He then contrasted the different image of war
in current society: “But as it is viewed today war is a terrible thing unlike the romanticized version of the past.”

He then identified the main reason that soldiers went to war in the past, but what he was saying contradicted his previous assumption about the definition of patriot in the past. He wrote that “in the past men were excited to go to war. But it was not for king and country it is because it is viewed as going off and find your glory, men in the past thought they would come back a triumphant hero and their war stories would be told long after they were gone.” There is a contradiction between the idea that in the past soldiers went to war to serve and to die for their country and the idea that they went to war for glory and enhancing their status by becoming a hero. If we follow his second explanation about the reason for going to war in the past, soldiers went to war without the intention of serving or dying for their country. In this way, some students did not carefully consider or respond to their contradictory assumptions in their argumentative writing.

**Pattern 2: Including complexity with a superficial response.** Some students provided a simple response in their discussions of complexity. For instance, Tom argued for the negative effects of consumerism. He seemed to address increasing tension in response to that topic by referring several times to positive approaches to consumerism. However, rather than showing logical progressions of his ideas based on the tensions, he simply responded to the contrasting approaches. For instance, just before the conclusion, he wrote about a positive approach to consumerism: “One could argue that without consumerism potentially our economy could be demolished.” He also provided contrasting evidence which supports consumerism: “In *Green Consumerism: An*
overview” Sam explains how products are being made to help the environment.” He then provided the following counter point: “In this case, consuming a great deal of these products would be a good thing.”

However, he did not expand on these counter-arguments, but rather, emphasized his position without specific explorations or explanations regarding this tension: “Little changes like these could help the overall viewpoint on consumerism in America.” This pattern was the most common limitation exhibited in the students’ writing. Although they discussed some tensions from different perspectives and even provided contrasting evidence, many students failed to further explore the issue or carefully integrate counter-insights into their thesis.

**Pattern 3: Progressions of arguments based on the active interactions between complexity and response.** Some students showed their progress in dealing with complexity and response. They actively developed their arguments based on the interaction between contrasting ideas and their response to them. However, the students failed to connect the insights of the discussion into a more nuanced, thoughtful position and thesis.

An example of this pattern can be seen in an essay written by Ava. She argued that the main character Chris is not a hero. She began one of her body paragraphs by discussing a different approach to whether or not Chris is indeed a hero: “In the terms of moral, Chris was a ‘hero.’” She provided examples to support this approach: “He was selfless, always believed in giving rather than receiving and was a known believer in the fight to end world hunger.” After this statement, she returned to her own position and
responded to say how this aspect negatively affected his life: “Despite these great personality traits, when entering to Alaska, these traits not only were useless to him but actually were a large contribution to his death.” She provided a specific example to support this point: “Throughout the book, he tried to do everything by himself and did not accept any forms of help, not only forms of transportation to reach his destination but also whatever necessities he was offered for his time in the tundra, including food, water, clothing, boots and money.” She further evaluated his actions as irony: “It can only be summed up to irony that the man who fought to end World Hunger would believe a 20 pound of rice would last him more than a month in the frozen tundra. Considering preparation is an important virtue for a hero, he made a huge mistake in his trip.” In this way, she explored the tensions between his altruistic personality and his unwillingness to accept others’ help. Here, she also contrasted his morals and his lack of preparation and evaluated the former as being heroic and the latter as being not heroic.

We imagine that her exploration of this tension would affect her conceptualization of hero and would help her to develop a more nuanced position and thesis. However, she showed limitation in integrating the insights of exploring tension and integrating it into her thesis. Her thesis was that “Chris was ironically, compared to his high moral and intelligence, not a hero but simply foolish and ignorant to the point that led to his death.” In her writing, she briefly mentioned some possible qualities of a hero such as morality, intelligence, and preparation, but based on her exploration of tensions, she did not further compare the qualities that she attributed to a hero. In particular, she did not discuss which quality would be more important to qualify someone as a hero nor provide some special
requirements for being hero. After writing about the tensions between what heroic
qualities Chris had and did not have, she just put forth the thesis that he was not a hero
but simply foolish and ignorant to the point that it led to his death. In this way, we could
see students’ progress in the parts of their writing where they actively discussed
complexity and responses, but we could also see their limitations in failing to integrate
the insights into a more nuanced, thoughtful position and thesis.

Pattern 4: Integration of the insights of exploring complexity and response
into the nuanced, thoughtful thesis

Some students showed great progress in developing their main ideas and a more
nuanced, thoughtful thesis through their exploration of and response to complexity. An
example of this progress was shown in Evan’s essay in which he explored the issue of
whether conformity is good or not. In his essay, he provided contrasting claims about the
usefulness of conformity and provided a variety of evidence to support the claims. For
instance, in one of his paragraphs, he talked about an example in which conformity could
have a positive effect:

In Noam Chomsky’s 1979 excerpt from his book Language and Responsibility,
featured in “The Nation” journal. He describes America as an, “Astonishing
degree of ideological uniformity for such a complex country”. It was interesting
to see this topic being brought up at the date it was written. Chomsky describes
the United States as a country that is growing closer and closer toward having one
identity. This one identity would be a face for millions of people coming from
several backgrounds and situations. Chomsky states that this could benefit the
United States as it grows as a country through world affairs. As appearing as a
country that has everything figured out, it establishes an idea of dominance. I believed this was a great example of how conformity can positively affect a group of people.

In the same paragraph, Evan explored tensions by considering the same idea based on changes over time. He explained that at one point in a country's history, conformity might be positive, but complete conformity might not be so positive at another point in the same country. He also brought up the negative aspect of complete conformity based on some present day countries.

I also took the date into account too as well. If America is moving closer and closer to a uniform ideology all the way back in the seventies, where are we now? I believe that yes it is good to be seen as United, but then again, difference in the united is good. I would not want to live in a country where conformity completely takes over your way of life, and everyone must live the same way or else you are punished. Today, that is seen in a few Middle Eastern countries where there is no separation of church and state. Everyone must live the same and worship the same way.

At the end of this paragraph, he concludes, “To me, there has to be an in-between from total conformity and complete difference in everyone, for optimal success of a group of people.” After further exploring possible tensions and complex issues among contrasting examples to show positive and negative aspects of conformity, he provided his thesis: “Being completely [in] conformity with everyone else puts a damper on personal advancement in knowledge, belief, and views.”
Our research team thought that after showing the progression of his ideas from the complexity and his response, Evan seemed to develop a more nuanced, thoughtful position. He did not just write that conformity is good or bad as he did in his diagnostic text. Rather, he recognized that there are degrees of conformity and his thesis relates to a specific degree of conformity, i.e. complete conformity. He also provided the most serious negative aspect of this complete conformity as “a damper on personal advancement in knowledge, beliefs, and views.” It is true that this thesis could be further developed, but it represents significant progress in revising a thesis to make it more nuanced and thoughtful by exploring and responding to controversial ideas.

Our research team was very impressed with the write of some students in that it demonstrated arguments that dealt with complex ideas and went well-beyond boxed thinking. Such arguments revealed new organization – a kind of organization that reflected their capacity to follow their thinking moves rather than adhere to formulaic, structural moves. Furthermore, they discussed multiple perspectives, contrasting warrants, and contrasting evidence, actively interacted with and responded to the complexity, and developed a progression of complex ideas leading to a thoughtful thesis. I turn now to a brief discussion of Lacey’s writing. She also chose to write on the topic of conformity, but in a way that revealed a startling argument and thesis.

In her introduction, Lacey discusses what she thought was the common assumption about conformity: “Conformity is all about contentment. Going with the flow of how society moves and thinks” Then, she raised questions about this underlying assumption: “But, what if that wasn’t an appropriate life style? What if that brought about
unhappiness and sorrow?” After that, she introduced a contrasting perspective, that of transcendentalism, which has contrasting underlying assumptions from conformity: “Transcendentalism and its ideas brought about new movement that didn’t agree with society.” She further explained transcendentalism’s contrasting underlying assumptions about conformity: “According to Ralph Waldo Emerson, ‘the transcendentalist’ is one who displays a predominant tendency to respect (his) intuitions.” Thus, she started her writing by discussing the contrasting warrants between conformity and transcendentalism. Here, readers of her written argument might wonder why she introduced transcendentalism after raising a question about conformity.

She did not immediately provide an answer to that question. Rather, she raised more questions about transcendentalism, in particular its contrasting warrants. The main question that she explored was whether transcendentalism is totally individual or transcendentalism also includes social aspects. How she developed her body paragraphs is very interesting. She explicitly showed her thought process by actively exploring the contrasting warrants and evidence and their tensions within transcendentalism. By exploring contrasting warrants and evidence, she showed that there are social aspects within transcendentalism although it emphasizes respecting the individual’s intuition and choices. Based on some examples, I will discuss the progression of her ideas in the body paragraphs (cf. Appendix N: Lacey’s full final argumentative writing for the second quarter).

In her first body paragraph, she raised the question: “Is transcendentalism centered around the same beliefs, causing people to come together?” Here she asks
whether transcendentalists share the same beliefs, as this suggests conformity. To answer that question, she cited evidence from an article attributed to Gale Student Resources in Context: “while the many authors and philosophers affiliated with the movement did not agree on how to define transcendentalism, this very division reflected the individual nature of the movement and proponents’ shared belief that people were responsible for their own choices” (Gale Student Resources in Context). In her interpretation of this quote, she revealed the tension between the different definitions and shared beliefs: “What this organization is saying is that because the individuals didn’t quite agree on the definition of transcendentalism. The fact that they all agreed that people are free to make their own choices brought their ideas together. Which I found interesting because for someone to individually think something through and disagree with someone else, but then have the same beliefs so the ideas somehow connect was very contradictory.” Here, she shared the tension that she found in the underlying assumptions of people who follow transcendentalism.

In her second body paragraph, she further explored the contrasting warrants within transcendentalism by providing the contrasting belief and actions of the main character Chris McCandless of Into the Wild. She provides textual evidence about “When Krakauer went to interview Wayne Westerberg, a person who had encountered McCandless during his voyage (Krakauer 44).” She also explains that “Krakauer’s point is that Westerberg was explaining that McCandless would get so wrapped up in what London was saying that he forgot to realize that London wrote in a romantic tone and not a realistic one.” Following this explanation, she raised the question about the contrasting
warrants and evidence again: “So if transcendentalism is so big on finding oneself, why did McCandless follow the ideas of someone else?” By discussing the controversy between the belief McCandless had about being free to make his own choices and his actions of following “the ideas of someone else,” she further explored tensions between individualism and shared ideas within transcendentalism.

Lacey then made the connection between her previous evidence from Chris McCandless and another piece of evidence which explains the function of transcendentalism. By contrasting the evidence, she further discussed the contrasting warrants within transcendentalism. She also provided additional evidence: “In the article, *New England Transcendentalism* by Michael Moran, he comments on a point brought up by O.B. Frothingham when he said that, “Frothingham was certainly right when he admitted that transcendentalism was not a synthetic theory of life but something more like a state of mind” (Moran).” At this juncture, Lacey provided her interpretation of Frothingham’s point: “Moran’s point is that transcendentalism is something that can help guide someone in life in theory but in practice it’s something that is hard to do.” She then pointed out the contrasts between her former and later evidence: “So revisiting what Westerberg said about McCandless, Moran’s point is totally contradicting it,” and goes on to explain the controversy between McCandless’s belief and the above explanation about the function of transcendentalism: “McCandless believed he had to go out on this journey to remove himself from society and Moran said that transcendental ideas should guide everyday life so these two ideas contradict each other.” Her discussion became complicated because she started by showing the controversy within McCandless’s belief.
and action. She then contrasted the different beliefs about transcendentalism between McCandless and other scholars (Moran, 2006).

In these ways, she actively interacted contrasting evidence and warrants and discussed the possible tensions within transcendentalism. By exploring contrasting warrants and evidence within transcendentalism, she revealed the results of her epistemological exploration process in her concluding paragraph: “Now looking back at this mess, I have realized that I truly do believe that within nonconformity, conformity lives inside of it.” She argued that her exploration of the tensions revealed that even in nonconformity, there is conformity and so there is always conformity.

She further shared this realization by asking questions: “Maybe transcendentalists really were saying they were individuals but then wanted someone else to bounce ideas off of? Maybe they really wanted to explore new things and then come back together to form an opinion to give to others?” By pointing to this social aspect of transcendentalism, she defended the transcendentalist belief in a perhaps limited form of individualism: “Even though there is hypocrisy surrounding the transcendentalist movement, I’ve come to realize that people need to be gutsy like the transcendentalists.”

In the above ways, she provided an answer for why she introduced transcendentalism after raising a question about conformity. By showing the implicit connection between conformity and transcendentalism, she argued that we “need to be gutsy” to follow our own intuition and make our own choices rather than conforming completely. Rather than just taking this position from the beginning, she showed her intellectual journey and concluded the argument based on her exploration of multiple
tensions. Because of this journey, our research team evaluates her reasoning and response as complex and sophisticated.

**Discussion**

In this section, I begin by discussing the results of the intervention in terms of our conjuncture. I then discuss three factors that hindered the effectiveness of the intervention. Last, I introduce the theoretical constructs for sophisticated argumentative writing we generated in the second quarter based on two areas: *a system of evidence* and *response to complexity.*

**The Results of the Intervention in Terms of our Conjecture**

In the second quarter, with regard to our specific goal of complex thinking, we developed the following conjecture: *Exploring complex thinking focusing on evidence will contribute to the eleventh-grade students’ development of sophisticated argumentative writing in the two Language Arts classrooms.* After the second intervention, our research team concluded that exploring complex thinking focusing on evidence may contribute to students’ development of sophisticated argumentative writing except in the lower 20% of struggling writers, who had difficulty considering the system of evidence and exploring tension at the same time.

While we analyzed students’ final argumentative writings at the end of the second quarter, our research team observed that students showed improvement in the development of relevant and sufficient evidence. After repeating the set of positioning and exploring tension practices, we could see that their inclusion of less relevant evidence was reduced. Considering the close relationship between relevant evidence and
development of appropriate warrant to connect evidence and claim, this result also means that students showed improvement in developing warrants. We could also see that most students gradually developed more sufficient evidence, with the exception of low-achieving students who struggled with general reading and/or writing. We expected that developing sufficient evidence would be more difficult when students developed more complex theses. When the low-achieving students tried to explore complex issues, they often lost their focus, expressed difficulty, and provided insufficient evidence.

With regard to exploring tensions and complex thinking, most students explored tensions in more than one paragraph. In comparison to their previous argumentative writings at the beginning of the academic year, which included just one or two sentences about different opinions and several reasons and/or evidences to support a simple position, we could say that students revealed more complex thinking in their argumentative writing.

However, regarding the increase in the frequency of discussing complex issues, there were remaining issues that we needed to consider. Although most student papers showed an increase in the use of specific argumentation strategies when dealing with complex issues and tensions, our analysis of the emerging patterns in students’ discussions of controversy and response also shows their limitations in the use of such strategies. 46%\(^1\) of students showed a logical progression of ideas based on exploring tensions, and only 18% of students demonstrated integration of the insights gained from

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\(^1\) In the second quarter, two students' final argumentative writing were missed, so I calculated based on 44 students' argumentative writings from the two classes.
exploring controversy and response into a nuanced, thoughtful thesis. These students showed the possibility of the productive role of tensions in the development of their sophisticated argumentative writing. The results from the limited number of students who actually achieved a nuanced position from exploring tensions, however, prompted us to consider how to help students connect their exploring tensions into their sophisticated argumentative writing.

After our first intervention, we conceptualized sophisticated argumentative writing as a process rather than as a product, so our research team also paid attention to students’ positive reactions to exploring tensions. We found that starting an argument by positioning oneself from another person’s view could be an enhancing factor for exploring tensions and providing relevance in students’ complex thinking. In the first quarter, when they had already developed their own positions, students expressed more difficulties and negative feelings about exploring tensions between different approaches. In the second quarter, after developing an argument from the perspective of the author (i.e., author’s lens), we found that students could more naturally explore tensions rather than protecting their point of view. As Gadamer (2004) points out, they did not try to remove the tensions, but rather, further developed their arguments with complex thinking. We found that in order to help students explore tensions positively, it may helpful to give them opportunities to postpone developing their own position and claims, and instead, focus in the early stages of argumentative writing, on practicing perspective-shifting.
The Three Inhibiting Factors

In this section, I discuss three inhibiting factors emerged in the second quarter: 1) students’ habitual structural approach, 2) students’ academic gap, and 3) the negative effects of taken-for-granted warrants.

Students’ habitual right answer approach to reading and habitual structural approach to writing. The first inhibiting factor that we found was students’ habitual approach to reading and writing. While reading texts, some students asked a question looking for a right answer for their interpretation. Although the teachers emphasized that interpretations could vary in relation to their background knowledge, students nevertheless tried to find a right answer. It seems this habitual approach bothered their exploration of the text and development of their arguments.

In addition, there were some students who resisted Mr. Moon’s emphasis on being messy in their argumentative writing. They wanted to have clearer guidelines. Their meaning of clear guidelines was based on a structural approach, which may have been very familiar to them. A structural approach was based on how much evidence they needed to include in their argumentative writing and what kinds of structures they needed to have. They wanted the teacher to provide simple principles that they needed to follow in order to feel that their grade was safe. The two teachers in our study resisted this approach and emphasized their thinking skills. For instance, in his class, Mr. Moon said, “If I can see your own analysis and new tries for thinking, I will reward them.” (Video, Mr. Moon’s class, 12/4/2013).
Over time, we could see that more students understood these specific teachers’ points of view and developed their argumentative writing based on their thinking moves rather than structural moves, as we have seen in the example of Lacey’s writing.

**Students’ academic gap.** During the intervention, another inhibiting factor for our intervention was the academic gap between students. In particular, In Ms. Vale’s classroom, this academic gap was a big issue. In her classroom, around 20% of students revealed a limited reading ability. In contrast, only one student revealed a struggle with reading in Mr. Moon’s classroom. As I discussed previously, these students often misinterpreted the literal meaning of the text as a result of overgeneralization, limited lexical knowledge, etc. Most of them also revealed a limited writing ability. In Ms. Vale’s classroom, around 30% of students were struggling with their writing, and in Mr. Moon’s classroom, around 10% of students were struggling with their writing.

The teachers provided specific guidance for these students, but our research team agreed that for students with limited reading and/or writing abilities, it might be better to start by teaching a system of evidence. Then, when the students developed more concrete ideas about a system of evidence, they could start dealing with exploring tensions. For the third intervention, this issue also made us think about how we could differentiate the level of the practices for the struggling learners in the classrooms.

**The negative effects of taken-for-granted priority warrants.** In the second quarter, our research team was mainly concerned with the functional aspect of warrants in developing relevant evidence. However, the ontological aspect of warrant was also revealed as an important issue. Our research team found that when students developed
their thesis after exploring tensions, they often considered their priority warrant, which refers to a warrant that reveals the arguer’s priority among multiple options based on his/her underlying assumptions and beliefs, as taken-for-granted warrant. These assumptions and beliefs negatively affected their development of stance and thesis.

For instance, as an example of the progression of an argument based on active interactions between controversy and response that failed to connect the insights of the discussion into a more nuanced, thoughtful position and thesis, we discussed Ava’s writing about whether Chris is a hero or not in *Into the Wild*. She explored tensions between Chris’s altruistic personality and his lack of preparation and evaluated the former as being heroic and the latter as not being heroic. Her thesis was: “Chris was… not a hero but simply foolish and ignorant to the point that led to his death.” In her small group discussion about whether Chris was a hero or not, she strongly revealed her priority warrants that practicality outweighs morality and that results are more important than process in evaluating a person. We found that such beliefs and assumptions contributed to students developing a position and thesis without further exploration of the tensions. Our research team thought that it would be important for students to carefully consider their priority warrants when they engaged in arguments related to their values.

**Building Theoretical Constructs Related to a System of Evidence for Sophisticated Argumentative Writing.**

In the previous section, I discussed students’ improvements and struggles in terms of their development of evidence, that is, what we named a system of evidence. In this section, I introduce the emerging area of a system of evidence and three relevant
theoretical constructs for developing sophisticated argumentative writing based on these findings.

In the second quarter, the area of developing evidence was emphasized. In particular, what we named a system of evidence was highlighted. A system of evidence refers to a set of interacting and interdependent evidence forming an intricate whole to support a thesis. During and after our second interventions, students showed struggles and improvement in how to develop a system of evidence. Based on our findings, we generated three theoretical constructs: ‘accurate evidence,’ ‘relevant evidence,’ and ‘sufficient evidence.’ Figure 5.15 shows these theoretical constructs:

![Figure 5.15: Theoretical constructs about a system of evidence for sophisticated argumentative writing](image)

**Theoretical constructs about a system of evidence 1: Accurate evidence.** In order to develop a sophisticated argumentative writing, including accurate evidence was found to be an important basis for developing a system of evidence. During the interventions, students were allowed (sometimes encouraged) to bring evidence from
outside the text, but they mostly used data from inside the given text(s). In the second quarter, some struggling readers revealed problems with accuracy in their development of evidence. They provided brief and/or overgeneralized evidence from the text that could be regarded as literally inaccurate evidence based on their subjective interpretation. Our research team realized that accurate evidence should be regarded as an important basis for the development of a system of evidence.

**Theoretical constructs about a system of evidence 2: Relevant evidence.**

Based on accuracy, relevant evidence was found to be the second theoretical construct for developing a system of evidence. In our research context, relevant evidence refers to a piece of evidence which is closely linked to a thesis and which supports the thesis with clear articulation. In the second quarter, we found two major reasons for students’ difficulties in developing relevant evidence. First, some students provided evidence that was related to the argumentative topic but not directly to their thesis. Second, some students provided evidence that seemed closely related to their thesis but failed to articulate the connections between evidence and thesis. These limitations greatly affected students’ development of sophisticated argumentative writing. Therefore, developing relevant evidence was generated as a theoretical construct about a system of evidence.

**Theoretical constructs about a system of evidence 3: Sufficient evidence.**

Based on accurate and relevant evidence, developing sufficient evidence was found to be the last theoretical construct about a system of evidence. Sufficient evidence refers to all the pieces of evidence that complement each other in order to thoroughly support a thesis as a whole in an argumentative writing. For sufficient evidence, accurate and relevant
evidence is required. In the second quarter, some students failed to sufficiently support the thesis because they were missing evidence for a part of the thesis and/or warrant. Some students provided less specific evidence to clearly and/or fully support a thesis or a warrant. Because this was the most common problem in students’ argumentative writing, developing sufficient evidence was generated as a theoretical construct about a system of evidence.

**Building Theoretical Constructs Related to Response to Complexity for Sophisticated Argumentative Writing.**

In the previous section, I discussed students’ improvements and struggles in terms of dealing with complex issues. In this section, I introduce a newly emerging area and relevant theoretical constructs for developing sophisticated argumentative writing based on our findings.

In the second quarter, the area of *response to complexity* emerged as an important part of sophisticated argumentative writing. The area of *response to complexity* refers to considering complex ideas and a sophisticated response to them. With regard to complex ideas, we did not limit considering opposing claims, evidences, and/or warrants to a polarized approach but also included multiple perspectives, approaches, and lenses that might reveal a more nuanced tension of the argumentative topic. After our second intervention, students showed both improvement and struggles in how to respond to the complex ideas they considered. Based on our findings, we generated two theoretical constructs: ‘progression(s) of an idea(s) from the active interaction with complex ideas’
and ‘integration of an insight(s) from exploring tensions into the thesis’ in this area for developing sophisticated argumentative writing. Figure 5.16 shows these constructs:

![Diagram](image)

Figure 5.16: Theoretical constructs about *response to complexity* for sophisticated argumentative writing

**Theoretical constructs about *response to complexity* 1: A progression of ideas from the active interaction with complex ideas.** The first theoretical construct about *complexity and response* is the progression of an idea(s) based on the active interaction between complex ideas and the writer’s responses. As I shared previously, after discussing multiple perspectives and/or possible contrasting evidence and warrants, some students provided no response and/or a simplistic response to warrants and then moved to a different topic without any progression of an idea from these complex issues. We called these superficial responses. On the other hand, some students showed active interaction between the complex issues that they introduced and how they linked the issues to progress their ideas. We regarded this active interaction with a complex idea and the progression of their ideas from the interaction as an important part of sophisticated
argumentative writing. Thus, we generated this as a theoretical construct for the area of *response to complexity*.

**Theoretical constructs about response to complexity 2: Integration of an insight(s) from exploring complexity into the thesis.** The second theoretical construct about *response to complexity* is integration of an insight(s) from exploring complex issues into the thesis. After showing a progression of ideas from their interaction with complex ideas, some students failed to successfully connect the insights from the interaction and exploration into a main argument that revealed a nuanced position. We regarded the connection between the exploration and their thesis as an important part of sophisticated argumentative writing. Thus, we generated this as another theoretical construct for the area of *response to complexity*.

**How Actual Practices Influenced our Theoretical Considerations**

For the second quarter, we developed argumentative practices based on Gadamer’s (2004) view of rationality highlighting exploring tensions and Haraway’s (1988) view of rationality which emphasizes mobile positioning. In the case of the second quarter, we had to adapted these theories into the context of high school writing classrooms. For instance, Gadamer’s (2004) discussion about exploring tensions was mainly based on a situation of reading a book written in a different time period, but in our situation, we focused on exploring tension from multiple perspectives. Haraway’s (1988) positioning and repositioning was mainly based on their occurrence in communicative fields, but in our case, we adapted her ideas of mobile positioning into the writing of an argument situation involving changing perspectives. Thus, it would be difficult to make
claims about whether we verified, challenged, and/or revised either Godamer’s (2004) or Haraway’s (1988) theories.

However, we can assume that their theories can be explained in specific contexts with specific examples but applied to different contexts. We can argue that the developed argumentative practices of exploring tension practices, positioning and repositioning practices in this study can be understood as the extensions of their theories in the context of high school argumentative writing classrooms.

In addition, enhancing and inhibiting factors that we found for the argumentative practices can be also understood as the local instructional theories which contribute to how Gadamer’s (2004) and Haraway’s (1988) theories might and might not work in authentic high school classroom situations. Moreover, by analyzing students’ argumentative writings which were response to our refined argumentative practices, we generated the theoretical constructs for the development of sophisticated argumentative writing. We may also argue that these constructs can be regarded as the local instructional theories which provide insights into how a conceptualization of sophisticated argumentative writing can evolve in relation to the argumentative practices that were developed from dialogic views of rationality. In other words, the generated theoretical constructs provide possible affordances of dialogic views of rationality in high school argumentative writing classes.
Chapter 6: Third Intervention

In the third quarter, we developed the following conjecture: *Network thinking focusing on the development of a thesis will contribute to the development of sophisticated argumentative writing by the eleventh-grade students in the two Language Arts classrooms.* Our retrospective analysis of students’ writing processes, their final argumentative writing, and interviews after the intervention indicated that network thinking focusing on the development of a thesis may positively contribute to students’ development of sophisticated argumentative writing. Students showed improvement in their development of a thoughtful thesis which was sufficiently supported by evidence and which incorporated insights from exploring tensions. I discuss a series of new theoretical constructs that were generated. Our data support Gadamer’s theories and extended his theories in the context of argumentative writing classrooms.

The Development of the Third Intervention

For the third intervention, we developed one set of practices like the first intervention. In this section, I discuss how we developed our intervention in the third quarter by considering the multiple factors of the results of previous interventions, the teachers’ curriculum needs, and theoretical considerations from dialogic views of rationality.
Limitations and Modifications of the Previous Intervention

Figure 6.1 represent the process of modifying our third intervention based on the results of the second intervention: what kinds of limitations we found from emerging enhancing factors in the previous interventions and how we modified our intervention based on the explorative factor that we decided to further explore.

Figure 6.1: Development of the third intervention based on the results of the previous interventions

Among the enhancing factors that we found for the effectiveness of our intervention, ‘teaching of a system of evidence’ and ‘developing practices for exploring tensions’ were further considered in relation to what we found as students’ most common difficulties. Regarding the system of evidence, the most common difficulty for students was that multiple pieces of evidence were not closely connected and/or could not sufficiently support their thesis. Regarding exploring tensions, the most common difficulty was students’ failure to incorporate the tensions they explored into their
progression of ideas and/or into their creation of a thoughtful position and thesis. In the second quarter, we placed a strong emphasis on students’ development of more complex thinking. After the second quarter, we realized that students needed to experience how to meaningfully incorporate their exploration into their argumentative writing.

In the third intervention, in response to the students’ difficulties, we included what we called “network thinking” as a goal of practice. Network thinking refers to a kind of thinking that carefully considers multi-dimensional connections, especially what and how two or more pieces of information connect in an argument.

These multi-dimensional connections can have different foci depending on students’ argumentative abilities and situational needs. In research on argumentation or argumentative writing, how to identify and provide appropriate evidence has been emphasized (cf. NCTE, 2012). Network thinking can be understood in terms of its emphasis on how to connect claim and evidence. In order to connect claim and evidence, warrants, either explicit or implicit, are necessary. In this context, a network thinking practice might focus on developing warrants to successfully connect claim and evidence.

Network thinking for argumentative practices includes not only the connections between different elements but also those within an element. For instance, it includes the connections between several pieces of evidence or the connections between multiple warrants. Network thinking practice can focus on connecting multiple pieces of evidence to achieve a system of evidence. Network thinking also includes not only a singular connection between claim, evidence, and/or warrant, but also comprehensive connections among multiple elements, such as multiple pieces of evidence, warrants, and the thesis.
In addition, network thinking can be related to multiple perspectives and relevant tensions and complexities. In this regard, network thinking is necessary to go beyond simply exploring them and including them in an argument. It includes careful consideration about how the multiple perspectives and tensions could be connected to the thesis and other parts of the argument. Thus it explores and makes explicit the connections between an argument's underpinnings and the argument itself, leading to a more sophisticated argumentation.

Network thinking for argumentative practices could include careful consideration of the connections between different parts (such as different paragraphs) of an argument, between a part of an argument and the whole argument, and between the argument and the society in which the argument exists and is communicated.

Not all possible relationships can be explored in an argumentation class in a limited time span such as a quarter. Our research team believed that network thinking practices should be developed in a way that responds directly to students’ difficulties and needs. Among the multi-dimensional possibilities of network thinking for argumentative practices, we needed to decide which type of network thinking we would include in our third intervention. Considering the students’ difficulties at the time, we decided to focus on how to connect multiple pieces of evidence to the thesis and how to connect the tensions explored to a nuanced thesis.

It is important to note that our research team does not consider what we refer to as network thinking to be something entirely new in argumentation. Connecting elements is one of the key features of arguments (Toulmin, 1958/2003). In addition, many parts of
our previous interventions could be understood in relation to our new term *network thinking*. However, we thought that this concept could be meaningful in naming and developing practices because of its special emphasis on connections (network thinking). What is new is our extension of the idea of connections to other aspects and elements of argumentation. Moreover, we considered that the key aim of developing network thinking practices is to provide specific procedural guidance on how to connect the selected information for the practice. We believe that this guidance should not be presented as absolute rules that students need to follow. Rather, we hope that different network thinking practices provide a variety of ideas about how to connect the selected information. Thus, in order to develop network thinking practices, extension of students’ repertoires of how to connect different kinds of information is important.

**Developing a Specific Goal for the Third Intervention: Network Thinking Focusing on Thesis Development**

Our research team met December 7, 2013 to plan our intervention for the third quarter. As I mentioned earlier in this document, we had a special focus on an element of argument for each quarter, focusing on warrant in the first quarter and evidence in the second quarter. We discussed whether we would have a special focus on a specific element of argumentation in the third quarter.

As noted, in our second intervention, we found that having a different focus did not mean that we would not deal with other elements. We observed that although we focused on exploring complex thinking and developing a system of evidence, making connections between a system of evidence and thesis and exploring tension and thesis
emerged as essential parts of students’ development of sophisticated argumentative writing. During this process, our research team further realized how developing an element is closely related to developing other elements.

At the same time, we found benefits in having a special focus on a specific element of argumentation. While working on students’ argumentation and argumentative writing, the teachers and students clearly knew what the targeted learning goals were. It also gave our research team a clear focus as we analyzed their writing. We do not think that focusing on an element of argument is necessary for the teaching and learning of argumentation, but it can be a way to provide a pivot for developing practices and analyzing data. As a result, we decided to focus on thesis for the third quarter, with special emphasis on its connection to multiple pieces of evidence and exploring tensions based on the common student difficulties that we identified.

**Institutional Factors that Affected the Design of Our Intervention**

In order to design the interventions for the third quarter, our research team also had to carefully consider curriculum needs affecting what the teachers felt they had to teach in this College Preparation course. The two teachers planned to develop this course based on argumentation throughout one academic year. In the third quarter, they wanted to use argumentation as a reading tool for literature. In particular, the two teachers said that they needed to teach close reading which involves how to unpack the author’s use of language (figurative language, image, diction choice, metaphors, simile, etc.) in their College Preparation course. They wanted to make a clear connection between argumentation and ways of reading and to use what students had learned about
argumentation as a tool for reading. Thus, our research team had to consider how our next intervention would be developed considering these curriculum needs and using argumentation as a primary reading tool.

In addition, the two teachers wanted to use a long novel as a main text in the third quarter, in contrast to the second quarter, when they dealt with several short texts. Considering the CCSS Literature Standard for Grades 11–12 (CCSSO, 2010, P. 38, in particular #9: “Demonstrate knowledge of eighteenth-, nineteenth-, and early twentieth-century foundational works of American literature”), Mr. Moon wanted to use one of the foundational novels of American literature. He also considered how we could develop our intervention in the third quarter in relation to the limitations that we found and modifications we discussed. He suggested using *The Great Gatsby* as the main text for the third quarter and asked students to explore the meaning of the text. He mentioned that this is his favorite novel, not only for his own individual reading but also for teaching literature. He explained that it gives students a great opportunity to consider systems of evidence. Ms. Vale agreed, commenting further that “That’s a great idea. Good writers, everything matter. Everything is related. Gatsby is classic… Everything is related to the bigger picture in some way” (audio, research team meeting, 12/7/2013). Mr. Moon and Ms. Vale pointed out that reading *The Great Gatsby* and asking students to develop an argumentative writing about a main message of the text would provide a great opportunity for students to consider systems of evidence. In addition, Ms. Vale pointed out that the novel provides lots of tensions that students would need to consider in order to develop the thesis of their argumentative writing. As a result, after considering the two
teachers’ curriculum needs and our intervention, we decided to use *The Great Gatsby* as the main text for the third quarter.

**Developing a Conjecture and an Intervention Based on Theoretical Considerations**

Our main goal of the third quarter was to increase students’ network thinking. We developed the following conjecture: *Network thinking focusing on the development of a thesis will contribute to the development of sophisticated argumentative writing by the eleventh-grade students in the two Language Arts classrooms.* As this conjecture makes clear, the element of argumentation that we chose to emphasize was the thesis.

As noted previously, our research team developed our interventions based on insights from dialogic views of rationality. While exploring dialogic views of rationality, we tried to find insights for possible procedural guidance for network thinking. Considering our students’ abilities, needs, and difficulties, we sometimes needed to adapt these theories to the context of the high school classroom. As a result, this section includes more specific explanations about theories from a dialogic view of rationality and how we adapted them for our interventions in the third quarter.

For the third quarter, we developed six network thinking practices. The first and second network thinking practices for moving beyond a polarized position were inspired by Haraway’s positioning rationality and Gadamer’s investigational rationality. Using insights from their theories, we tried to provide appropriate procedures to help students connect exploring tension and development of a thesis, thus achieving a nuanced position rather than a polarized position.
In addition, we developed four kinds of connected network thinking practices for the development of a literature-based argumentative writing for students’ final argumentative writing assignment. The four connected network thinking practices were largely inspired by Gadamer’s (2004) investigational rationality. In these practices, based on Gadamer’s theories on hermeneutic circles, we tried to provide a procedure that students could consider in order to connect their thesis and system of evidence and to connect their thesis and exploring tensions.

Table 6.1: Key components and the practices developed for our third intervention

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<thead>
<tr>
<th>Inspirational sources</th>
<th>Key components</th>
<th>How we used the components in our research</th>
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<tbody>
<tr>
<td>Haraway</td>
<td>Self-critical partiality, mobile positioning</td>
<td>We developed two kinds of network thinking practices (which we call practices for moving beyond a polarized position) for connecting exploring tension and the development of a thesis that helped students to understand the partiality of their argument.</td>
</tr>
<tr>
<td>Gadamer</td>
<td>Horizon, the fusion of horizons, exploring tensions</td>
<td>We developed four kinds of connected network thinking practices for the development of a literature-based argumentative writing based on students’ current needs and difficulties.</td>
</tr>
<tr>
<td>Gadamer</td>
<td>Hermeneutic principles of historicity of understanding</td>
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<thead>
<tr>
<th></th>
<th>In particular, the first network thinking practice (inference practice) was designed to help students consider how to connect textual evidence and their background knowledge.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gadamer</td>
<td>The second network thinking practice (pinpoint practice) was designed to consider all textual evidence in the selected passage. The third network thinking practice (pan-out practice) was designed to consider the connection between evidence in the passage and evidence outside the passage in the text.</td>
</tr>
<tr>
<td>Gadamer</td>
<td>The fourth network thinking practice was designed to consider the connection between exploring tensions and development of thesis and the connection between interpreting the text and what it means to the interpreter.</td>
</tr>
</tbody>
</table>

**Practices for moving beyond a polarized position.** Gadamer’s (2004) concept of *horizon* is significant in that it refers to the limitations of human reflection and to evolving historicity. Gadamer (2004) explains the concept of “horizon” as “the range of vision that includes everything that can be seen from a particular vantage point” (p. 301). He explains that since a historical human being is located in a situation, his/her perspective needs to be understood as a horizon that has a fundamental limitation (in that his/her range of vision is limited in a particular point). Haraway (1988) also strongly argued for the importance of acknowledging the partiality of one’s view “to make rational knowledge claims” (p. 598) by problematizing objectivity. Based on the social
constructionist perspective, she disagrees with total universality or objectivity, and believes that all knowledge is situated and socially constructed within social contexts.

The first network thinking practice for moving beyond a polarized position was inspired by ideas from Gadamer (2004) and Haraway (1988) about the partiality of our view by combining Haraway’s suggestions on mobile positioning. Haraway (1988) emphasizes a “commitment to mobile positioning” (p. 585). Rational knowledge, according to Haraway (1988) should not be fixed, but should be open to re-positioning. Haraway (1988) emphasizes “the joining of partial views and halting voices into a collective subject position” (p. 590). A person should be open to new situated knowledge and needs to develop webbed connections based on different situated knowledge, which may be contested. Her view of rationality based on ongoing positioning suggests that rationality is flexible and responsive to new situations and ideas.

Considering the students’ abilities, the first network thinking practice of moving beyond a polarized position was designed to address issues in which the pro and con positions were quite controversial. Students were asked to position themselves as the polarized pro position and develop a thesis, and then they were asked to reposition themselves as the polarized con position and develop a thesis. At the end of this process, they were asked to consider the foundational limitation from each polarized position and develop a new thesis that revealed a more nuanced position.

The second network thinking practice for moving beyond a polarized position was inspired by ideas from Gadamer (2004) and Haraway (1988) about the partiality of our
view by combining Gadamer’s emphasis on exploring tensions and the fusion of horizons. With regard to tensions, Gadamer explains as follows:

“Every encounter with tradition that takes place within historical consciousness involves the experience of a tension between the text and the present. The hermeneutic task consists in not covering up this tension by attempting a naive assimilation of the two but in consciously bringing it out. This is why it is part of the hermeneutic approach to project a historical horizon that is different from the horizon of the present” (p. 305).

Gadamer (2004) explains an interpreter’s experience of a tension based on different historical horizons between a text and an interpreter. He highlights examining the tension between a historical horizon from a text and the horizon of the present by an interpreter.\(^\text{19}\) I paid attention to his attitude of dealing with differences and relevant tensions. Gadamer does not see differences and tensions as something negative that needs to be removed or overcome. Rather, he deals with them as positive and productive things that lead to an advanced understanding. In other words, Gadamer emphasizes the heuristic construction of tensions for further exploration and better understanding.

Gadamer raises this question, “Are there really two different horizons here—the horizon in which the person seeking to understand lives and the historical horizon within

\(^{19}\) Gadamer’s discussion of horizon does not need to be understood based on an individual such as an interpreter, interlocutor, etc. The concepts could be understood based on a socially constructed group such as an academic field. In this study, I interpreted his meaning of “the horizon of the present” to be based on an individual in order to apply his theories to this research context in which students did not belong to a specific academic field.
which he places himself?” (p.303), and further raises the following question: “Are there such things as closed horizons?” (p. 303), referring to the clear boundary of a horizon (or clear boundaries of two different horizons). Gadamer (1976) explains that an individual always has interactions with others and objects, “and hence can never have a truly closed horizon” (p. 303).

Gadamer introduces his productive term, the *fusion of horizons*, which refers to the interactions of different horizons and their ongoing, mutual evolvement by the testing of their prejudices. Gadamer (2004) introduces the *fusion of horizons* as follows:

“In fact the horizon of the present is continually in the process of being formed because we are continually having to test all our prejudices. An important part of this testing occurs in encountering the past and in understanding the tradition from which we come. Hence the horizon of the present cannot be formed without the past. There is no more an isolated horizon of the present in itself than there are historical horizons which have to be acquired. Rather, understanding is always the fusion of these horizons supposedly existing by themselves” (p. 305).

Gadamer explains that the horizon of the present is historically constructed in relation to the past and relevant past tradition. For tradition, Gadamer imagines one great horizon as a place that is not completed but keeps moving with us. In other words, Gadamer’s meaning of tradition is not fixed in the past; rather it is produced by us in the present and evolves when we express the tradition. Gadamer explains that the horizon of the present is ceaselessly evolving during the interaction into a different horizon “because we are continually having to test all our prejudices” in the interaction. Gadamer calls this
process of understanding “the fusion of these horizons.”

The second network thinking practice for moving beyond a polarized position was designed with oral debate in mind. Although Gadamer’s above discussion was based on a situation in which an interpreter is reading a text, he often emphasized that his discussion could also be applied to an oral situation in which a person is discussing something with an interlocutor(s). In other words, Gadamer’s “fusion of these horizons” could also be understood as evidence of a person’s experience of tensions based on different historical horizons between himself/herself and an interlocutor.

Before students worked on their final argumentative writing, which was mainly based on their interaction with a text, we wanted to provide opportunities for students to explore tensions emerging from the different horizons between students. In this practice, students would be asked to develop their own definition about a concept and develop a relevant position on an argumentative topic. They would then participate in a debate, the purpose of which would be to test their prejudices and explore the nature of contrasting perspectives. In their argumentative writing, constructing a tension(s) from their debate and revealing a nuanced position in their thesis would be emphasized.

**Four networking thinking practices.** We developed four kinds of network thinking practices for developing a literature-based argumentative writing. The first network thinking practice was inspired by Gadamer’s (2004) emphasis on “the historicity of understanding” (p. 268), which means that all of our understanding is impacted by our previous background and experience. The first network thinking practice is a kind of inferencing practice in which students use their own background knowledge to
understand a text. The second, third, and fourth network thinking practices were designed based on insights from Gadamer’s (2002) ideas about the hermeneutic circle, whereby a text is understood as a whole through its parts and its parts are understood with reference to the whole text. Gadamer explained this in terms of Heidegger’s (Being and Time) “circular structure of understanding” (p. 268).

The first network thinking practice. The first network thinking practice (what we also call inference practice) was inspired by “the historicity of understanding,” which Gadamer worked to elevate to “the status of a hermeneutic principle” (p. 268). Gadamer criticizes “the scientific concept of objectivity” by arguing that it “obscures our ontological being” (p. 268), and arguing (Gadamer, 2004) for the importance of acknowledging the effect of historicity.

The two teachers mentioned that students were always concerned about finding the right interpretation. We wanted to design a network thinking practice to help students understand that interpreting a text is closely related to their own background knowledge, assumptions, and beliefs, which were called warrant in the classroom, and help them to actually connect a text with the warrant. Although warrant was not the main focus on the third quarter, we felt that this practice is necessary for dealing with interpreting a text. As a result, as the first step toward interpreting a text in this practice, we planned to ask students to connect textual evidence with their warrant by using an evidence chart that the class had been using since the first quarter.

The second and third network thinking practices. The second and third network thinking practices (what we also call pinpoint practice and pan out practice, respectively)
were inspired by Gadamer’s (2004) emphasis on the circular relationship, about which he said, “we must understand the whole in terms of the detail and the detail in terms of the whole” (p. 291). Gadamer (2004) explained:

“…the movement of understanding is constantly from the whole to the part and back to the whole. Our task is to expand the unity of the understood meaning centrifugally. The harmony of all the details with the whole is the criterion of correct understanding. The failure to achieve this harmony means that understanding has failed.” (p. 291)

In order to design the network thinking practices, we carefully considered the following two parts of Gadamer’s (2004) statement: “the movement of understanding is constantly from the whole to the part and back to the whole” (p.291),”and “Our task is to expand the unity of the understood meaning centrifugally” (p.291). We planned for students to develop their thesis (argument about the meaning of the text) from a short part (sentences in the part of the novel as evidence for their thesis) and then expand the unity (thesis) based on their further exploration of the other parts of the text (sentences in other parts of the novel as evidence for their thesis). We wanted students to move constantly from the part to the whole and from the whole to the part, and in the process, to reexamine their understanding and thesis.

The teachers wanted to emphasize “the harmony of all the details” as a system of evidence for understanding a text and making an argument about the meaning of the text. With regard to making an argument about a text, the two teachers were concerned with what they called ‘cherry-picking’ of evidence. Ms. Vale said, “What the student is really struggling with is that they arrived at a conclusion from a portion of the book. That drove
me crazy. What about this portion? What about this? That’s where the text pushed on them. They have to read things.” (Teacher interview, 11/18/2013). Rather than considering all the pieces of evidence, students often selected some parts of a text and made an argument (meeting note, 12/7/2013). In the classroom, the teachers planned to emphasize that “The failure to achieve this harmony means that understanding has failed,” as Gadamer said.

For the second network thinking practice, considering all the parts of the text (what we call all the pieces of textual evidence) in interpreting the text was particularly emphasized. This original second network thinking practice can be used when a class deals with a fairly short text, such as a poem. Carefully considering all textual evidence in the short text and “the movement of understanding… constantly from the whole to the part and back to the whole” was emphasized.

In our case, considering our students’ current abilities and instructional situations, we further developed a third network thinking practice and created a revised version of the second network thinking practice. Because the teachers wanted to deal with a long novel in the third quarter, it was difficult to conduct the original second network thinking practice based on the entire text. Considering our students’ current abilities and the teachers’ availability to teach, guide, and evaluate, we did not think that considering all the evidence in the novel was a doable or even productive practice for the students. The revised second network thinking practice (what we will refer to as the second network thinking practice in this study) and the third network thinking practice can be used when a class needs to engage with a fairly long text.

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For the second network thinking practice, we selected a passage in the novel in which all the pieces of textual evidence in the passage could be considered in interpreting the passage. At the beginning of the process, the teachers selected a passage for their students’ deep examination; later, for the final assignment, students selected their own passage to investigate. For the second network thinking practice, students were also asked to conduct the first network thinking practice: that is, they were asked to reference their own background knowledge and assumptions (warrant) to interpret a sentence(s). However, they were often also asked to avoid solidifying their interpretation until they interpreted the passage as a whole. We wanted students to experience withholding judgment and interpretation at least until they finished carefully reading a short passage and were considering how to combine all the evidence in that passage.

The third network thinking practice (pan out practice) is closely related to the second network thinking practice. In the third network thinking practice, students were asked to consider the relationship between the passage that they used for the second network thinking practice and the text as a whole. They were asked to discuss how else the text addressed what they discussed in the selected passage. They needed to show how the main message in the selected passage (what they found as the author’s main message in the selected passage) played out in developing the text’s larger meaning.

*The fourth network thinking practice.* The fourth network thinking practice was designed for connecting exploring tensions and development of thesis and connecting the meaning of a text and its meaning (or its implication) to the interpreter (a reader, a writer, or an arguer).
With regard to the connection between exploring tensions and development of thesis, as noted previously, we were inspired by Gadamer’s (2004) ideas about exploring tensions and the fusions of horizons. In the fourth network thinking practice for the literature-based argumentative writing, we planned to ask students to explore tensions and make the connection between their exploration of tensions and development of a thesis. Although Gadamer’s (2004) idea of exploring tensions was mainly based on different historical horizons between a text and an interpreter, we planned to broaden what could be regarded as tensions. For instance, we expected that students could find tensions in a scene in which two characters disagreed with something. During the students’ argumentative writing process, the teachers would continuously ask them to explore tensions based on what they felt and to find tensions in relation to their development of thesis. During the process of exploring tensions, we hoped to see their heuristic constructions of tension, examination of their prejudices, and achievement of the fusion of horizons.

With regard to the connection between the meaning of a text and its meaning (or its implications) for the interpreter (a reader, a writer, or an arguer), we were inspired by Gadamer’s (2004) emphasis on the mutual interaction between a text and an interpreter (a reader, a writer, or an arguer, etc.). Gadamer (2004) disagrees with simply exploring the original meaning of a text, trying to restore the original writer’s intention from a text, and giving up “the claim to find in the past any truth that is valid and intelligible for ourselves” (p. 302). He explains the meaning of mutual interactions (a real dialogue) between a text and a reader, asserting that “simply in order to get to know him—i.e., to
discover where he is coming from and his horizon” is “not a true conversation—that is, we are not seeking agreement on some subject—because the specific contents of the conversation are only a means to get to know the horizon of the other person” (p. 302), such as the horizon of the writer of the text. Here, Gadamer (2004) emphasizes that understanding does not mean just restoring what was written in the past but is the result of the “fusion of horizons,” and, therefore, should be meaningful for the interpreter.

In considering how to include the above idea in the classroom practice, we found a simplified idea that we could try. The teachers planned to ask questions (what we call ‘so what’ questions) such as “Why should we care about this?” “What is the message of the claim to you?” “What possible meaning, social commentary, or greater significance for the novel as a whole do your observations point to?” “What do you think Fitzgerald is trying to suggest through your examples?” etc. In this way, students were encouraged to consider how they could connect their exploration of the text and development of an argument to themselves and/or to the society in which they live.

**Two key points for developing the four network thinking practices.** In order to develop four network thinking practices for developing a literature-based-argumentative writing program, two points were strongly emphasized in relation to the inhibiting factors that we found in previous interventions: first, that interpretation is a recursive process, with the recognition that various interpretations of the same text are possible; second, the need for balance between close examination of the selected text and careful consideration of the historicity (prejudices) of the writer.
First, interpretation should be understood as a recursive process. According to Gadamer (2004):

“A person who is trying to understand a text is always projecting. He projects a meaning for the text as a whole as soon as some initial meaning emerges in the text. Again, the initial meaning emerges only because he is reading the text with particular expectations in regard to a certain meaning. Working out this fore-projection, which is constantly revised in terms of what emerges as he penetrates into the meaning, is understanding what is there” (p. 269).

As Gadamer (2004) emphasizes in the foregoing, understanding a text is a recursive process in which students bring their background knowledge to project a meaning and make constant revisions based on the progression of their reading in the process of coming to understand the text as a whole.

This could be understood in relation to what was found as an inhibiting factor in students’ habitual approach to reading, in which they continuously looked for a single right or objective interpretation. In the above passage, what Gadamer describes as “correct interpretation” was not based on a right answer or objective interpretation. Gadamer (2004) wrote, “The only ‘objectivity’ here is the confirmation of a fore-meaning in its being worked out.” (p. 270). He emphasized that in the process of interpreting, if we come to a point where we cannot reconcile some part of the text with our previous interpretation, this is the point at which we need to revise our previous interpretation. Gadamer (2004) further wrote that “interpretation begins with fore-conceptions that are replaced by more suitable ones. This constant process of new
projection constitutes the movement of understanding and interpretation” (p. 269). We did not want to project some fixed, correct, taken-for-granted interpretation. Rather, we planned to acknowledge students’ own interpretations if they were based on the recursive process and could be reconciled with their previous interpretations.

Second, for the network thinking practices, the balance between close examination of the selected text and acknowledgement and consideration of the writers’ historicity (background knowledge) was emphasized. Gadamer (2004) criticized “the scientific concept of objectivity” by arguing that it obscures our ontological being (p. 268) and emphasizes the importance of understanding the historicity of an ontological being in the process of understanding. However, at the same time, he warns that overcoming prejudices that interrupt understanding might not be easy: “The prejudices and fore-meanings that occupy the interpreter's consciousness are not at his free disposal. He cannot separate in advance the productive prejudices that enable understanding from the prejudices that hinder it and lead to misunderstanding” (p. 295).

In the third quarter, if teachers observed students’ negative prejudices, they planned to provide guidance, but we planned to mainly deal with the issues based on the second and third network thinking practices that emphasize the harmony of all details. With regard to the difficulty of negative prejudices, Gadamer suggests that a reader could overcome this by carefully examining the given text and using recursive hermeneutics processes. Gadamer (2004) wrote:

“All correct interpretation must be on guard against arbitrary fancies and the limitations imposed by imperceptible habits of thought, and it must
direct its gaze "on the things themselves" (which, in the case of the literary critic, are meaningful texts, which themselves are again concerned with objects). For the interpreter to let himself be guided by the things themselves is obviously not a matter of a single, "conscientious" decision, but is "the first, last, and constant task." For it is necessary to keep one's gaze fixed on the thing throughout all the constant distractions that originate in the interpreter himself.” (p. 269)

In the foregoing, Gadamer strongly emphasizes paying attention to “the things themselves” for an interpretation. He also emphasizes a constant task of careful observation and examination of the selected text with which the reader is interacting. In the recursive interpreting practices from beginning to end, he emphasizes keeping one's gaze on the thing itself. During the process, Gadamer expects that “fore-meanings that are not borne out by the things themselves” could not “be confirmed by the things,” so they would be removed in “the constant task of understanding” (p. 270). Thus, we expected that during the process of the second and third network thinking practices, students could discard warrants that did not directly relate to the textual evidence.

In the first and second quarters, we discussed that students’ taken-for-granted warrants were problematic when the warrants could be controversial but the students were not aware of them and/or did not explicitly deal with them in their argumentative writing. In their reading process, we also expected that these kinds of taken-for-granted warrants, which are regarded as generally acceptable by students but could actually be controversial, could interrupt students’ interpretation of a text. In this case, students’ taken-for-granted warrants could be regarded as negative prejudices. Inspired by
Gadamer’s idea, we expected that the second and third network thinking practices, which continuously emphasized paying attention to textual evidence and the relationship between different points of evidence in order to develop their understanding and argument, would be helpful for students in removing their negative prejudices.

In order to distinguish productive and negative prejudices, Gadamer (2004) further suggests the importance of explicitly examining “the legitimacy—e.g., the origin and validity—of the fore-meanings dwelling within him” (p. 270), considering possibilities of different prejudices, and reflecting on “its own historicity” (p. 299). Although we know the importance of these, as we also experienced this in the first quarter, these are not the main focus of the network thinking practices. Thus, regarding these suggestions, the teachers planned to provide bottom-up guidance when they observed negative prejudices that hindered the students’ understanding of the meaning of the text in their discussion or drafts.

**The Location of the Six Network Thinking Practices in the Third Quarter**

The third quarter ran from the beginning of January to March 14, 2014. Figure 6.2 shows where the six network thinking practices were located in the third quarter.
In January, the classes were given two network thinking practices for moving beyond a polarized position. Students also performed the first network thinking practice, inference practice, based on short texts. At the beginning of February, the classes started reading and discussing *The Great Gatsby*. For every class, students were asked to read specific pages from the novel. Each week, they read one or two chapters. If they did not read the assigned parts of the novel, they had to go out to the hall to read it.

During class, the students learned a variety of language devices and how to use them for interpretation. They also discussed some tensions that emerged from the scenes they were reading in terms of settings, for example, the love triangle between Daisy, Tom, and
Gatsby (cf. Appendix O: Love triangle handout). The teachers also selected a passage and provided an opportunity for students to understand and experience the four connected network thinking practices for literature-based-argumentative writing.

At the beginning of March, students considered which passage they would select for their final argumentative writing. After selecting a passage with the teachers, the students individually conducted the connected four network thinking. They were encouraged to discuss these with their classmates and the teachers during their process of writing.

**Specific Procedures for Each Practice in the Third Intervention**

Table 6.2 provides specific procedures of each practice that happened in the third intervention.

<table>
<thead>
<tr>
<th>Practices</th>
<th>Descriptions</th>
</tr>
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<tbody>
<tr>
<td><strong>The first network thinking practice for moving beyond a polarized position</strong></td>
<td>Students considered the partiality of their claim. Based on the polarized pros and cons claim, students practiced how to develop a more nuanced claim. First, students worked with their partners to provide reasons for both sides of the claim. Second, the class had a whole group discussion from both sides of the argument. Third, the teachers asked students to individually write two claims from the above two polarized positions on the issue. Fourth, the teachers asked students to write down at least two tensions regarding the two claims that they developed. Fifth, the class had a whole-group discussion based on the students’ developed claims. Students shared their claims from the polarized positions and discussed possible tensions.</td>
</tr>
</tbody>
</table>
Table 6.2 continued

| The first network thinking practice for the literature-based argumentative writing: inference practice | By using argumentation as a tool for interpretation, students worked on the evidence chart consisting of claim, evidence, and warrant (cf. handout for inference practice). By making connections between textual evidence and their warrants, students tried to interpret a sentence and a passage from the selected passage. At the beginning, after students filled out the evidence chart, they had opportunities to discuss their interpretations in their small groups and/or whole groups. The teachers asked them to submit their evidence chart and provide feedback. |
| The second network thinking practice for moving beyond a polarized position. | Students individually read *The Mystery of Heroism* (Crane, 1896). While reading it, students asked to mark all textual evidence that could suggest that Collins is a hero or not. After that, students needed to make the decision about whether Collins is a hero or not. If they filled out the organizer (cf. Appendix P.1: *The Mystery of Heroism*), students could attend the oral debate. Classroom members who finished the previous assignment joined the debate which was divided by pros and cons about whether Collins is a hero. After the oral debate, students wrote an individual essay about “How did this story and debate make you think about your own personal definition of heroism? What do you think is Crane’s message regarding heroism?” (cf. Appendix P.2: You Final Say: “A Mystery of Heroism” Exit Ticket). Carefully considering their definitions of heroism and hero, their classmates’ definitions, and the author’s definitions were emphasized in the teachers’ guidance. Lastly, the students engaged in a whole group conversation about their different definitions and how their definitions were related to their backgrounds and experiences, and how their definitions affected their oral debate. |
| Sixth, teachers encouraged students to consider conditions in which the claims that they developed might not work. Lastly, the teachers asked the students to recreate a more nuanced, complex claim by considering the tensions and conditions and resubmit the thesis. The teachers strongly recommended including conditions and qualifiers if they found a limitation in a polarized claim. |  |
Table 6.2 continued

<table>
<thead>
<tr>
<th><strong>The second network thinking practice for the literature-based argumentative writing: pinpoint practice</strong></th>
<th>For the final argumentative writing, they conducted this practice based on their selection of a passage. Depending on the length of the paragraphs, one to three paragraphs were normally selected as a passage (usually no more than a half page).</th>
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<tbody>
<tr>
<td><strong>At the beginning, the teachers selected a passage whose meaning could be easily interpreted. Students practiced considering all the evidence in the passage in order to interpret the meaning of the passage. After students were getting used to the practices, the teachers brought up passages that included some ambiguity and could be multiply interpreted and/or include some parts which interpretation needed to be reconsidered based on other parts of the passage. Students participated in small group and/or whole group discussions about interpretations about the passage based on the system of evidence.</strong></td>
<td></td>
</tr>
<tr>
<td><strong>At the beginning of March, students selected a passage that revealed the main theme (message) of the novel by themselves and did the same practice of connecting multiple pieces of evidence to make an argument about the main theme of the passage in the selected passage for their final argumentative writing. The teachers had individual conversations with each student about whether their selection of the passage was appropriate. Students could not select passages that were analyzed in the whole group discussions with the teachers’ guidance. Students individually worked on their selected passages. They tried to consider all the evidence in the passage and develop a thematic idea from the passage.</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Students practiced connecting the argument that they developed from a passage to the whole novel by bringing up textual evidence from other parts of the novel. After the practice based on the passage selected by teachers, they worked on their selected passage. Dealing with contrasting evidence from their previous interpretation was encouraged.</strong></td>
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</table>
The fourth network thinking practice for the literature-based-argumentative writing: pan out practice

In the classrooms, the two teachers continuously emphasized exploring tensions and integrating the insights from exploring tensions into their thesis. The teachers also encouraged students to connect their argument about the theme of the novel to their lives (the society they live in). Based on students’ actual argumentative writing, the teachers provided more specific guidance.

Entextualization of Students’ Argumentative Writing in Relation to Classroom Interactions

For the third quarter, I did not divide the findings sections into classroom interactions and students’ argumentative writing processes as I did for the first and second quarters. Here, I combine the two sections and discuss the entextualization of students’ argumentative writing, in which the students’ writing was traced back to classroom practices and understood in relation to classroom interactions. I made this decision because the four connected network thinking practices were designed for the students’ final argumentative writing, and thus the entextualization of the students’ argumentative writing could provide vivid interactions between classroom practices and how students actually worked on their argumentative writing.

In this section, I introduce the final argumentative writing prompt for the two classrooms. I then describe the writing process of a student who revealed a quite linear writing process in relation to the classroom practices and interactions. I then discuss what kinds of different writing processes we observed among other students, focusing on another student who revealed more recursive writing processes with his struggles.
The Prompt for the Final Argumentative Writing for the Third Quarter

The final argumentative writing for the third quarter was designed to promote students’ network thinking. In particular, the writing prompt was designed to help guide the students' writing processes in relation to the four connected network thinking practices. Table 6.3 was the writing prompt for the students’ final argumentative writing in both Ms. Vale’s and Mr. Moon’s classrooms.

Table 6.3: The prompt for students’ final argumentative writing in the third quarter

<table>
<thead>
<tr>
<th>Task: The Great Gatsby is full of passages whose dense language invites a close reading in order to unpack meaning. You will select ONE passage in the novel that you feel deserves such an unpacking, and then you will explain how a close reading of that passage reveals an important idea in the development and meaning of the work as a whole.</th>
</tr>
</thead>
</table>

The prompt required several actions: selecting a passage in the novel *The Great Gatsby*, closely reading and unpacking the passage, and finding an important idea from the passage and connecting this idea to the novel as a whole. The following handout (Table 6.4) provided more specific ideas about the final argumentative writing for the third quarter.
Table 6.4: Handout about the final argumentative writing for the third quarter

<table>
<thead>
<tr>
<th>Pinpoint and Pan Out</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>The Great Gatsby Close Reading Essay</strong></td>
</tr>
</tbody>
</table>

**Task:**

*The Great Gatsby* is full of passages whose dense language invites a close reading in order to unpack meaning. You will select ONE passage in the novel that you feel deserves such an unpacking, and then you will explain how a close reading of that passage reveals an important idea in the development and meaning of the work as a whole.

**Process:**

1. **Pinpoint:** Select a passage from the novel (ideally it should be about a half-page to a page long) that invites a close reading. Good passages to use will include those parts of the text whose meaning you didn’t understand the first time around because they are packed with abstract language and literary devices. A straightforward passage will not get you very far on this assignment.

The first task of your essay will be to offer a close reading of your selected passage, focusing on explaining the language and literary devices that create an idea or impression within that passage. Explain how the language—diction, detail, syntax, figurative language, etc.—reveals an important issue or idea that plays a role in the development of the novel’s meaning as a whole.

   Of course you will be digging deep and using a ton of textual evidence from your passage to do this.

2. **Pan out:** In addition to discussing just your selected passage, your essay will also need to **pan out** to explore how else the novel addresses and builds your initial close-reading observations related to your topic. Show us: how does the idea/impression in your selected passage play out in developing the novel’s larger meanings as a whole? Where else in the book does this idea occur, and how does the development of this idea elsewhere in the book relate back to your selected passage? You will need to continue to offer textual examples as you go, although they will be shorter and more focused than your analysis of your selected passage (and your examples can be more literal in this section as well).

   In short, your essay will need to reveal clearly how your pinpoint is a part of a broader pattern.

Continued

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Here’s a more systematic way to consider your essay:

<table>
<thead>
<tr>
<th>FOCUS OF DEVELOPMENT</th>
<th>ELEMENTS AND QUESTIONS TO CONSIDER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pinpoint</td>
<td>How do diction, syntax, detail, and/or figurative language or other literary devices reveal an important pattern or idea in this passage? How does this passage impact the development of the meaning of the work as a whole?</td>
</tr>
<tr>
<td>Introduce your topic through a highly relevant and focused prose passage pulled from the novel.</td>
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</tr>
<tr>
<td>Offer an initial close reading of this passage, looking at how the specific language choices within the passage develop your topic. Include potential ideas and issues that arise from your close reading of this passage (this may involve discussing ambiguities or problems raised by the text).</td>
<td></td>
</tr>
<tr>
<td>Pan Out</td>
<td>Where else in the novel do you see instances of the same pattern or phenomena that you introduced in your “pinpoint?” What are the implications of your observations (“so what?”)? What possible meaning, social commentary, or greater significance for the novel as a whole do your observations point to? What do you think Fitzgerald is trying to suggest through your examples?</td>
</tr>
<tr>
<td>Present examples from elsewhere in the novel that reinforce your initial observations based in the passage. Don’t be afraid to also consider places that complicate your ideas.</td>
<td></td>
</tr>
<tr>
<td>Analyze how your observations fit together to contribute to the meaning of the work as a whole.</td>
<td></td>
</tr>
</tbody>
</table>

Requirements:
- 4-5 pages, typed and double-spaced
- MLA formatting (heading, header, title, and citations of your quoted textual evidence)

This handout was developed mainly for the second to fourth network thinking practices, the pinpoint and pan out practices. The teachers also provided the Great Gatsby Essay Organizer to offer guidance on the first network thinking practice, inference practice, and more guidance on the second to fourth network thinking practices (cf. Appendix Q: Great Gatsby essay organizer handout).

The handouts include specific procedural guidance on network thinking practices. We thought that experiencing the process of focusing on a passage and extending its
meaning to other parts of the novel and to students’ lives would be meaningful. However, regarding exploring tensions, specific guidance was not included in the handout or the organizer because we did not want to emphasize exploring tensions at a specific point in time. The teachers provided guidance on exploring tensions based on the students’ writing. The teachers particularly emphasized exploring what kinds of tensions emerged, where the tensions came from, how a tension(s) could be constructed for further exploration, and/or how the exploration could be connected to their thesis.

**Rita’s Writing Processes**

Rita is a female student in Mr. Moon’s class. She is a native speaker who has an Asian Indian background. Rita actively participated in small group discussions and whole group discussions. I selected Rita for several reasons. First, her writing processes were quite linear and were closely related to the handout and Mr. Moon’s guidance. Second, I had an opportunity to talk with her during her writing process and had an interview with her after she finished her writing, so I could ask questions about her writing processes. Third, she was one of the students who explicitly said that she made considerable progress in her writing in this course and considered the system of evidence to be helpful for her (Interview, 5/10/2014).

On March 7, 2014, Rita had an individual conference with Mr. Moon. The teachers spent one day doing individual conferences with each student to help them select a passage for their final argumentative writing. The teachers required that students select the passage for their final essay based on a general idea about the passage and why the passage might be important. However, at the same time, the teachers strongly emphasized
that students needed to conduct a careful examination of all the sentences in the passage with an open mind and should not start from a fixed thesis about the passage. They wanted the students to do in-depth inquiry about the meaning of the passage and decide which issue they wanted to further explore in their final essay after the inquiry.

Rita talked about two passages that she was considering. Mr. Moon did not like the second passage she selected because it had already been discussed in class. Mr. Moon accepted her first passage, so she selected the following passage from *The Great Gatsby* and kept working on it:

Recovering himself in a minute he opened for us two hulking patent cabinets which held his massed suits and dressing-gowns and ties, and his shirts, piled like bricks in stacks a dozen high.

“I’ve got a man in England who buys me clothes. He sends over a selection of things at the beginning of each season, spring and fall.”

He took out a pile of shirts and began throwing them, one by one, before us, shirts of sheer linen and thick silk and fine flannel, which lost their folds as they fell and covered the table in many-colored disarray. While we admired he brought more and the soft rich heap mounted higher—shirts with stripes and scrolls and plaids in coral and apple-green and lavender and faint orange, and monograms of Indian blue. Suddenly, with a strained sound, Daisy bent her head into the shirts and began to cry stormily.

“They’re such beautiful shirts,” she sobbed, her voice muffled in the thick folds. “It makes me sad because I’ve never seen such—such beautiful shirts before.” (Fitzgerald, 1925/1995, p. 99)
During the individual conferences, the other students worked on selecting a passage or working on a selected passage and had conversations about their argumentative writing with other classmates before and after their conference with Mr. Moon. On the same date, Rita worked on the Great Essay Organizer based on the above selected passage. Table 6.5 shows what she wrote for her impression of the passage at the beginning of the Organizer:

<table>
<thead>
<tr>
<th>1ST Reading: What is your first impression? What is it that you know and see in the text?</th>
</tr>
</thead>
<tbody>
<tr>
<td>In your own words, give a two-three sentence SUMMARY of what you think is happening in the text: (subject to change as you go through the activity):</td>
</tr>
<tr>
<td>When Daisy is visiting him and to try to impress her, he begins pulling out all of his clothes and throwing them about on his table.</td>
</tr>
</tbody>
</table>

Her summary shows that she had a general idea about what happened in the passage based on the characters’ actions, but she did not develop her thesis about what the main meaning of the passage would be.

**Pinpoint processes.** At the beginning of Rita’s writing process, we found three processes that were largely related to the first and second network thinking practices. We call the beginning three processes ‘pinpoint processes.’ These revealed her process of developing a thesis by considering multiple pieces of evidence from her selected passage. First, she carefully examined all the sentences and collected evidence from the selected passage. She also connected the evidence with her warrant (background knowledge) and provided her inference sentence by sentence. At this time, she did not reveal a unifying
idea (thesis) from the passage and did not reveal any relationships between the multiple pieces of evidence. Second, she connected her collected evidence into two groups based on two separate themes. Third, she focused on a group of evidence and developed a thesis (a central unifying idea) from the group of evidence. What we found was that the process was similar to what Andrews (1995) introduced as the beginning three structures for narrative and argument, taking ideas from Vygotsky’s stages of concept development (Britton, 1970, p. 208) and Applebee’s (1978) modes of narrative organization.

Process #1. Collection of evidence from the selected passage. By following the organizer handout, Rita examined the selected passage and considered how to fill out the handout.

Table 6.6: A part of the organizer handout on ‘observe’ and ‘know’

<table>
<thead>
<tr>
<th>Observe: This is the step where you gather evidence: What images, words, ideas stand out? Why? What literary elements does the author use? What effect do they have?</th>
</tr>
</thead>
<tbody>
<tr>
<td>I see…INCLUDE DICTION CHOICES, RELEVANT DETAILS, FIGURATIVE LANGUAGE (see board and fig. lang. PowerPoint), SYNTAS, STRUCTURE, SHIFTS AND PATTERNS, TONE, etc…</td>
</tr>
<tr>
<td>…jot down language choices AND your rough thoughts about what they might convey:</td>
</tr>
</tbody>
</table>

| Know: What do you already know-both inside and outside the text- that can help you make meaning of the passage and interpret the evidence? What does this make you think about? (Think of these as the warrants to your interpretation). Draw lines between things you write in this box and things in the box above if it helps you. |
For the above two parts of the handout (observe and know), some students used the evidence chart and moved between the handout and the evidence chart. Rita was one of the students who used the evidence chart. The following evidence chart showed how she made links between evidence, warrant, and her inference.

Table 6.7: Rita’s evidence chart

<table>
<thead>
<tr>
<th>Quotation from the story (evidence)</th>
<th>Knowledge (warrant): What do you already know—both inside and outside the text—that can help you make meaning of the passage and interpret the evidence?</th>
<th>My inference (conclusion): What does this quotation really mean? What's really happening, or what is the author’s implied commentary?</th>
</tr>
</thead>
</table>
| “he opened for us two hulking patent cabinets which held his massed suits and dressing-gowns and ties, and his shirts” | The person who has two hulking patent cabinets which held his massed suits is rich.  
If a person opens his cabinets, which held his massed clothes, without a special reason, he wants to show his wealth. | Gatsby is rich.  
Gatsby wants to show his wealth to Daisy. |
| “I’ve got a man in England who buys me clothes. He sends over a selection of things at the beginning of each session, spring and fall.” (p. 92) | The person who has a man to buy clothes for him at the beginning of each season is rich. | Gatsby is rich. |
| “He took out a pile of shirts and began throwing them, one by one” (p. 92) | Throwing clothes to show is not normal. | Gatsby had an overreaction. |

Continued
“shirts of sheer linen and thick silk and fine flannel, which lost their folds as they fell and covered the table in many-colored disarray. While we admired he brought more and the soft rich heap mounted higher—shirts with stripes and scrolls and plaids in coral and apple-green and lavender and faint orange, and monograms of Indian blue” (p. 92)

That all of his shirts are monogrammed immediately points to the fact that he is rich because the shirts are clearly very expensive. Having the variety of shirts shows that the person is rich. It also shows that the person is carefully considering his appearance.

The types of shirts Gatsby owns are important to show his move up the social ladder. Gatsby is rich and cares about his appearance.

Suddenly, with a strained sound, Daisy bent her head into the shirts and began to cry stormily

Sudden crying usually happens when someone feel extreme feelings such as sadness, pain, surprise, joy, etc.

It is clear that Daisy felt something strongly, but what she felt is not clear.

“They’re such beautiful shirts,” she sobbed

It is not a normal action to cry when someone sees beautiful shirts.

It is not clear why Daisy was crying when she saw the shirts, but it is clear that she felt something strongly.

“her voice muffled in the thick folds”

Muffled voice shows that something is unclear.

The author contrast Daisy’s voice here and other places.

“It makes me sad because I’ve never seen such—such beautiful shirts before.”

When a person see beautiful shirts, feeling sad is not normal.

Daisy said that she felt sad. The beautiful shirts have a close relationship with Gatsby. She might feel sad because of her current separated relationship with Gatsby, who has such beautiful shirts.

During the process, Rita wrote conspicuous textual evidence from the passage into the evidence chart. It seems that Rita collected almost all parts of the selected passage. Because Rita did not have a claim about the passage yet, it might be more correct to say that she wrote conspicuous parts of the passage into the evidence chart. By following the teacher’s guidance for close examination of all the sentences in the passage, she carefully dealt with almost all parts of the passage. After writing each part from the
passage, she then included her relevant knowledge and what she could infer from that part of the passage. Her use of qualifiers such as “might” and “unclear” shows that she was not sure what she could infer from some parts of the passage. Figure 6.3 shows the relationship between points of evidence.

Figure 6.3: Evidence heaps

This process could be understood as what Andrews (1995) describes as the stage of heaps, in which items are collected but it is difficult to find a clear relationship between them. Rita collected pieces of evidence that have some relationship in that they
came from a connected passage in the novel. However, it was not clear how Rita considered the relationships between the multiple pieces of evidence or whether she actually linked them.

**Process #2. Grouping evidence.** After the foregoing activity, Rita worked on the part of the organizer, which asked students to react to their first process as follows:

<table>
<thead>
<tr>
<th>React: This is the part of the thinking where your interaction begins. You need to connect, ask, and re-observe.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ask: What needs further explanation? What do you wonder? <strong>Jot down at least 4 text-based questions</strong></td>
</tr>
<tr>
<td>Vocabulary: What are the unfamiliar words you need to know from this text? (jot down words AND definitions):</td>
</tr>
<tr>
<td>Connect and Re-observe: What do your observations remind you of? What patterns do you see? What could stand for something else (symbol)? Why?</td>
</tr>
</tbody>
</table>

**Interpret:** Explain the multiple interpretations that this passage might have. How can you explain what this means? You should have several. No matter how ‘wrong’ they may seem, put them down. You can sort them out later. Remember to seek complexity, originality and significance. A bullet-point list is fine, but remember to look literal AND figurative.
Rita filled out some parts of the handout and had a conversation with Michelle, another student, who sat right next to her. For the section entitled ASK, Rita wrote the following question about Gatsby’s overreaction: “Why did Gatsby have such an overreaction?” Later, she drew lines and combined the above pieces of evidence 1–4 and 5–8. She further shared her warrant that “when we meet a person who we love after a long time, we cannot have a normal reaction.” After listening to Michelle’s analysis of her passage about how people cared about money in the novel, Rita said “I also considered that approach. Although we want to show something good to those we love, Gatsby seemed like… too much focus on showing his expensive stuff. All examples of his overreactions are related to showing his money” (audio, Mr. Moon’s class, 3/7/2014). Figure 6.4 shows how Rita connected the evidence.
At the beginning, Rita seemed to regard Gatsby’s love as the central part of this novel, and his thrill at seeing an ex-girlfriend was revealed as his usual reaction. When she interpreted the selected passage, it seemed as if she tried to connect Daisy’s crying as a response to Gatsby’s actions. However, in the process of considering the relationships between evidence and trying to find patterns, Rita found that all pieces of evidence of Gatsby’s overreaction were focused on showing his wealth rather than the strong reaction of a person who meets an ex-girlfriend he is still in love with after a long time. She then
grouped the above four pieces of evidence regarding Gatsby’s overreactions. Later, she grouped the evidence regarding Daisy’s response.

Akin to Andrews’ (1995) second stage, this process shows “a kind of grouping by family resemblances” and “having a unity (unlike ‘heaps’) but this unity is best depicted as a kind of constellation; there is no clear thematic unity” (Andrews, 1995, p. 35). The two groups of evidence shared a unity in terms of Gatsby’s overreactions and Daisy’s responses, but Rita had not developed a central idea about them yet.

Process #3. Developing a central unifying idea from the passage. Rita then worked on the last part of the handout for the second network thinking practice:

Table 6.9: A part of the organizer handout on ‘put it all together’

<table>
<thead>
<tr>
<th>Now, put it all together:</th>
</tr>
</thead>
<tbody>
<tr>
<td>State: Now that you’ve done some thinking, take a stab at an idea. ONE idea. (This may not be only idea. That’s okay.) What is the idea all your thinking points to? It should be an observation that gives insight into the book’s larger themes. Be careful so that you are NOT less profound here than you were in your questions.</td>
</tr>
</tbody>
</table>

After making two groups from her collected evidence, Rita focused on the first group of evidence (evidences One to Four). Near the first grouping of the evidence, she wrote “Gatsby overtly showed his wealth to Daisy and Tom. Gatsby’s overreaction showed that he did not come from the rich class.” In addition, in the warrant section for the third evidence, she added, “When a person is born wealthy, they usually don’t need to openly show off. The rules of the social class he is a part of now don’t come naturally to
him.” (field note, Mr. Moon’s class, 3/7/2014). Figure 6.5 shows how Rita developed a unifying idea (thesis) from the selected four pieces of evidence. The arrows in Figure 6.5 are used to show the selected circle of evidence supporting the thesis, which is written in the rectangle in the middle.

![Diagram of Figure 6.5: Developing a unifying idea from the selected evidence]

In the above process, we could see that Rita only focused on the first group of evidence and developed a unifying idea only from this group. She wanted to further explore the issue of Gatsby’s overreactions in relation to his poor background. She seemed to determine that the second group of evidence about Daisy’s reaction was not closely related to the issue that she wanted to further explore in this essay.
We found that this was not the process of cherry-picking evidence that the teachers were previously concerned about. Rita’s process was not throwing out evidence that she could not interpret in relation to her previous point or the unifying idea. Rather, it was choosing which points and issues she wanted to focus on and deal with in her essay among multiple possible issues she could deal with. Instead of focusing on the love relationship between Daisy and Gatsby, Rita wanted to focus on Gatsby’s overreactions based on his obsession with showing his wealth.

The process of developing a unifying idea is similar to Andrews’ (1995) third stage in that “a central unifying idea is linked to the individual components in a star shape” (p. 35). Based on the four pieces of evidence Rita connected, she developed the unifying idea (thesis) that “Gatsby’s overreaction showed that he did not come from the rich class.”

**Pan out processes.** By collecting more evidence outside of the passage in the novel, Rita further developed her thesis. Mr. Moon’s guidance on exploring tensions and “so what” questions greatly influenced the following writing processes. Rita further developed her thesis by exploring tensions from the collected evidence and collecting more evidence and by addressing “so what” questions. Rita finally reorganized the sequence of her essays based on the developed thesis and her collected evidence.

**Process #4. Collecting more evidence outside the passage and further developing the thesis.** By March 10, the students had an assignment to fill out the whole organizer handout or develop their outline of the essay. Rita brought her organizer handout, which was mostly filled out except some last parts for the “pan out” practice.
On March 10, Mr. Moon gave the students time to work on their final essay. They were allowed to talk with their classmates and ask questions of Mr. Moon. Students worked on their writings and had conversations with others.

At the end of the class, I asked two students about their writing processes. Rita was one of these students. I asked Rita to describe her “pan out” process. This was not a formal interview but a casual conversation (field note, Mr. Moon’s class, 3/10/2014).

Table 6.10: A part of the organizer handout on ‘Pan out’

Pan out…
Boil your idea in the “State” box on the previous page down to a topic. This topic should be approximately two to seven words long:

____________________________________________________________

Now, carefully re-examine the entire novel, and locate three scenes that also develop the topic you stated above. The best scenes will closely connect with, develop, or even perhaps challenge the idea of your pinpoint passage.”

SCENE 1: Chapter _____ Pgs. ________ Summarize:
Relevant quoted textual evidence:
Why did you choose this scene/how does it build your idea?

SCENE 2: Chapter _____ Pgs. ________ Summarize:
Relevant quoted textual evidence:
Why did you choose this scene/how does it build your idea?

SCENE 3: Chapter _____ Pgs. ________ Summarize:
Relevant quoted textual evidence:
Why did you choose this scene/how does it build your idea?

Write a thesis statement about how and why the idea or impression from your pinpoint passage creates an important idea about the meaning of “The Great Gatsby” as a whole:
Rita explained that at the beginning of the pan out practice, she was looking for a part of the novel outside of her selected passage that showed Gatsby’s overreaction because he was not born wealthy. Several pages before her selected passage, she found another example of Gatsby overreacting: “a white flannel suit, silver shirt, and gold-colored tie” (p. 84). She wrote about the question “Why did you choose this scene/how does it build your idea?” in the handout as follows: “This is the first time Gatsby is seeing Daisy in five years. Of course he wants to impress her, but he goes over the top. He is wearing colors that are normally associated with kings and queens: people of royalty. It clearly shows his desire to show off to Daisy, but he overdoes it by dressing and associating himself like nobility to get her approval.” After that, she found three more pieces of evidence to show Gatsby’s overreactions. Table 6.11 showed what she wrote for the pan out part in the organizer handout as follows:

Table 6.11: Rita’s response to the organizer handout on ‘Pan out’

- Relevant quoted textual evidence: “toilet set of pure dull gold” (p. 91)
  Why did you choose this scene/how does it build your idea? If anyone else from the rich, ‘east egg’ saw that, they would probably laugh or snicker because having a pure gold toilet set is unsophisticated and not up to the standards of the upper class. Gatsby, however couldn’t possibly know all the rules and standards of the class he so desperately wants to join, because he wasn’t raised that way.

- Relevant quoted textual evidence: “An Oxford man!... Like hell he is! He wears a pink suit!” (p. 122).
  Why did you choose this scene/how does it build your idea? He didn’t grow up learning what he should wear and what he shouldn’t; he wears a pink suit to the Buchanan’s house and the prestigious Tom exclaims “An Oxford man!... Like hell he is! He wears a pink suit!” (p. 122).
Relevant quoted textual evidence: “My God, I believe that man’s coming,’ said Tom. ‘Doesn’t he know she doesn’t want him?’ ‘She says she does want him.’ ‘She has a big dinner party and he won’t know a soul there’” (p. 103)

Why did you choose this scene/how does it build your idea? The most important example is when Mr. and Ms. Sloane are at Gatsby’s house. As the couple is leaving, they invite Gatsby to a dinner which he supposed to politely decline as he will not know anyone there. Tom and Mr. Sloane talk about the disgrace Gatsby has just portrayed by not declining. If Gatsby had been raised in an opulent family, he would have known these cues which would have allowed him to pass through the “indiscernible barbed wire” between his social class and the wealthier class above his.

The process of collecting evidence from other parts of the novel was based on her thesis about Gatsby’s actions showing that he did not come from the upper class. After collecting the evidence, she found that the last three pieces of evidence were more related to his inappropriate actions, which show that he still does not belong to the upper class.

By interacting with more pieces of evidence, Rita further developed her thesis about Gatsby: “Gatsby not only did not come from the upper class but also still does not belong to the class” as Figure 6.6 shows.
The interesting aspect of the entire process in this phase of Rita’s work, was the interaction between collecting more pieces of evidence and further developing her thesis from the evidence. Rita collected more evidence of Gatsby’s overreactions, and then her understanding was deepened, and as a result she refined her thesis from the collected evidence. Collecting evidence and further developing her thesis was an interactional process for her.

*Teachers’ emphasis on exploring tensions and addressing “so what” questions.*

On March 11, the students had class in a computer lab. They worked individually on their
final paper, and Mr. Moon had individual conferences with each student and provided feedback on their summaries of the main idea of their paper. One of the common elements that Mr. Moon regarded as missing in many students’ essays was exploring tensions and addressing the “so what” question. Based on each students’ argumentative writing draft, he provided what we called bottom-up guidance for exploring tension and addressing the “so what” questions.

**Process #5. Exploring tensions from the collected evidence.** On March 11, Rita had an individual conference with Mr. Moon. Mr. Moon read Rita’s summary and wrote down some feedback, including “sharpening thesis.” He then called Rita and talked with her. Mr. Moon said that he liked that she brought specific evidence from the passage and from outside of the passage and developed a clear idea. He recommended that she consider how to construct a tension(s) for further exploration. Mr. Moon also said, “I can kind of see where you are going. You need to figure out how the idea you are talking about is important for the book and how the idea is related to the real world issue (Video, Mr. Moon’s class, 3/11/2014).”

After the conference, Rita considered where the tensions in her collected evidence came from. With regard to the above five pieces of evidence, she found tensions resulting from Gatsby's unnaturalness with wealth. With regard to the last three pieces of evidence, she found tensions resulting from his lack of knowing the standards and customs of the upper class.
Process #6. Collecting more evidence regarding the tensions. Rita then found topics for further exploration among the tensions: their causes and results. Rita searched for more evidence about them. She explored textual evidence for Gatsby's background that showed that he did not belong to the upper class and evidence for the results of the tensions. She added Gatsby’s background as the reason for his inappropriate actions as follows:

Figure 6.7: Exploring tensions from collected evidence
Table 6.12: Rita’s collecting more evidence regarding the tensions

<table>
<thead>
<tr>
<th>Scene 1: Chapter: Pgs. Summarize: As Gatsby is showing his house to Nick and Daisy, Nick notices something… Relevant quoted textual evidence: “sometimes, he stared around at his possessions in a dazed way, as though…none of it was any longer real” (p. 91) Why did you choose this scene/how does it build your idea? Gatsby himself seems to be amazed he has all this money and wealth; it’s almost as if he can’t wrap his head around it. Generally if a person is wealthy and rich by birth, they have acquired an ease with it; they expect it and can’t imagine life any other way. This separates Gatsby from others in the higher social class because he wasn’t always rich. He started out, ‘a penniless young man without a past” (p. 149). He remembers this and sometimes can’t believe he actually made it. While Gatsby’s reactions are logical and normal, it sets him apart from the upper class he desires to be a part of.</th>
</tr>
</thead>
</table>

In the above example, Rita analyzed the reasons that Gatsby could not be part of the upper class in relation to the fact that he was not born rich. Rita reread the last part of the novel and wrote about the results of the tensions she found as follows:

Table 6.13: Rita’s writing about the results of the tensions

At the closing of the novel, Fitzgerald states, “Gatsby believed in the green light, the orgastic future that year by year recedes before us. It eluded us then, but that's no matter-to-morrow we will run faster, stretch our arms out farther...And one fine morning—So we beat on, boats against the current, borne back ceaselessly into the past” (180). The green light Gatsby is constantly trying to reach is his life with Daisy. It is described as, “minute and far way” (21), or impossible to reach. Gatsby still does his best as he undoubtedly wants to go back in time and be with her. Everything he does is to recreate the past; in conversation with Nick, Nick says, “You can't repeat the past,” to which Gatsby responds, “Can't repeat the past?.. Why of course you can!...I'm going to fix everything just the way it was before” (110). However, the more he tries, the more futile his efforts become and she begins to pull away. He tries to push against the “current” of time to reach “the green light,” Daisy and his dream of being with her slowly “recedes” and he is left pushing against the “waves” of Daisy's relationship with Tom.
In her analysis, the results were that Gatsby could not achieve his dream regardless of his efforts. She even wrote that “the more he tries, the more futile his efforts become.” As Figure 6.8 shows, she added more evidence about the topics that she found from the tensions.

Figure 6.8: Adding evidence about the cause and effect of the tensions
Process #7. Further exploring tensions with “so what” questions and recursively developing her thesis  On March 12, as an outcome of reading the “so what” questions in the handout about the final assignment, Rita carefully considered how she could address a bigger issue and started making the connection between Gatsby and others in the USA. Then, she found a bigger tension between contrasting beliefs about the American dream. She wrote: “Throughout history, America has represented a place of freedom, security, and the belief there is no social class. ‘The American Dream’ is traditionally defined as the belief that anyone, regardless of where they were born or what social class they were born into can achieve success through the social, economic, and political system in America. F. Scott Fitzgerald distinctly shows the flaws in American society in the 1920’s in his classic book, *The Great Gatsby.*”
I have attempted to represent Rita’s writing process in Figure 6.9. As the figure shows, Rita explored tensions from the main character’s actions and the relevant causes and effects of these tensions. By considering a bigger issue from this exploration based
on the character of Gatsby, she identified a larger tension between people’s common assumptions and the author's presentation of the American Dream.

She further compared Gatsby’s actions and results and others’ actions and results in the USA regarding these tensions: “As Gatsby is reaching for the ‘green light,’ people all over America are reaching toward the higher class and the materialistic culture of the wealthy. They are pushing against the ‘current’ of the fast-paced business world and the ‘waves’ are the awkward social encounters they have with people of the higher class because they don't know the social rules. These encounters little by little assist as as their dream ‘recedes’ before them.”

By considering the larger tension beyond Gatsby, Rita further developed her thesis by integrating insights from exploring tensions: “Fitzgerald seems to show that climbing up the social ladder in America is not just about working hard; there are other challenges that are usually concealed when discussing the American Dream.” She did not develop her thesis at the beginning of her writing processes. However, in the recursive process of collecting evidence and exploring tensions with “so what” questions, she incorporated insights from the explorations and further developed her thesis (unifying idea).

Process #8. Chaining (reorganizing) her essay based on the thesis and collected evidence. After developing the thesis, Rita started to reconstruct and reorganize her argumentative writing from the larger tension and the collected evidence. She started from the larger tension of the contrast between common assumptions and possible realities about the American Dream in her introduction. She then introduced Gatsby,
summarizing his poor background, his efforts to achieve his dream, and the results of his
dream. She then provided more specific evidence about his overreactions, which showed
that wealth was not natural for him and that he still did not belong to the upper class after
which, she added a discussion about the results of Gatsby's impossible dream. Finally,
she discussed what it all meant and what Fitzgerald tried to argue (cf. Appendix R:
Rita’s full argumentative writing for the third quarter).

Other Students’ Writing Processes

Rita’s writing processes were closely related to classroom practices and the
teacher’s guidance, so it is not surprising that many students had similar processes.
However, we could also find some variations in their processes. In this section, I will
introduce students’ conspicuous variations in comparison to Rita’s writing processes. In
particular, I will provide an example from a student’s writing that revealed a more
recursive writing process.

Students’ writing processes in relation to the first and second network
thinking practices. The processes of connecting collective evidence to background
knowledge and connecting multiple pieces of evidence to a unifying idea are closely
related to the first and second networking practices that our research team designed as the
first and second networking practices.

What was described as the first process in Rita’s case, collection of evidence from
the selected passage, looks similar to other students’ processes. Students collected
evidence from the selected passage and made connections to their background
knowledge. One common difference that we found in this process was how many
portions of sentences in the passage they included as evidence. Some students, like Rita, included all or almost all the sentences in the passage in their inquiry. Others were more selective about what they included in the handout and/or evidence chart, especially when the selected passage was long. However, the commonality was that students tried to include many sentences for examination and carefully considered the meaning of each sentence.

With regard to the second process of grouping evidence, students generally connected and combined what they regarded as similar pieces of evidence. Students created from one to five groups of evidence in our study. Some students developed few groups of evidence and left some pieces of evidence ungrouped.

With regard to the third process of developing a central unifying idea from the selected passage, we observed various approaches among the students. These different processes were meaningful for our research team because they revealed students’ active, recursive interactions between development of evidence and thesis.

Some students who developed a single group of evidence rather than multiple groups of evidence connected all the pieces of evidence and tried to write a unifying idea from them. Other students who had more than two groups of evidence showed two different approaches: focusing on one group of evidence or focusing on several groups of evidence. Like Rita, some students focused on one group of evidence and developed a unifying idea based only on that group. Other students combined more than two groups of evidence and developed a unifying idea from several groups of evidence. In the process, some students removed parts of the evidence that they evaluated as not directly
related to the unifying idea that they wanted to focus on in their final essay. These different approaches were related to how close the connections the students detected in the different groups of evidence were, which unifying idea they wanted to discuss, and how different groups of evidence could be related to the idea. Students’ grouping of evidence showed their active interaction with evidence in order to develop their thesis.

Another difference we found was in the kind of central, unifying idea the students developed. Like Rita, some students developed a tentative form of argument (thesis) for their essay. Other students developed a question that they wanted to further explore. The type of central idea students developed was closely related to the content of the passages that they selected. In some cases, the passage included very specific examples of the characters’ actions and words. Some passages only included the narrator’s interpretation of these actions and words. Thus, the passage they selected greatly influenced what kinds of unifying ideas students developed.

The key aspect here was that the teachers allowed and encouraged developing a question when students were not sure what their thesis would be. As I previously shared, the teachers included a section on developing a question: “ASK: What needs further explanation? What do you wonder? Jot down at least 4 text-based questions” in the handout for network thinking practices (pinpoint practice). In addition, when students shared their difficulties in developing a thesis from their selected passage, the teachers encouraged them to develop a question(s) and conduct further inquiry outside the passage in the novel. As a result, we observed that students were becoming familiar with the ongoing processes of searching for and (re)developing their thesis.

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An example of developing a question from the selected passage. Evan was one of the students who developed a question rather than a thesis from his selected passage. He was the other student with whom I had a casual conversation during his writing process and an interview at the end of the academic year. He selected a passage based on Nick’s interpretation. After collecting evidence from the passage, he developed a question that he wanted to further explore. I will briefly introduce his writing process, which was based on more open inquiry. Evan selected the following passage:

And as I sat there brooding on the old, unknown world, I thought of Gatsby’s wonder when he first picked out the green light at the end of Daisy’s dock. He had come a long way to this blue lawn, and his dream must have seemed so close that he could hardly fail to grasp it. He did not know that it was already behind him, somewhere back in that vast obscurity beyond the city, where the dark fields of the republic rolled on under the night.

Gatsby believed in the green light, the orgastic future that year by year recedes before us. It eluded us then, but that’s no matter — to-morrow we will run faster, stretch out our arms farther. . . . And one fine morning ——

So we beat on, boats against the current, borne back ceaselessly into the past. (Fitzgerald, p. 180)

In this passage, Evan paid particular attention to the contrast between how close and how far Gatsby was from his dream. With regard to the passage, he wrote in his handout, “In the literal sense, it is talking about Gatsby’s excitement after learning how close he is to achieving his goal of finally getting to be with Daisy. Looking deeper,
however, you realize it isn’t that simple. The passage talks about how far he has come to reach his final goal.”

In contrast to Rita, who focused on one grouping of evidence and having unity in the evidence, Evan collected his evidence about two topics regarding how far and close Gatsby had come to his dream. After collecting these two types of evidence, he wrote a question in his handout: “Why did Gatsby fail to achieve the dream which seemed so close to realization?”

**Students’ writing processes in relation to the third and fourth network thinking practices.** The third network thinking practice required students to collect more evidence from the novel outside their selected passage and to show how their collected evidence from the passage reflected the novel’s larger meanings as a whole. Some students’ pan out processes, especially the processes that were described as the fourth to sixth writing processes in Rita’s case (collecting more evidence outside the passage and exploring tensions), were much more recursive than Rita’s. This often happened when students found contrasting evidence from outside the passage that did not fit into their previous idea and/or interpretation.

The seventh process of writing in Rita’s case, which was extending a unifying idea into a bigger issue and tensions beyond a character’s situation, was found in many students’ writing. Although there were some students who considered bigger issues and relevant tensions from the beginning of their interpretation of a passage, many students more carefully considered them during their pan out process, usually after having an individual writing conference with the teacher. Students often tried to extend their thesis
based on the process of finding answers for the “so what” questions. Lastly, after developing the thesis, some students, like Lisa, paid attention to how to organize their essay and how to sequence their collected evidence.

**An example of developing a thesis by exploring tensions from contrasting evidence.** Let’s return to the case of Evan, who demonstrated the active process of developing a thesis by exploring the origin of the tension and connecting contrasting evidence.

In order to collect more evidence from outside the selected passage, which was located on the last page of the novel, Evan re-read previous chapters from end to beginning (from Chapter 9 to 8 to 7, etc.). After re-reading Chapter 7, he selected the following evidence that showed the problems of social class. The following writing, which was written in his handout, illustrates this point:

![Table 6.14: Evan’s first interpretation about the social aspects](image)

```
<table>
<thead>
<tr>
<th>Scene 1: Chapter:</th>
<th>Pgs. 130</th>
</tr>
</thead>
<tbody>
<tr>
<td>Summarize:</td>
<td>Gatsby and Tom are fighting over who Daisy should be with</td>
</tr>
</tbody>
</table>

Relevant quoted textual evidence: “She only married you because I was poor and she was tired of waiting for me”

Why did you choose this scene/how does it build your idea? What is sad about Gatsby’s argument is that it quite possibly may be the truth. The money and social class of someone’s family played a big part of who was suitable to marry during this time. Fitzgerald is wrote one example of how lack of money could affect someone’s life during this era. If something as complex as marriage is affected by it, generally, several other social aspects must be too.
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As his interpretation shows, he criticized the idea that “the money and social class of someone’s family played a big part” in marriage. Like Rita, at the beginning of his process of collecting evidence outside of the passage, Evan paid attention to how the social classes that were developed by the upper class could interfere with this young man’s achievement of a dream.

However, in the process of finding more evidence about the social problem, he found contrasting evidence from other parts of the novel related to the causes of Gatsby's failure. While reading Chapter 6, he paid attention to Gatsby’s fault of not acknowledging Daisy’s marriage. The following writing, which was written in his handout, illustrates this point:

Table 6.15: Evan’s finding contrasting evidence about Gatsby’s individual faults

<table>
<thead>
<tr>
<th>Scene 1: Chapter: Pgs.</th>
<th>Summarize: Gatsby’s saying about the past reveals that he does not acknowledge Daisy’s marriage.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relevant quoted textual evidence: “Can’t repeat the past?’ he cried incredulously. ‘Why of course you can!’</td>
<td></td>
</tr>
<tr>
<td>Why did you choose this scene/how does it build your idea?</td>
<td></td>
</tr>
</tbody>
</table>

Despite his incredible wealth, Gatsby has been longing for something more, to be with his long, lost love Daisy. Throughout the story the reader sees Gatsby try to utilize his increased wealth to get her back, though she is married to Tom Buchannan. Gatsby has acquired the money to put him right next to Daisy, and the opportunity to connect with her. As the time changes, different factors come into play. The fact that she is now married is among the biggest problems Gatsby is up against, but he did not acknowledge it.
In his writing, he points out that Daisy’s marriage should be understood as another important factor in understanding Gatsby’s failure. He also found the following evidence that Gatsby used illegal means to attain the wealth necessary to achieve his dream:

Table 6.16: Even’s finding more evidence about Gatsby’s individual faults

<table>
<thead>
<tr>
<th>Scene 1: Chapter:</th>
<th>Pgs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Summarize: Tom explains Gatsby’s illegal means to achieve money.</td>
<td></td>
</tr>
<tr>
<td>Relevant quoted textual evidence: &quot;He and this Wolfsheim bought up a lot of side-street drug-stores here and in Chicago and sold grain alcohol over the counter.”</td>
<td></td>
</tr>
<tr>
<td>Why did you choose this scene/how does it build your idea? This quote explains Gatsby was going about the wrong way to earn money.</td>
<td></td>
</tr>
</tbody>
</table>

On March 11, Evan had a writing conference with Mr. Moon. Evan shared his struggles with the tension that emerged from the contrasting evidence of the social problem and Gatsby’s individual faults. Mr. Moon recommended that he try to ask questions that get at the heart of the tension. He provided some sample questions, such as where the tension came from and how this related to a larger issue in society (March 11, field note from Mr. Moon’s class).

While working on his handout, Evan eventually found a theme of people’s obsession with money as the main source of the tension. He constructed the theme from the tension for further exploration and tried to connect the causes that he found. The following part from his handout shows a part of his ongoing process:
Table 6.17: Evan’s connection between social and individual aspects

Scene 1: Chapter: Pgs. 149
Summarize: If we look into one of the passages where Gatsby and Daisy’s young love is described, we can see how the idea of being wealthy is the pinnacle of accomplishment.

Relevant quoted textual evidence: “She vanished into her rich house, into her rich full life, leaving Gatsby-nothing” (Fitzgerald 149).

Why did you choose this scene/how does it build your idea? This quote explains how the lifestyle of being wealthy is the lifestyle of being “full” or happy. This got to Gatsby, and as the book progresses, Gatsby obtains his money through illegal means in the attempt to be happy. These events show Fitzgerald’s attempts to explain how the reliance on money in order to be happy could be problematic.

While exploring tensions within the theme of people’s obsession with money, Evan tried to connect the reciprocal relationship between the society in which “being wealthy is the pinnacle of accomplishment” and Gatsby’s desire to obtain money even through illegal means. During this process, he developed his thesis: “Gatsby’s failure to achieve his dream is closely related to the society’s obsession with money.”

Evan then explored a bigger issue regarding people’s obsession with money: the meaning of the American Dream. He went back to his selected passage and wrote as follows:

It is difficult to change what has already been done. Yet Gatsby still went after his dream; he would not quit. Is this the American Dream? Some believe that the act of striving to get what you want, regardless of the situation, is a huge part of what we call the American Dream. Yes, Gatsby did accomplish this, but was he really going about it the right way. Fitzgerald, through his language in this passage seems to convey that
through money alone, you cannot accomplish everything. In a way he wants to say that money and power is not the answer to everything.

In the above elaboration, Evan criticized Gatsby’s actions and raised the question of whether getting what a person wants regardless of the means can be regarded as the American Dream. In the process, he further wrote the following:

This idea of how wealth is of the utmost importance during this era is constant throughout *The Great Gatsby*. Fitzgerald has tried to warn us how corrupt our values have become. Our American Dream has become a dream solely based on wealth. He shows through the testaments of his characters in the book how money controls everything. That greed overpowers love, and power in money takes on the new face of our dreams. He shows a negative transition as Gatsby ends up being the one who fails in the end, as he puts all of his faith into illegally earned money in order win Daisy’s love. This idea applies to everyone, past, present, and future. America is increasingly becoming a society based on money; that money determines who we are, what we accomplish, who we can love, what we think, and say. Fitzgerald, with his words, was warning us of troubles to come if this trend were to continue.

During his process of writing about the negative effects of society’s over-emphasis on money, he recursively extended his thesis as follows: “The theme of how money is used to achieve the American Dream and how greed and materialism plays a part is one of the most important ideas presented. Fitzgerald argues through his language
and storytelling that if this trend of terrible values continues, nothing but bad will come from it.”

Mr. Moon evaluated his final thesis as too big to be covered in a five-page paper (audio file, March 11, 2014 interview with Mr. Moon). It seems that his collected evidence could not fully support the assertion that “if this trend of terrible values continues, nothing but bad will come from it.” This was another common struggle that students had in their writing process. While working on a “so what” question, many students were able to come up with an insightful thesis, but others ended up with a thesis containing elements that could not be sufficiently supported by the evidence collected. Some of these tried to find more evidence to fully support their thesis, but others maintained the thesis that was not sufficiently supported.

**Discussion**

In the third quarter, we developed the following conjecture: *Network thinking focusing on the development of a thoughtful thesis will contribute to the development of sophisticated argumentative writing by eleventh-grade students in two Language Arts classrooms.* In this section, I begin by discussing the results of the intervention in terms of our conjecture. Next, I discuss an added theoretical construct in the area of *response to complexity* and the theoretical constructs in the area of *a thoughtful thesis* for sophisticated argumentative writing that we generated. I then discuss how we dealt with the inhibiting factors that we found in the second quarter and a remaining inhibiting factor in the third quarter. Last, I discuss how our actual practices confirm and extend the theoretical frame that we developed.
The Results of the Intervention in Terms of Our Conjecture

After our retrospective analysis on students’ writing processes, their final argumentative writing, and interviews with the teachers and students, our research concluded that network thinking focusing on the development of a thoughtful thesis may positively contribute to the students’ development of sophisticated argumentative writing.

First, the students’ writing processes demonstrated their interactional processes of collecting evidence and further developing their thesis. In students’ final argumentative writings, we found that 61%\(^{20}\) of students had a thesis that was sufficiently supported by their system of evidence. We could not do a direct comparison with students' previous argumentative writings because the given writing tasks were quite different.

Students’ interviews revealed that the key to the effectiveness of the network thinking practice was arriving at a thesis rather than starting from a fixed thesis. In student interviews at the end of the third quarter, two students commented on their current and previous writing processes. Rita, whose writing process was described earlier in this chapter, stated that “normally when I write an essay, at the beginning of this course, I just came up with a thesis with three reasons or evidence for my three body paragraphs. Putting them into any order they could be put in. But after this year, I actually started from exploring evidence… the order of evidence. I know that helped me a lot. That makes my writing much easier when I'm writing.” (Student interview, Mr. Moon’s class, 5/10/2014). Another student, Tyler, commented that “looking at evidence

\(^{20}\) In the third quarter, four students' final argumentative writing were missed, so I calculated based on 42 students' argumentative writings from the two classes.
as a system and like…thinking about how all work together… were helpful for me. Ms. Vale did not want me to begin with a thesis… like agree or disagree. She wanted us to like… arrive at a thesis. At the beginning, I did not understand what she meant. A kind of like… a different writing… like an inquiry” (Student interview, Mr. Vale’s class, 5/13/2014).

Mr. Moon also pointed out that many typical argumentative writing tasks ask students to start from a clear position and an identifiable thesis for their argumentative writing. Mr. Moon described the argumentative writing task set for the students in this study as totally different from a common literary argumentative writing, in which students develop their thesis first and then find relevant three or four textual evidences.” (audio, teacher meeting, 2/18/2014). We do not argue that writing tasks which ask students to start from a clear thesis is always problematic, and agree that in test situations it would be difficult to give students opportunities to arrive at their thesis. However, we have, in our study, already seen the value of helping students experience the process of arriving at a thesis based on their exploration of evidence. Tyler revealed that arriving at a thesis after close examination of the evidence rather than starting from a fixed thesis, made a significant difference in his understanding of the processes of argumentation and reasoning.

Second, in students’ argumentative writing, another meaningful finding was that 67% of students developed a thesis that incorporated insights arising as a result of exploring tensions. In comparison to the interventions in the second quarter, during which students were asked to explore tensions wherever they found them, the interventions in
the third quarter asked students to explore tensions in relation to the (re)development of their thesis.

Although some students still revealed some struggles and limitations, a majority of them successfully dealt with specific tensions, made some connections between tensions in their development of ideas (reasoning), and developed a thesis by integrating the insights from the exploration. A limited number of students initially oversimplified a complex issue and developed a simplistic, polarized position in their thesis. However, in contrast to the second quarter, when several students produced a simplistic, polarized thesis after interacting with complex issues, most students who were able to explore complex issues and relevant tensions, revealed a nuanced position by integrating insights from their exploration of tensions. We found that emphasizing the development of the thesis—in particular, arriving at a thesis by continuously revising it based on students’ investigation of tensions—allowed them to develop a more thoughtful thesis that incorporated insights from exploring those tensions.

**Adding a Theoretical Construct related to *Response to Complexity* for Sophisticated Argumentative Writing**

In this section, I introduce an added theoretical construct for sophisticated argumentative writing related to the area of *response to complexity* based on our retrospective analysis of students’ improvements and struggles in their argumentative writing in the third quarter. Figure 6.10 shows the extended theoretical constructs in the area of *response to complexity* after our third intervention.
In the second quarter, we developed the term complexity to refer to complex ideas including not only opposing claims, evidence, and/or warrants but also multiple perspectives, approaches, and lenses that might reveal tensions regarding the argumentative topic. While analyzing students’ responses to complexity, we found that some students simply introduced complexity with no response or a simplistic response (what we term superficial responses), but others’ responses included the progression of ideas from the active interaction with complex ideas, and some of them successfully integrated insights from exploring the complex issues into their thesis (what we term sophisticated responses). Based on the results, for developing sophisticated argumentative writing, we generated the theoretical constructs (1) a progression of ideas from active interaction with complex ideas, and (2) integration of insights from exploring complexity into the thesis, as theoretical constructs related to response to complexity.

In the third quarter, we added one more theoretical construct, heuristic construction of tensions, which refers to establishing tensions for exploration and/or
establishing an explorative topic(s) from a tension(s). With regard to response to complexity, the previous two theoretical constructs are related to how writers can provide sophisticated responses to complex issues. The newly added construct is related to how writers construct tensions from a complex issue for further exploration.

**Slightly different nuances in conceptualization of complexity and tension.**

Before we discuss students’ struggles and improvements in dealing with response to complexity in the third quarter, I introduced our discussions about the slightly different nuances of the terms complexity and tension. Figure 6.11 shows our conceptualization of simplicity, complexity, and tension.

![Figure 6.11: Our conceptualization of simplicity, complexity, and tension](image)

In Figure 6.11, “Simplicity” refers to a situation in which only one perspective is discussed in an argumentative writing. “Complexity” refers to a situation in which at least two perspectives are discussed in an argumentative writing. We conceptualized complexity as a comprehensive term that includes not only the connection of more than two perspectives, but also having a tension status that emphasizes a controversial issue(s). Like complexity, “Tension” refers to a situation in which at least two perspectives are
connected and discussed. However, for tension, we further added arrows that reveal the forces stretching to at least two positions. In other words, in order to have tension, there should be a state that is (tightly) stretched because of a controversial idea between the different positions. Tension does not need to be based on a polarized position of pros and cons, but there should be at least two positions that point in different directions.

Figure 6.11 also includes circles, straight lines and dots to represent directionality and relationships between the three constructs. A circle refers to a perspective (or an approach, lens, evidence, belief, etc.). A straight line refers to a connection between perspectives. Dots which connect circles and straight lines refer to the possibility of further added perspectives and connections.

In the third quarter, students’ different ways of dealing with complex issues emerged in their argumentative writing. We found they dealt with these issues in four ways: 1) no construction of complexity, 2) no construction of/from tension(s), 3) oversimplified construction of a tension(s), and 4) heuristic construction of tension(s). Among these four ways, we considered the heuristic construction of tension as a theoretical construct for sophisticated argumentative writing. In this section, I introduce these four ways of dealing with complex issues with brief examples from students’ argumentative writing.

**No construction of complexity.** In the classrooms, a small number of students who were struggling in their general reading and/or writing were encouraged to develop a clear thesis. If they wished, they could explore complex issues and relevant tensions, but exploring complex issues was not required of them. No demonstration of complexity was
shown in these students’ argumentative writings. For instance, Mike was a struggling reader and writer in Ms. Vale’s class. Mike’s thesis was, “The materialistic value was dominant in the 1920s.” Based on this thesis, he provided four pieces of evidence from four scenes that reveal the materialistic values of the main characters Gatsby, Daisy, Myrtle, and Tom. He did not explore any complex issues at all in his argumentative writing. I will further explain the different guidance for struggling readers and/or writers in a later section on dealing with inhibiting factors.

*No construction of/from tensions.* A small number of students discussed potentially complex issues but did not construct any tensions for further exploration and/or failed to reveal the direction of their exploration from a source of tension(s). In the second quarter, some students simply discussed different categorizations of the argumentative topic without mentioning any controversial idea that could stretch the issue into different directions, or indicate how/why the point would be connected to his/her argument. In the third quarter, some students discussed the storyline of *The Great Gatsby* with some potentially complex issues. However, they failed to establish a tension(s) for further exploration. For instance, Sarah discussed the complexities of the story without constructing a tension for further inquiry. The following shows an excerpt from her writing in which she discussed the complexity of the story.

“Gatsby has always had his eye on Daisy since the first time they met back in the Midwest, and even before she got married. Gatsby moved on to serve the stars and stripes and during this time, Daisy left Gatsby for a man named Tom Buchanan, a wealthy American football player with a
future to fulfill. Returning from the war, Gatsby became obsessed with wealth and high social status and he became addicted to reaching all his life goals. Later on in the book Daisy and Gatsby reunite at one of Gatsby’s lavish parties. Daisy hints to the reader that she still has feelings for Gatsby and she eventually tells Gatsby that she loves him. Towards the end of the book is when Daisy tells Tom that she never loved him, also that she would rather be with Gatsby. This angers Tom and made him want to win Daisy’s love back. So Tom lies to Wilson, the husband of Myrtle, saying that Gatsby was a murderer. Tom told the victim’s husband, George Wilson, that Gatsby killed his wife. Gatsby never saw it coming; he never realized that “he paid a high price for living too long with a single dream (161).” This single dream of Gatsby’s is to achieve his life goals through dedication and hard work, during this time period many people shared the same dream as Gatsby. (Excerpts from Sarah’s final argumentative writing in the third quarter)

In the above paragraph, Sarah talked about the complexity of the story from different characters’ points of view. There were many tensions that could have been further explored and discussed. However, she simply introduced the complexity of the story without a clear focus or construction of a tension(s) for further exploration. In this way, some students introduced complexity perceived in the story without clear focus or the construction of a source of tension for further exploration.

**Oversimplified construction of tension.** In the third quarter, a small number of students constructed what we called *oversimplified construction of tension*, which refers to the construction of tension based on an extreme, overgeneralized, and/or distorted extreme evaluation that could be regarded as inaccurate. In this case, although students
had active interactions with the instances of tension and connected them in their thesis, their construction and exploration of this type of tension often led to an overly simplistic and polarized discussion and/or thesis.

For instance, Jacob constructed a tension from the contrasting actions and fates of Nick and Gatsby. In his argumentative writing, Jacob described Nick as one “who obeyed all the morals and received no punishment for it” and Gatsby as one who “met none of the morals” and “received full punishment.” The following passage shows how Jacob further described Nick by providing textual evidence.

“Do not judge a book by its cover,” indefinitely one of, if not, the most famous moral of all time. It has already been established that Nick will not fall victim to such a concept because of how intrapersonal he is (page 135) where he talks about remembering it was his birthday and that he had a long decade ahead of him. This is one of the most important passages in the book because it shows that Nick meets this moral by showing how selfless he is and he pays attention to the people he spends his time with.” (Excerpts from Jacob’s final argumentative writing in the third quarter)

Jacob did not make clear what he meant by “obeying” or “not meeting” all the morals. Moreover, he polarized the two characters and discussed their contrasting actions and results. His exploration of this oversimplified tension led him to a polarized thesis: “The narrator was perfect, and then his opposite was Gatsby who received full punishment because he met none of the morals.” Jacob might have wanted to convey his belief, based on “promotion of virtue and reproval of vice,” but it was clear that his
engagement with the oversimplified tension negatively affected his understanding of the complexities in *The Great Gatsby*.

**Heuristic construction of tensions as a theoretical construct.** In the third quarter, there were many students who successfully constructed tensions and/or constructed an explorative topic from a source of tension for further exploration. Many of them revealed tension(s) by contrasting what they believed and what the novel revealed. For instance, Rita constructed an instance of tension from contrasting beliefs about the American Dream. There were also many students who successfully constructed an explorative topic(s) from tensions arising from contrasting evidence between their previous and ongoing interpretations, contrasting actions of a character and/or between characters, and contrasting backgrounds between characters. Many of them found their explorative topics by exploring the origin of tensions and/or the nature of an apparent contrast/contradiction. They often extended the tensions arising from specific characters and scenes to larger issue(s). For instance, Evan explored the causes of Gatsby’s failure and expressed the tension between the contrasting evidence regarding society’s problem and Gatsby’s own faults. He then heuristically constructed an explorative topic of obsession with money as the origin of this tension and further explored the reciprocal relationship between a society, in which “being wealthy is the pinnacle of accomplishment,” and Gatsby’s desire to obtain money even through illegal means.

We noticed that the number of key tensions or key explorative topics students constructed was quite varied depending on their argumentative writing. Some students focused on one key tension and/or explorative topic. Other students further extended and
made the connection between multiple tensions and/or topics. For instance, Cole explored several sources of tension and three relevant explorative topics: relationship, identity, and happiness. Figure 6.12 shows how he developed this relationship in his argumentative writing:

Figure 6.12: Cole’s heuristic constructions of multiple sources of tension and explorative topics

In his argumentative writing, Cole constructed multiple key explorative topics arising from tensions. In his argumentative writing, he conceptualized a successful relationship as a relationship between “more than two persons… and both parties must be committed and trust each other.” He then explored tensions in the scenes that reveal an unequal relationship between Gatsby and Daisy. Cole stated that “Daisy didn’t love
Gatsby like he loved her.” After that, Cole heuristically constructed his next explorative topic, identity, in relation to the previous topic of relationship. He then explored the tensions between Gatsby’s actual past and his lies. He further explored the idea that Gatsby tried to change his past and identity and even performed immoral behaviors to achieve his goals. He then heuristically constructed his next explorative topic: happiness. He explored the tension between Gatsby’s achievement of wealth and the failure of the relationship in terms of his happiness. Lastly, Cole made the connection between the three explorative topics of relationship, identity, and true happiness and provided his thesis: “If you have to go out of your way to please someone so they will accept you, they probably aren’t worth pleasing.” By discussing Gatsby’s unhappiness at the end, he further explained the importance of candid sharing of the real past and starting a relationship from trust.

For our evaluation of heuristic construction of tension(s), we did not consider a specific way of constructing tensions or constructing explorative topics arising from tensions. However, we found that including heuristic construction of tension is an important clue to the sophistication of students’ argumentative writing in our research context. Thus, we decided to add the heuristic construction of tensions as a theoretical construct for sophisticated argumentative writing in the area of response to complexity.

**Rewording of previous theoretical constructs to include 'tensions'.** Based on the added theoretical construct related to response to complexity, we made slight revisions of our previous two theoretical constructs. Considering the nuance of a tension which reveals a controversial idea that stretches the issue into at least two positions, we
reworded the construct ‘A progression of ideas from active interaction with complex ideas’ to ‘A progression of ideas from exploring tension’ and we reworded ‘integration of insights from exploring complexity into the thesis’ to ‘integrating insight from exploring tensions’ into the thesis.

**Building Theoretical Constructs Related to a Thoughtful Thesis for Sophisticated Argumentative Writing**

In this section, I introduce the theoretical constructs about what we call a “thoughtful thesis” for sophisticated argumentative writing that were found in our retrospective analysis of students’ improvements and struggles in their argumentative writing in the third quarter. Figure 6.13 shows these theoretical constructs.

![Diagram of theoretical constructs]

Figure 6.13: Theoretical constructs about a thoughtful thesis for sophisticated argumentative writing

The theoretical constructs about a thoughtful thesis for sophisticated argumentative writing consist of 1) expressing a clear focus and argument, 2) including
sufficient support from a system of evidence, and 3) expressing a nuanced position by incorporating insights from exploring tension(s). Before conducting our third intervention, we mainly considered a thoughtful thesis based on the two criteria of “sufficiently supported from a system of evidence” and “incorporating insights from exploring tensions.” The retrospective analysis of students’ improvement and struggles in developing a thesis in their argumentative writing helped us to add the criterion of “expressing a clear focus and argument” and to revise the criterion “incorporating insights from exploring tensions” to “expressing a nuanced position by incorporating insights from exploring tensions.” We were also able to further clarify our meaning one of the criteria, “incorporating insights from exploring tensions.”

In order to develop a sophisticated argumentative writing that deals with dialogic perspectives, expressing a clear focus and argument in a thesis was found to be an important construct. In this section, I will briefly discuss relevant students’ struggles to make clear our meaning of this theoretical construct.

A common struggle students revealed was a lack of focus in their thesis. In the process of exploring complex issues, multiple pieces of evidence, tensions, and/or “so what” questions, some students developed a thesis that did not have a clear focus, clear key concepts, and/or clear argument. Generally, struggling readers and writers revealed this difficulty, but even some students who were generally regarded as strong readers and writers struggled with this.

For instance, Jonathan developed the following thesis: “In the novel The Great Gatsby by F. Scott Fitzgerald, the author, Fitzgerald, makes the argument that the
American Dream is not obtainable by the people that seek to get it. His first claim is that the dream is just an illusion put there to get them to work hard till the day that they die and can’t be achieved in the first place. The second claim that he makes is that society doesn’t care enough about the person to actually see them realize their dream and they just move on right past the person. The last claim of many that he makes for this argument is that the dreams people make of fame, money, super-hot wife, et cetera is just too big of a goal for anyone to accomplish in just one lifetime. I believe that Fitzgerald is making the argument for people to get a reality check, especially for the time that he lived in when people couldn’t see reality because they were too busy partying and enjoying their fake riches.”

His thesis could be regarded as exceptionally intelligent for a high school student in that he discussed the main characters’ failures based on multiple factors including the outside lens of social problems, the inside lens of an individual’s personal responsibility, and the reasonableness of their dreams. However, in the above argument, it is not clear what his main argument and key concepts to explore would be. In Mr. Moon's evaluation, the latter stated that Jonathan failed to synthesize what his main argument would be. Mr. Moon also evaluated the thesis as having too wide a scope, which could make it difficult to include sufficient support in a five-page paper. As Mr. Moon pointed out, Jonathan provided a great deal of evidence to support his thesis, but many parts were left unsupported. In this way, although some students successfully explored complex issues and relevant tensions regarding their argumentative topics, they failed to clarify their key
topics (or issues) and arguments in their theses. Thus, expressing a clear focus and argument was generated as a theoretical construct for a thoughtful thesis.

Some students included vague term(s) that they did not fully explain in their writing, so the thesis could not be sufficiently supported. For instance, Susan developed the following thesis: “Fitzgerald constructs the language of the passage to argue that the American Dream is not such a good dream to have.” However, in her argumentative writing, she did not explain what she meant by a good dream. Based on her discussions, we could infer that she assumed that materialistic dreams are not good dreams. However, we cannot say that all materialistic dreams are bad dreams. If she had made clear her meaning of a good dream as a dream that is not solely based on materialistic values, her thesis could be better supported.

We do not take the position that all the terms in the thesis must be explained within the thesis itself. Rather, the terms in the thesis should be made clear within the argumentative writing of which it is a part. Although some students successfully explained the meanings of these terms, others did not provide any further explanation in their argumentative writing. These issues also led us to include expressing a clear focus and argument as a theoretical construct about a thoughtful thesis for sophisticated argumentative writing.

The second theoretical construct about a thoughtful thesis is that it is sufficiently supported by a system of evidence. In considering theoretical constructs for a system of evidence, we have already discussed the sufficiency of evidence in relation to a thesis:
whether the system of evidence (evidence provided as a whole) could fully support the thesis. This theoretical construct addresses the same point from the thesis point of view.

The third theoretical construct about a thoughtful thesis is expressing a nuanced position from integrating insights resulting from exploring tensions. This construct is the same as that discussed for the theoretical constructs for ‘complexity and response,’ and reemphasized from a thesis point of view.

The clarification of our meaning of integrating insights from exploring tensions. Before conducting our third intervention, our research team emphasized a thoughtful thesis as one that incorporated insights from exploring tensions. During the process of our retrospective analysis, we were able to clarify what we meant by “incorporating insights from exploring tensions” in terms of a thesis. In this section, I explain how our third intervention helped us clarify our meaning of this theoretical construct.

During our research meeting on May 11, 2015, the two teachers discussed what we meant by a thoughtful thesis as follows:
Table 6.18: The two teachers’ conversations about a thoughtful thesis

<table>
<thead>
<tr>
<th>Mr. Moon: I think that a good thesis is something that offers insights. What is its insight into the text or into the problem or the issue the students are working with. I want to make the point about that because I don’t want to just give a really basic claim.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ms. Vale: Right.</td>
</tr>
<tr>
<td>Mr. Moon: Like <em>The Great Gatsby</em> criticizes money. You know. Can you find it insightful and build your paper around that insight?</td>
</tr>
<tr>
<td>Ms. Vale: Their own critical thinking about the text, so they are moving beyond summaries. They are moving beyond basic analysis and putting together ideas in a way where they have thought them through to show they understand. Show deep understanding that we want them to show.</td>
</tr>
<tr>
<td>Mr. Moon: I don’t think that you can divorce talking about thesis and analysis.</td>
</tr>
<tr>
<td>Ms. Vale: Their deep understanding about the text can lead to the thesis… Where do you see the complexities and how do you unpack them.</td>
</tr>
<tr>
<td>Mr. Moon: and the link to other parts</td>
</tr>
</tbody>
</table>

The teachers emphasized the importance of including insights into a thesis resulting from students’ analyses and revealing deep understanding. After our ongoing analysis of students’ argumentative writings, we extended our conceptualization of incorporating insights from exploring tension to a writer’s demonstration of insights of which s/he was previously unaware and which resulted from his/her own exploration, analysis, evidence gathering, reasoning, or reflection about a tension(s). This conceptualization is closely related to what Gadamer (2004) wrote about insight:

“Insight is more than the knowledge of this or that situation. It always involves an escape from something that had deceived us and held us captive. Thus insight always involves an element of self-knowledge and constitutes a necessary side of what we called experience in the proper sense. Insight is something we come to. It too is ultimately part of the vocation of man—i.e., to be discerning and insightful (Gadamer, 2004, p. 350).
Gadamer (2004) discusses two important aspects of insight that are relevant to our theoretical construct about a thoughtful thesis. First, insight is related to self-knowledge, which is based on the critical awareness of something that one was not aware of before. We clarified our conceptualization by adding that incorporating insights from exploring tensions was based on the writer’s newfound awareness of something that was not easily discernible before exploring the tension. Second, beyond the writer's awareness is the aspect of insight as something that derives from an active form of thinking. Our concept of a thoughtful thesis was modified to include the process of analysis and reasoning leading to an insight(s). Thus, our theoretical construct about a thoughtful thesis includes the process of analysis and reasoning leading to an insight.

During the process of further conceptualizing a thoughtful thesis, our research team discussed two different approaches to insight. The first approach is based on a reader’s perspective. A reader can evaluate whether a piece of writing is insightful or not based on whether they gain a new realization (and/or knowledge) from it. In this case, for different readers, the evaluation of whether a text is insightful or not can vary widely based on their different backgrounds, experiences, knowledge, interests, etc.

The second approach is based on a writer’s perspective. A writer might reveal his/her new realizations in his/her writing. In this case, a writer might include how he/she came to the realization. It does not need to be an explicit explanation about the thought process, such as “I achieved the realization through....” Rather, it can be revealed in a variety of ways, such as through his/her analysis, reasoning, and/or reflections. In order to make clearer our conceptualization of a thoughtful thesis and relevant theoretical
constructs, we had to carefully consider our particular research sites: argumentative writing classrooms. We found that the first approach, the reader’s perspective, was less useful in our particular setting. For instance, let's consider Rita’s thesis: “Fitzgerald seems to show that climbing up the social ladder in America is not just about working hard; there are other challenges that are usually concealed when discussing the American Dream.” As highly knowledgeable readers of *The Great Gatsby*, the two teachers and I did not view Rita’s thesis as insightful to us.

After discussion, we decided to adopt the second perspective, that is, insight derived from a writer's point of view—whether the writer reveals a new insight based on his exploration of tension and relevant analysis, evidence, reflection, etc. considering his/her age, knowledge, and abilities. In addition, we added one more idea related to our research context. The students’ incorporation of insights from exploring tensions needed to be analyzed in relation to the whole group discussions led by the teachers in the classrooms. In the two classrooms, the teachers continuously emphasized that they respected and valued students’ new efforts, as well as their own analysis and reflection. They warned that they would not evaluate a student’s thesis as a thoughtful thesis if they used similar evidence to arrive at similar claims to those already discussed by the teachers in their whole group discussions. In their final argumentative writings, two students developed similar theses with similar evidence and reasoning to those presented in their whole group discussions. The teachers did not evaluate the theses as thoughtful theses. Thus, our conceptualization of a thoughtful thesis was closely related to our research context of argumentative writing classrooms.
The key controversial issue regarding our conceptualization of insights from a writer’s point of view is the communicative purpose of argumentative writing with a reader. If we consider one of the main purposes of argumentative writing, the communicative purpose, integrating insights should be carefully considered in terms of a reader’s point of view. When a writer could expect a reader(s) or a group of reader, the writer should carefully consider what might be a new insight to his/her readers and need to apply that consideration in his/her argumentative writing.

We agree that the foregoing is very important aspect for sophisticated argumentative writing. However, considering our students’ current situations, we decided to start from the writer’s point of view at this point. It could be understood as the writer’s conversation between what s/he already knew and what s/he newly knew. In the context of our argumentative writing classrooms, the main purpose of argumentative writing was not only for a communicative purpose with readers but also for learning, reading, and/or thinking tools for students. Thus, improving a writer’s insights from his/her active form of thinking was very important as well. In addition, figuring out what might be insights for his/her teachers and classmates were not the main focus of our intervention at this point. Rather, students strongly emphasized getting ideas and developing their reasoning by using others as resources.

**Dealing with Inhibiting Factors**

In the second quarter, we found three inhibiting factors: 1) students’ academic gap, 2) students’ habitual structural approach to writing and habitual right answer approach to reading, and 3) students’ taken-for-granted warrants. Among the three
inhibiting factors, the former two factors seemed to be well treated and the relevant issues were decreased in the third quarter. With regard to the third inhibiting factor of students’ taken-for-granted warrants, we had a newly emerging issue in the third quarter.

The first inhibiting factor that we found in the second quarter was students’ academic gap. In particular, struggling readers often revealed their (literally) wrong interpretation while they read a text. In addition, struggling writers often showed their difficulties in developing a thesis and dealing both a system of evidence and exploring tensions at the same time. After the third intervention, we evaluated that this inhibiting factor of students’ academic gap was well treated in the third quarter and students showed their improvement regarding their more achievable goals.

In the classrooms, the two teachers used the selection of the passage as their important part of the guidance considering students’ zone of proximal development (Vygotsky, 1978). For high achieving readers, the teachers recommended selecting an ambiguous passage in which students could not easily understand the meaning of the passage in their first reading for their open inquiry. For the students who often revealed wrong interpretations with their limited vocabulary knowledge, the teachers allowed the students select the passages that they wanted, but they also provided options of passages which reveal explicit meanings. When the teachers provided some options of passages, students usually would like to select a passage from the teachers’ examples. Selecting a passage which includes a clearer meaning and evidence could be an easier assignment although students can still explore more simple or complex issues based on the passage.
In addition, the teachers also guided struggling writers, who generally revealed limited writing ability and expressed their difficulty in developing a thesis, and to develop a clear thesis by focusing on developing relevant and sufficient evidence. The teachers also provide bottom-up guidance in order to achieve the goals based on the students’ actual argumentative writing. The students’ classroom conversations and final argumentative writings demonstrated that they showed improvements in relation to their difficulties in terms of reducing their literary wrong interpretations and developing a clear thesis with sufficient evidence.

The second inhibiting factor that we found in the second quarter was students’ habitual approaches to writing and reading. After the third intervention, we evaluated that the problems from this inhibiting factor was decreased. It seemed like providing more specific procedures for the writing could help students avoid the question. Although some students still asked a question looking for a right answer for their interpretation, this number of students was very limited. We did not further explore the reason of this phenomenon. It might be true that students were familiar with the teachers’ styles or could expect the possible answers, so they did not ask these kinds of questions anymore. Although we could not know the exact reason(s) for their improved attitudes, it was clear that students reduced their resistance from their habitual approach to reading and writing.

With regard to students’ taken-for-granted warrants which led them to develop a simplified, polarized thesis without further progressions of ideas from exploring tensions in the second quarter, our research team expected that the second and third network thinking practices which emphasized considering a harmony of all details and a system of
evidence could help students avoid this warrant. In the third quarter, taken-for-granted priority warrants which were conspicuous issues in the second quarter, were not visible.

However, taken-for-granted warrants were still an issue for some students. In particular, a newly emerging issue was that student’s problematic use of monologic warrant was often closely related to their construction of an oversimplified tension. For instance, Nate revealed his taken-for-granted warrant which was based on his polarized construction of the tension arising from high class and lower class. His argument was “Gatsby is a deceiving man who only cares about social status.” In order to support his claim, he provided the following textual evidence: “he fires every single one of his servants. Gatsby rationalizes by saying, ‘I wanted somebody who wouldn’t gossip. Daisy comes over quite often—in the afternoons’ (120). Gatsby left his servants jobless for such a ludicrous reason and acts like its completely normal. He has no sympathy towards his hardworking servants that would work day and night just to arrange his senseless parties. This shows Gatsby’s disregard for the working class.”

Nate did not make clear his underlying assumption between his claim and evidence. His assumption (warrant) would be “firing servants means that he (Gatsby) disregarded for the working class.” Daisy could be regarded as a high class, so this comparison between Gatsby’s disrespect to his (Gatsby’s) servant as working class and the latter’s respect to Daisy as a high class might work. However, as Nate explained, the reason for firing the servant was for Daisy who could be regarded as high class, but also his only love. Thus, the firing scene could be understood based on other factors such as a young man’s care for his love, a move which could be considered irresponsible for his
previous servants. However, Nate mainly distinguished characters as a high class and lower class (working class) and interpreted many scenes based on the contrast of the two classes. Exploring tensions focusing on class would be meaningful, but making assumptions based on the polarized conceptualization from high and low classes could confound his understanding of the complexities in *The Great Gatsby*.

During the third quarter, when the teachers found this problematic use of monologic warrant in students’ discussion in their drafts, the teachers actively engaged in the discussions with the students and tried to help them to reconsider what they regarded as monologic, taken-for-granted warrants, to realize different possible assumptions and beliefs, and to consider relevant possible different analysis, exploration, and/or conclusions (arguments). However, some students’ ongoing struggle and difficulties made us reconsider how we can further deal with this issue in the teaching and learning of argumentative writing classrooms.

**How Actual Practices Influenced our Theoretical Considerations After the Third Intervention**

Our data supported Gadamer’s theory of *the fusion of horizons* that was introduced in the theoretical consideration in high school argumentative writing classrooms in terms of students’ extension of their horizons by interacting with the horizon of the text as well as the horizons of other interlocutors). During the process of exploring the fusion of horizons, exploring tensions, testing prejudices, and the extension of the student's horizons were emphasized. In order to remove negative prejudices that can hinder interpretations, Gadamer not only emphasizes close examination of evidence
but also other conditions such as expressing prejudices, playing with different prejudices, and raising thoughtful questions regarding the prejudices. This study also revealed the effects and limitations of close examination of more evidence for removing negative prejudices.

In this section, we extend Gadamer’s theories about exploring tensions in the context of high school argumentative writing classrooms by distinguishing intentional vs. unintentional tensions and by developing two new terms: historico-logical tensions and situated logical tensions.

**Fusions of horizons.** Our data was aligned with Gadamer’s theory of *the fusion of horizons*. Based on Rita’s case, I will describe what Gadamer explained as the fusion of horizon in the context of the argumentative writing classroom. Figure 6.14 shows the fusion of horizons based on Rita’s perspective.

![Figure 6.14: The fusion of horizons based on Rita’s perspective](image)

Based on Rita’s perspective, the fusion of horizons can be depicted as follows:
During the process of her interpretation of the text, Rita continuously brought up her background knowledge, underlying assumptions, and beliefs which were termed *warrant* in this class and *prejudices* by Gadamer (2004, p. 277). Without socially constructed knowledge, she could not interpret the text. Her understanding process reveals her historical horizon, which was filled with her prejudices. As Gadamer explains, her horizon was not static, but rather, was continuously evolving as she interacted with the text.

A text also reveals a historical horizon, which might be filled with prejudices that are similar to and different from Rita’s. As Gadamer (2004, p.305) explains, the horizon of the text is not static either. While a reader is interacting with the text, the horizon of the text is continuously evolving. This means that a text could be ceaselessly differently interpreted by interacting with its interpreters’ different horizons.

While reading the text, Rita expressed tensions resulting from the differences between her horizon and the text’s horizon. For instance, she felt visible tension between her previous assumptions about the positive image of the American Dream and the negative images of the American Dream presented in the novel. Rita conducted further examination of these tensions based on her analysis of the textual evidence. Through this process, she extended her horizon about the American Dream to include its possible negative reality in relation to concrete social class. We could say that she experienced the fusion of horizons.

Whether the fusion of horizons was achieved or not could be demonstrated based on whether there was an exploration of tensions that led to a progression of ideas and new
insight(s), which further led students to test their prejudices and evolved their horizons. In the classrooms, many students successfully demonstrated their fusion of horizon in their argumentative writing.

**Dealing with negative prejudices.** In the third quarter, we expected that the second and third network thinking practices, which focused on close examination of textual evidence (a system of evidence), could help students remove negative prejudices that hindered their interpretation. Some students successfully removed their negative prejudices, but others failed to move them.

Gadamer (2004) expects that distracting fore-meanings (what could be regarded as background knowledge or warrant) “that are not borne out by the things” cannot be confirmed, so they will be removed in the continuous process of reading (p. 270). In our research, we could see that many students brought up background knowledge and warrants based on a simple piece or several pieces of evidence, and then removed them during the process of considering more evidence. Rita’s example showed a similar process. She combined several textual evidences about Gatsby’s overreaction from her passage and projected the following warrant at the beginning: “When we meet a person who we love after a long time, we cannot have a normal reaction.” Over time, she considered more evidence from the novel and brought up a different warrant from the same textual evidence: “When a person is born wealthy, they usually don’t need to openly show off.” In her case, we could not say that her first warrant was not borne out by the textual evidence, but it was true that her constant reading process based on more evidence affected the removal of her previous warrant.
Although Gadamer (2004) suggested the possible positive role of constant examination of the “thing,” he also continuously warned that being aware and/or removing prejudices that could interrupt interpretations might be not easy. Our study affirmed that removing negative prejudices based only on close examination of evidence (a thing or a text) might not work for at least some students. Our previous discussion about students’ taken-for-granted warrants showed the students’ relevant difficulty.

If emphasis on close examination of more evidence does not successfully help all students to remove their negative prejudices, we need to more carefully consider the three conditions for negative prejudices that were previously discussed and attempted in the first quarter, namely: expressing the prejudices, interacting with different prejudices, and thoughtful questions regarding the prejudices.

**Intentional tensions versus unintentional tensions.** In the third quarter, we distinguished the terms *intentional tensions* and *unintentional tensions* during the process of analyzing students’ processes of exploring tensions, and distinguished between students’ notions of *intentional complexity* and *unintentional complexity* in the second quarter. Intentional tension refers to a tension that was intentionally explored by an arguer (an interpreter). Unintentional tension refers to a tension that emerged during the interaction with something such as a text, an interlocutor, etc. without an arguer’s initial intention.

In the classrooms, the intentional versus unintentional tensions were quite distinguishable in that the intentional tensions usually started with students’ initial intention to find and construct a tension for their argumentative writing usually by
following the teachers’ guidance in asking students to explore tensions. Figure 6.15 shows our general findings regarding the intentional versus unintentional tensions.

![Diagram of Intentional versus Unintentional Tensions]

**Figure 6.15: Intentional versus unintentional tensions**

With regard to the intentional tensions, we observed that students searched for, selected, and/or constructed a specific tension(s) for their further exploration in relation to the development of their thesis. With regard to the unintentional tensions, we observed that some students were aware and others unaware of the tensions that emerged during interactions with the text or an interlocutor. In the case of students being aware of the emerging tensions, we also found two distinguishable responses. Some of the students tried to actively respond to the emerging tension. In other words, they started an exploration of their sense of tension. Other students did not provide any response to the emerging tensions even though they were aware of them. Regardless of students’ awareness of the tensions, their lack of response to the emerging tensions resulted in
either appropriate or problematic arguments depending on whether or not an explicit logical gap or wrong literary interpretation resulted from the emerging tension.

**Intentional tensions.** In the third quarter, based on the teachers’ emphasis and guidance, most students, with the exception of some struggling writers, intentionally explored tensions related to the development of their thesis. As we discussed in the development of the third intervention, we did not limit students’ exploration of tensions to those based on differences in underlying assumptions and beliefs between the text and the student (the differences between the horizon from a text and the horizon from the present). Rather, we allowed students to explore tensions based on what they found, selected, and/or constructed in relation to the development of their thesis.

While most students discussed a variety of tensions in their classroom discussions during their first chapter by chapter reading of *The Great Gatsby*, and they discussed different kinds of tensions arising from their selected passages, we found that students often constructed a tension(s) for further investigation that was closely related to their historicity (background and experiences) and relevant underlying assumptions and beliefs for their argumentative writing. Their selection of tensions was also closely related to the situation of developing an argument. Based on the findings, I developed the terms *historico-logical tension* and *situated-logical tension*.

**Historico-logical tension.** I developed the term *historico-logical tension* by combining two words: logic and Gadamer’s (2004, p.267) “historicity.” In our research context, the term *historico-logical tension* refers to a tension that an arguer finds, selects,
and/or constructs in his/her process of developing logic (interpretation) in relation to his/her individual historicity and relevant beliefs and underlying assumptions.

In particular, we found that students’ selection and further construction of tensions for their further exploration in the novel were often closely related to strong beliefs that they revealed in classroom interactions. For instance, Nell wrote an argument about the importance of accepting the past when Ms. Vale asked students to write an argument based on what they most strongly believed. She discussed different kinds of tensions from her selected passage for her final argumentative writing, including the love triangle between Daisy, Gatsby, and Tom, contrasting the values of love and responsibility for Daisy, and comparable lifestyles between working class and high class, etc. For her final argumentative writing piece, she mainly constructed a manifestation of tension arising from Gatsby’s actual past and his lies about his past. By connecting his lies with his tragic ending, she argued that “The past makes you who you are. You can’t relive the past and shouldn’t try to change it.”

What we found was that which information (related to the awareness of tensions) they paid attention to, which information they connected, and which information they further explored were often closely related to students’ strong beliefs, which could be regarded as the horizon of the interpreter. This could be one explanation of how people arrive at different interpretations of the same text.

Situated-logical tension. In addition to the term historico-logical tension, I also developed the term situated-logical tension, which refers to tension that arises when an
arguer constructed in his/her process of developing logic in relation to a specific situation in which the arguer developed an argument for a specific purpose.

This study found that which tensions were paid attention to and selected and/or constructed for further exploration in the students’ argumentative writings, was closely related to the given argumentation situation, especially the given writing task. In the third quarter, students were asked to find the primary meaning of the novel as the final argumentative writing task. In their argumentative writing processes, students revealed their situated-logical tensions. In other words, they selected and/or constructed tension(s) for further exploration not based on their historicity or other issues but based on thematic issues about the novel which were related to issues they were asked to explore in the given writing task.

One of the examples of situated-logical tension which emerged in the classroom but was not selected and/or constructed for further exploration in the students’ argumentative writing, was conflicting methodological assumptions about how to read a novel. In the classrooms, we observed that a limited number of students expressed their tension about how to read. They were trying to find a right answer to the question of how to interpret The Great Gatsby. Their underlying assumption that there is a right interpretation of the novel came from their previous learning experiences of how to read a novel. However, because of the particularity of this situation in which the given writing task was not based on a methodological issue but on thematic issues, the methodological warrants or relevant tensions were not explicitly constructed or further explored in their process of interpreting the text and developing their argumentative writing. Rather, the
students asked the teachers questions in order to figure out the teachers’ underlying assumptions and get their guidance about how to read the novel.

In the classrooms, the teachers were aware that students did not share underlying assumptions about how to read a novel from their different learning experiences. The teachers made an effort to be explicit about the methodological assumptions for the given writing task. They acknowledged that the students did not belong to a specific field yet and did not try to teach the underlying assumptions about how to read from a specific discipline such as literary criticism (cf. Wilder, 2002). Rather, they tried to find meaningful assumptions about how to read regardless of specific disciplines considering students’ difficulties and needs. As I shared in the previous section on how we designed the network thinking practices, several premises about how to read the novel were emphasized in the classroom including ‘there is no right interpretation,’ ‘the harmony of all details need to be considered,’ and ‘previous interpretations should be constantly checked with their ongoing interpretation.’ Those were not the warrants that students need in order to construct tensions for further exploration in their argumentative writing. Rather, those were the premises that were shared for the assignment.

The above main finding could be regarded as natural and obvious: the kinds of tensions students identified and constructed and further explored were naturally related to the specific writing situation. However, it seems that contemplating this situational aspect and what we called situated-logical tensions could be meaningful for further consideration of what kinds of writing assignments we develop for extending students’ repertoires of dealing with different kinds of tensions. Teachers and educators also need
to consider what kinds of underlying assumptions need to be explicit if there are students who might not share the same assumptions as those of their teachers for their reading and writing.

**Unintentional tensions.** Unintentional tension refers to a tension that an arguer (or an interpreter) did not intentionally explore. Rather, tension occurred (emerged) in the process of their further reading, especially when they found contrasting evidence, or in the process of their interaction with an interlocutor who had different underlying assumptions, values, and beliefs.

Historico-logical tension played a role in students’ experience of unintentional tension. This study found that students regarding something as contrasting evidence that could not be understood from their previous point of view, but where they felt tensions and what was regarded as contrasting evidence, was closely related to students’ different backgrounds and their different underlying assumptions and beliefs.

For instance, two students, Rita and Evan, dealt with the causes of Gatsby’s failure. However, the places in the text where they felt tensions and found contrasting evidence, varied in relation to the underlying assumptions and beliefs that they possessed. In other words, they revealed their different historico-logical tensions in the process of reading *The Great Gatsby* and working on their argumentative writings. In this section, I will discuss each student’s historicity (their different underlying assumptions and beliefs) in relation to their process of developing logic in their argumentative writing.

As introduced previously, Evan was a student who always emphasized ethical values in this class. For instance, when discussing the first quarter, I referred to his
writing, which strongly argued for adhering to morals regardless of a difficult situation like a lifeboat, as the excerpts of his writing show.

“When you are placed into a life or death situation, many things change. The way you think, the way you see and the way you perceive changes. I believe it is very important to stick to your morals in these types of situations. If you lose your morals, then you lose your control over right and wrong. This could lead to some terrible decisions” (part of Evan’s argumentative essay from the first quarter).

His argument reminded me of Kant’s (1785/2009) “Categorical Imperative” (p. 22). Evan strongly emphasized that people should do morally right things, and that this is the most important value regardless of the situation. In his small group discussions and argumentative essays, he kept revealing his beliefs about the importance of morals.

As I noted earlier in this chapter, at the beginning of his writing process, Evan paid attention to how the social classes developed by the upper class could interrupt the achievement of the dream by a young man, Gatsby. In the process of developing his logic (reasoning) about a social barrier, Evan reread sections about Gatsby’s immoral methods of earning money and his return to Daisy, who was already married. Evan expressed his tensions concerning these behaviors, considering these immoral behaviors as contrasting evidence for his previous interpretation of the cause of Gatsby’s failure. Although Evan found a way to deal with this emerging tension in his argumentative writing later, it was clear that he considered the character’s problems and faults as contrasting evidence.
In contrast, Rita revealed her belief in the importance of effort. At the beginning of the academic year, Mr. Moon asked students to do an argumentative writing piece based on what they strongly believed (field note, Mr. Moon’s class, 9/10/2013). At that time, Rita wrote an argument with the thesis that “I believe hard works pays off.” Rita also revealed her positive belief in the American dream based on the idea that effort will pay off. While reading *The Great Gatsby*, she further revealed her tensions with the negative images of society and the characters. Over time, she focused on the social problems. After completing her writing, she intentionally constructed a tension in her argumentative writing between people’s common assumptions and the author’s presentation of the American dream, further explored the tensions based on her collective evidence, and interpreted the primary message in the novel as a revelation of the actual failure of the American dream.

In terms of historico-logical tension, the interesting moment occurred when Rita also read about Gatsby’s illegal behaviors, but she did not regard them as evidence contrasting with her previous interpretation of the cause of Gatsby's failure as due to social problems. In a small group discussion, she said that “Gatsby’s illegal actions are…like… related to the problematic social system” (audio, Mr. Moon’s class, 2/26/2014). Her classroom discussion revealed her underlying assumption that unequal social systems can contribute to an individual’s illegal actions. For Rita, Gatsby’s illegal actions were not contrasting evidence that disrupted the harmony of her previous interpretation; rather, they provided further evidence of a problematic society. Thus, students felt tensions and what they regarded as contrasting evidence in relation to their
previous interpretations, when such evidence related to their underlying assumptions and beliefs, and this was true for unintentional tensions as well as intentional ones.

**Confirmation and extension of Gadamer’s theories in the context of argumentative writing classrooms.** Our data was aligned with Gadamer’s theory (of the hermeneutic circle). Gadamer (2004) notes that “we are always already affected by history. It determines in advance both what seems to us worth inquiring about and what will appear as an object of investigation” (p. 300). Our data regarding intentional historico-logical tension demonstrated that which tensions students selected and constructed for their argumentative writing were often closely related to the student’s historicity.

Our data regarding unintentional historico-logical tension extends Gadamer's theory in terms of considering the harmony of all details. As we discussed in the theoretical considerations for the third quarter, Gadamer (2004) emphasizes “the harmony of all the details” and says that “The failure to achieve this harmony means that understanding has failed (p.291).” In the classroom, the teachers emphasized that students could focus on a specific issue for the purposes of exploration and writing. However, if students found a piece of evidence that conflicted with their previous interpretation, they needed to carefully rethink their previous interpretation, which might result in some problems in understanding what the author is saying. Our data regarding unintentional historico-logical tension shows that the arguer’s historicity (the ontological aspect of argumentation) could affect where students felt tensions and found contrasting evidence in the process of interpretation. In these aspects, our term *historico-logical tensions* can
be understood as the extension of Gadamer's ideas about exploring tensions in the context of high school argumentative writing classrooms.

With regard to situation, Gadamer (2004) continuously emphasizes the importance of awareness of situation. He writes that “We define the concept of ‘situation’ by saying that it represents a standpoint that limits the possibility of vision” (p. 300). He emphasizes that a specific situation reveals an individual's limited vision because of their standpoint within the situation. I believe that this idea explains the data regarding students’ different horizons and their different visions in this study. On the other hand, the data regarding situated logical tension was more focused on an arguer’s intentional restriction of dealing with a kind of tension in relation to a specific situation. In these aspects, the term situated logical tension as used in this study, can be understood in terms of the extension of his ideas about exploring tensions to the context of high school argumentative writing classrooms.
Chapter 7: Implications

In this section, I introduce two grounded models generated from the retrospective analysis in this formative and design experiment. The first model is concerned with the development of sophisticated argumentative writing. The second model is concerned with the teaching and learning of dialogic arguments. I note that these models and the related theoretical constructs are not generalizations and thus I make no claim about how widespread, or significant the findings arising from these models may be. Nevertheless, these theoretical constructs and the models developed from them can and do provide insights into how the conceptualization of sophisticated argumentative writing was extended in two high school classrooms through integrating dialogic views of rationality and how the extended conceptualization of sophisticated argumentative writing was taught and learned in the argumentative writing classrooms.

In this section, I begin by introducing the model for developing sophisticated argumentative writing that reveals our new conceptualization of sophisticated argumentative writing. I then compare this model with Toulmin’s (1958/2003) model and other major models of argumentation and argumentative writing referred to in the field of literacy and suggest directions for the conceptualization of sophisticated argumentative writing in future research. Next, I introduce the model generated for the teaching and learning of dialogic argumentation. Lastly, I share my closing comments.
A Generated Model for Developing Sophisticated Argumentative Writing

Based on the retrospective analysis of students’ struggles and improvements in their argumentative writing during and after our interventions, we generated theoretical constructs for developing sophisticated argumentative writing. In this section, I introduce the model generated from these theoretical constructs.

The first model, the Sophisticated Argumentative Writing model, depicts how our conceptualization of sophisticated writing evolved during the process of conducting our intervention and throughout our analysis of the results of said intervention. The model as it stands at present, therefore, represents our new conceptualization of sophisticated argumentative writing in high school argumentative writing instruction.

I developed the model based on four areas of theoretical constructs: a system of evidence, a system of warrants, response to complexity, and a thoughtful thesis. In chapters 4, 5 and 6, I explained how we generated each theoretical construct. In this section, I will introduce the visual form (Figure 7.1) of the model and a brief summary of the four areas with their theoretical constructs.
In this visual representation of the processes entailed in our conception of sophisticated argumentative writing, the system of evidence is represented under evidence 1, evidence 2, and evidence \( n \). The dots which connect them show the close connections between multiple pieces of evidence in an argumentative writing. The system of warrants is represented by warrant 1, warrant 2, and warrant \( n \), and their close connection to the evidence on the way to the thesis is also depicted. The dots which connect multiple warrants symbolically represent the connections between them in argumentative writing.
The third area, response to complexity, is revealed in the flow starting from the top of the figure, labeled 'heuristic construction of tensions', down the left side of the figure (labeled ‘progression of ideas from exploring tensions’), and then across the bottom line and then connecting to the thesis (labeled ‘integrating insights from exploring tensions into the thesis’). The rectangle on the right side contains the goal area (‘a thoughtful thesis’), that is, the optimal outcome of all the interactions that are depicted. I will briefly discuss each area and their relevant theoretical constructs.

**A System of Evidence**

This model begins with the area of a system of evidence, which refers to a set of interacting and interdependent pieces of evidence establishing a whole to fully support a thesis. In order to develop a thesis, interacting with multiple pieces of evidence is important. I briefly summarize below the four theoretical constructs in the area of a system of evidence, namely: 1) Accurate evidence, 2) Relevant evidence, 3) Sufficient evidence, and 4) Meaningful order of evidence.

**Accurate evidence.** Development of a system of evidence starts from accurate evidence, which refers to evidence based not only on accurate information and but also on accurate interpretation. In our interventions, students usually worked with an assigned text although they were allowed and/or encouraged to use evidence outside of the text. One emerging issue that arose with struggling students was that they included inaccurate evidence based on their erroneous interpretations derived mainly from

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21 The area of a system of evidence emerged in the second quarter with three theoretical constructs. In the third quarter, the last theoretical construct was added to the area.
overgeneralizations of the textual information. Accurate evidence was found to be an important basis for the development of a system of evidence.

**Relevant evidence.** The second theoretical construct in this area is relevant evidence, which refers to evidence that is closely related to and supportive of the thesis. If the content of the evidence is not closely related to the thesis, the evidence should not be included in the argumentative writing. In order to clearly link a piece of evidence and a thesis, a writer needs to carefully consider whether an explicit warrant is needed. For this reason, this theoretical construct is closely related to the next area, that is, a system of warrants. Evidence needs to be specific to show how it is related to the thesis and/or warrants. How closely each piece of evidence is connected to the thesis and how clearly the connection is articulated was found to be an important foundation for the next theoretical construct, sufficient evidence.

**Sufficient evidence.** The third theoretical construct for a system of evidence which constitutes sufficient evidence, refers to all the pieces of evidence that complement each other in order to thoroughly support a thesis as a whole. No part of the thesis should be left unsupported by evidence. A writer needs to consider reciprocal harmony between multiple pieces of evidence and the scope of the evidence when developing a thesis.

**Meaningful order of evidence.** The fourth theoretical construct for a system of evidence is the meaningfulness of the order of the evidence. This refers to a reasonable arrangement of multiple pieces of evidence in argumentative writing which shows the progression of ideas. In other words, in this model, evidence plays a pivotal role in sequencing content. As in the previous discussion of these constructs, a writer needs to
consider how a piece of evidence can build on the preceding evidence and provide a basis for the next piece of evidence in order to move the argument forward to support the thesis.

A System of Warrants

In this model, the second area is a system of warrants, which is a set of interacting and interdependent warrants in an argumentative writing. The four theoretical constructs in the area of system of warrants are: 1) No logical gap from missing a warrant, 2) Successful connection between evidence and claim, 3) Response to controversial warrants, and 4) Consideration of all warrants as a system. I now briefly discuss the function of each of these constructs.

No logical gap from missing a warrant. In order to develop a clear line of reasoning, a writer needs to consider the relationship between evidence and thesis (or evidence and a sub-claim) and whether a warrant needs to be explicitly discussed. Checking whether there is a logical gap which requires an explicit warrant is an important step for developing a system of warrants.

Successful connection between evidence and claim. When a writer identifies a logical gap between evidence and claim, s/he should provide an explicit warrant to fill the gap. Smooth linking of claim and evidence was regarded by our team as crucial for all warrants.

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22 The area of a system of warrants emerged in the first quarter, and the four related theoretical constructs were introduced in Chapter 4.
Response to a controversial warrant. After developing a warrant, a writer needs to consider whether the warrant might be questionable to his/her audience. If the warrant could be controversial, the writer also needs to consider how to deal with it. When a warrant is highly controversial, providing a response(s) to the controversial warrant is necessary. A variety of responses to potentially controversial warrants includes: showing awareness of different possible warrants, providing a backing, a rational, and/or applicable/inapplicable conditions, exploring tensions between different warrants, and developing common ground between warrants.

Consideration of all warrants as a system. After developing the argumentative writing piece in its entirety, a writer needs to consider all the warrants included in the written piece as a system and examine whether the warrants interact harmoniously with each other. A writer can examine whether there is a foundational warrant which provides a precondition for other warrants, and whether the other warrants are reasonably built upon the foundational warrant. The writer can also scrutinize whether there are missed, problematic, and/or conflicting warrants that need to be revised.

Response to Complexity

In this model, one of the emerging areas for sophisticated argumentative writing is response to complexity which refers to considering complex ideas and developing a sophisticated response to them. In our retrospective analysis of students’ argumentative writing, we found that they were proactive in their interaction with complexity. Students did not just provide a simple answer for a possible counter-argument, nor did not they just provide a qualifier and/or condition to narrow their claim or warrant. Rather, quite a
large number of students actively interacted with a complex issue, and benefited from an exploration of tensions related to the complexity of the issue. Many of them successfully carried the insights from exploring tensions into their thesis. Students’ proactive interactions with complex issues helped us extend our understanding of the development of sophisticated argumentative writing.

The three theoretical constructs in the area of response to complexity are: 1) Heuristic construction of tensions, 2) A progression of ideas from exploring tensions, and 3) Integrating an insight(s) from exploring tensions into the thesis. Each of these will now be defined and explained in terms of how they function in argumentative discourse.

**Heuristic construction of tensions.** Sophisticated development of response to complexity usually starts from what we call the “heuristic construction of tensions.” This heuristic construction consists of establishing a tension and/or explorative topic from a tension for further exploration. A writer may choose to respond to or construct a tension from key controversial issues related to his/her thesis. The tension could be constructed, or arise, from multiple sources such as a counter-argument to the thesis, a contrasting belief about a key topic, a piece of evidence which contrasts with previous evidence, a condition which seems to be in conflict with the thesis, and so on. Whatever the source of tension, the writer needs to consider which tension needs to be further explored for the progression of his/her ideas. The heuristic construction of tensions does not include no response or a simplistic response to potential counterarguments. It is also different from

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23 The area of response to complexity emerged in the second quarter with two theoretical constructs. In the third quarter, one theoretical construct was added to the area and the other two theoretical constructs were slightly revised to focus on tension based on the added theoretical construct.
what we termed the *oversimplified construction of a tension*, that is, the construction of a source tension based on an extreme, overgeneralized, and/or distorted evaluation that could lead to an overly simplistic and polarized discussion.

There are two points which the figure of the model does not visually capture but which are very important for understanding the area of response to complexity and this theoretical construct. First, although the figure may seem to create a misrepresentation in suggesting in its depiction of the heuristic construction that a writer constructs a tension or an explorative topic from a tension before introducing any evidence, but in reality, the order of events is in no way fixed. The construction of a tension could occur at the beginning, middle, or end of an argumentative writing essay. Second, it may not be clear in the figure that the number of tensions explored can range from one to many. A writer can establish a key tension or an explorative topic from a key tension or multiple tensions and/or explorative topics from tensions.

**A progression of ideas from exploring tensions.** The next theoretical construct in the area of *response to complexity* is a progression of ideas from exploring tensions. After constructing a tension and/or an explorative topic from a tension, the argument needs to progress further through exploration of the tensions.

**Integration of insights from exploring tensions into the thesis.** The fourth theoretical construct for *response to complexity* is the integration of insights from exploring tensions into the thesis. After further developing ideas through exploring tension, the insights gained from such an exploration should be incorporated into a nuanced thesis. This theoretical construct is directly connected to the next area to be
discussed, namely, a thoughtful thesis, in that one of the criteria for developing a thoughtful thesis is expressing a nuanced position by integrating insights from exploring tensions.

A Thoughtful Thesis

A thoughtful thesis is conceptualized in this model as a thesis which reveals a clear, nuanced argument as a result of integrating insights from an exploration of tensions and which has sufficient support from a system of evidence. The conceptualization of the thesis can be regarded as a combination of the previous three areas. In the process of conceptualizing this area, two premises emerged as key aspects of this conceptualization. First, a thoughtful thesis cannot be considered by itself alone. It should be understood and analyzed in relation to other areas in the model and, in particular, in relation to a system of evidence and response to complexity. Second, a writer arrives at a thoughtful thesis after his/her exploration and interactions with the previous three areas. A writer can project a thesis at the beginning of his/her argumentative writing, but the thesis should not be unchangeable. Instead, it should be re-examined and possibly revised through active interactions with the other areas.

The three theoretical constructs in the area of a thoughtful thesis are: 1) expressing a clear focus and argument, 2) including sufficient support from a system of evidence, and 3) expressing a nuanced position from integrating insights resulting from exploring tensions. These will now be delineated in detail.

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24 For a full explanation, refer to the section on ‘Building theoretical constructs related to a thoughtful thesis for sophisticated argumentative writing’ in Chapter 6.
Expressing a clear focus and argument. A thoughtful thesis should include a clear focus, a clear argument, and a clear key concept(s). The key concept(s) does not need to be entirely explained within the thesis itself, but the concept(s) should be included in the thesis and be clarified within the argumentative writing.

Including sufficient support from a system of evidence. A thoughtful thesis should be sufficiently supported by a system of evidence. The scope of the thesis should be matched by the scope of the evidence. The thesis should not have a larger scope than the evidence can sufficiently support. The thesis should also not have a narrow scope which does not cover all the evidence provided by the writer. This theoretical construct addresses the same point as the theoretical construct of sufficient evidence but from the point of reference of the thesis.

Expressing a nuanced position by integrating insights from exploring tension(s). A thoughtful thesis should reveal a nuanced position by integrating insights from exploring tension(s). We further conceptualized 'integrating insights from exploring tension' as a writer’s demonstration of insights which resulted from his/her exploration, analysis, and/or reflection about the tension(s). This third theoretical construct addresses the same point as the theoretical construct of integration of insights from exploring tensions into the thesis.
Comparison of the Sophisticated Argumentative Writing Model with Other Major Models

Our Sophisticated Argumentative Writing model, which originated based on Toulmin’s (1958/2003) model of argumentation, was further extended and revised based on students’ writing processes and argumentative writings in relation to the interventions that were designed based on insights we gained from the dialogic views of rationality. During the process of generating the theoretical constructs and the model for developing sophisticated argumentative writing, our research team’s conceptualization of sophisticated argumentative writing also evolved recursively. In this section, I compare the Sophisticated Argumentative Writing model with Toulmin’s model and other major models of argumentation and argumentative writing referred to in the field of literacy, and I position the Sophisticated Argumentative Writing model in relation to these other models and share the case for reconceptualizing sophisticated argumentative writing in argumentative writing courses.

Comparison of the Sophisticated Argumentative Writing Model with Toulmin’s (1958/2003) Model of Argumentation

Table 7.1 shows the major comparisons between Toulmin’s (1958/2003) model and the Sophisticated Argumentative Writing model. I will explain the similarities and differences following the key points provided in the left column in the table.
Table 7.1: Comparison between Toulmin’s (1958/2003) model of argumentation and the Sophisticated Argumentative Writing model

<table>
<thead>
<tr>
<th>Logical layout</th>
<th><strong>Toulmin’s model of argumentation</strong></th>
<th><strong>Sophisticated argumentative writing model</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>- Logical structure between the main three elements: D (Data/evidence), so C (claim), since W (Warrant)</td>
<td>-Same</td>
<td></td>
</tr>
<tr>
<td>Purpose of the model</td>
<td>-Communicative, practical purpose of argument -Development of the model for a logical layout of argument</td>
<td>-Communicative purpose and instructional purpose of developing complex and network thinking -Development of the model for sophisticated argumentative writing</td>
</tr>
<tr>
<td>Underlying view of rationality</td>
<td>-Dialogic</td>
<td>-Dialogic</td>
</tr>
<tr>
<td>Stance toward argument</td>
<td>-Defensive</td>
<td>-Explorative</td>
</tr>
<tr>
<td>Approach to warrant</td>
<td>-Field-dependent approach</td>
<td>-Ontologically based approach</td>
</tr>
<tr>
<td>Focus of relationship</td>
<td>-Interrelationship between elements</td>
<td>-Interrelationship between elements and intra-relationship within an element</td>
</tr>
<tr>
<td>Possible distinctions between elements</td>
<td>-Yes. Generally distinguishable elements</td>
<td>-No. Closely interdependent areas</td>
</tr>
</tbody>
</table>

**Key layout of an argument.** The key layout of an argument is the same in Toulmin’s (1958/2003) model and the Sophisticated Argumentative Writing model. Toulmin (1958/2003) explains that the key layout of an argument consists of three elements: data, claim, and warrant. He explains the functions and relationship of the elements as follows:
Data (D) support the claim (so, C). In order to connect data and claim, there is a warrant (since W). The Sophisticated Argumentative Writing model emerged from this depiction of an argument from Toulmin’s (1958/2003) argument model. The Sophisticated Argumentative Writing model has the same three elements, namely, claim, evidence (data), and warrant. The functions of the elements and their relationships are the same as those in Toulmin’s model shown here (Figure 7.2).

The purpose of the model. Toulmin (1958/2003) explains the purpose of his model of argument as follows: “Keeping our eyes on the categories of applied logic—on the practical business of argumentation, that is, and the notions it requires us to employ—we must ask what features a logically candid layout of arguments will need to have” (p. 88). Toulmin was interested in the communicative, practical purpose of argument and developed the model to provide a logical structure for argumentation.

In the context of high school writing classrooms, our study had purposes that extended beyond Toulmin's. The Sophisticated Argumentative Writing model has not only a communicative purpose, but also an instructional purpose. This purpose was for students to develop complex and network thinking. In addition, in comparison to Toulmin’s (1958/2003) model with its specific purpose of developing a logical layout of argument, the purpose of the Sophisticated Argumentative Writing model is the
development of argumentative writing. Because argumentative writing generally consists of multiple pieces of evidence and warrants with a thesis which possibly includes several sub-claims rather than a singular logical layout such as a claim, evidence, and warrant, the Sophisticated Argumentative Writing model extends and revises Toulmin’s (1958/2003) model.

**Underlying View of Rationality.** The two models, that is, ours and Toulmin’s (1958/2003), assume underlying dialogic views of rationality. Toulmin (1958/2003) acknowledges the importance of the dialogic aspect of arguments (what he called “field-dependent” variables) and further provides three more elements. Based on these elements, he further extends the layout of an argument as his following figure shows:

![Figure 7.3: Toulmin’s (2003, p. 97) layout of an argument](image)

The extended layout has the same basic relationship between data, warrant, and claim: Data support the claim (so C) with a warrant (since W). Considering a possibly questionable or controversial warrant which could differ by academic field, Toulmin (1958/2003) postulated the three elements, namely, backing, qualifier, and rebuttal. In a case where a warrant might be controversial, an arguer needs to provide a backing, which
authorizes the warrant by providing information about ‘on account of.’ The arguer also needs to provide a qualifier for the claim based on the degree of the force of the warrant, and a rebuttal to provide information about contexts in which the warrant is not applicable. These three added elements clearly reveal the underlying dialogic view of rationality of Toulmin’s (1958/2003) model. What is regarded as logical would differ for different fields. Our Sophisticated Argumentative Writing model also makes evident its underlying dialogic views of rationality by emphasizing exploring tensions from multiple perspectives, approaches, and lenses.

Stance toward argumentation. The Sophisticated Argumentative Writing model takes an explorative stance toward complex issues in contrast to Toulmin’s (1958/2003) model, which takes a defensive stance. After introducing his six elements for the layout of a logical argument, Toulmin (1958/2003) notes that “the validity of our arguments has ultimately to be established or refuted” (p. 87). As this caveat reveals, his stance toward complex issues is defensive. Toulmin’s (1958/2003) main approach to argument is based on whether the validity of the claim can be established or refuted. In order to maintain the validity of a claim which cannot be refuted, he therefore suggests providing a qualifier, rebuttal, and backing.

The Sophisticated Argumentative Writing model does not deny the importance of a defensible claim. The Sophisticated Argumentative Writing model also does not disagree that the three elements of backing, qualifier, and rebuttal can be useful in sophisticated argumentative writing. Nevertheless, taking an explorative stance toward complexity is the key part of the Sophisticated Argumentative Writing model. In that
model, exploring complex issues and relevant tensions is required as an important process. We include it because we found in our study, that taking an explorative stance toward complexity, made a huge difference in students’ process of developing effective argumentative writing. The significant aspect of the Sophisticated Argumentative Writing model is the theoretical constructs generated from students’ extended ways of dealing with complexity.

**Approach to warrant.** Toulmin’s (1958/2003) approach to warrant is field-dependent, while the Sophisticated Argumentative Writing model mainly approaches warrant based on ontological aspects. As we discussed, Toulmin (1958/2003) acknowledges that the dialogic features of warrant depend on the communicative field, particularly with respect to different disciplines such as law, art, business, social science, natural science, and so on. He emphasized that the field-dependent aspect of warrant needs to be carefully considered.

The Sophisticated Argumentative Writing model approaches warrant based on ontological aspects. This does not mean that this model minimizes the importance of communicative fields. When a writer needs to write within a specific communicative field with shared general warrants and backing, the writer should consider the field-dependent warrants. However, in the context of the two high school language arts classrooms in which the Sophisticated Argumentative Writing model was generated, the research participants, the teachers and students, did not consider themselves as belonging to a specific communicative field. Rather than focusing on field-relevant warrants, the teachers tried to help students understand and explore their own underlying assumptions.
and beliefs, so that the warrants that were generally discussed in students’ development of their argumentative writing were closely related to who they were and what kinds of direct and indirect experiences, knowledge, background, and relationships they had. Thus, the approach to warrant was mainly based on the ontological aspects of warrant.

This does not mean that in order to use the Sophisticated Argumentative Writing model, a writer must consider the ontological aspects of warrant rather than field-dependent warrants. We do not consider the ontological approach to warrant as in opposition to the field-dependent approach. Instead, we only want to emphasize that considering the ontological aspects of warrant might be meaningful for writers, especially for students who might not be aware that their underlying assumptions and beliefs greatly affect the development of their argumentative writing.

**Focus of relationship.** For the purpose of developing a logical layout of argument, Toulmin (1958/2003) focuses on the interrelationship between singular elements. In other words, as Andrews (2005) points out, Toulmin (1958/2003) focuses on “micropropositions on which to build and/or project mezzo and macro structures” (Andrews, 2005, p. 123). The micro-proposition refers to a structure that is based on singular elements, such as a piece of evidence, a claim, a warrant, a backing, a rebuttal, or a qualifier. Because he focuses on revealing the logical layout of an argument, Toulmin (1958/2003) does not talk about intra-relationships within an element, such as the relationship between multiple pieces of evidence in an argument.

In contrast to Toulmin’s (1958/2003) model, which focuses on the interrelationship between elements for the logical layout of argument, the Sophisticated
Argumentative Writing model focuses not only on the inter-relationship between elements but also on the intra-relationships within an element. In particular, the Sophisticated Argumentative Writing model pays attention to the relationships between multiple pieces of evidence and between multiple warrants by developing the areas of a system of evidence and a system of warrant. This issue emerged because in order to develop a piece of argumentative writing, considering a singular relationship between data, warrant, and claim is usually not enough. The writer needs to consider the whole combination, interaction, and interdependences within an element.

**Possible distinctions between elements.** In contrast to Toulmin’s (1958/2003) model, which was developed based on distinguishable elements, the Sophisticated Argumentative Writing model consists of interdependent areas and theoretical constructs. Although Toulmin (1958/2003) explains that the elements are not totally exclusive, he emphasizes possible distinguishable functions between different elements. On the other hand, the Sophisticated Argumentative Writing model was developed based on the naturally recursive process of writing. The four areas in the model were developed with interrelated points of view, so the actual process of materializing the model was based on the intermingled four areas. Moreover, because of its focus on developing an argumentative writing, the interdependency between areas is a key part of the Sophisticated Argumentative Writing model.
Comparison of the Sophisticated Argumentative Writing Model with Andrews’ (1995) Model of Argumentative Development

In this section, I compare the Sophisticated Argumentative Writing model with Andrew’s (1995) suggestions for developmental structures of argumentative writing. This comparison is relevant for the following reasons. First, this model makes a contribution to the Sophisticated Argumentative Writing model’s approach of taking an explorative stance to argumentation and argumentative writing. Second, the beginning three stages in this model emerged during our analysis of students’ writing processes in the third quarter. Lastly, this model suggests a full-fledged argumentative writing based on centering and chaining information. The Sophisticated Argumentative Writing model proposed in this dissertation extends the full-fledged argumentative writing model by adding the process of exploring tensions as an important process.

Andrews’ suggestions for argumentative writing structures. Andrews (1995) proposed argument structures parallel with Applebee’s (1978) six developmental structures of narrative. Applebee (1978) conducted an experimental study with 120 children from ages 2 to 5 (30 children per year) and provided six developmental structures of narrative. He expected that Vygotsky’s (1962) stages of concept development could provide a suggestive model for their data analysis on narrative structure. Applebee (1978) wrote that “six basic types of structures were found, bearing a remarkable resemblance to Vygotsky’s (1962) stages in concept development and showing the same general developmental order” (p. 57). Based on cognitive expectations
from Vygotsky’s stages on concept development and Applebee’s (1978) model for narrative, Andrews (1995) proposes a model for argumentative development (p. 36).

In Vygotsky’s (1962) formation as a concept and Applebee’s (1978) fully-fledged narrative, the main points which emerge are that a progression occurs based on first developing centering, then developing chaining, and then combining centering and chaining. Andrews (1995) argues that there is a correspondence between the two developmental stages suggested by Vygotsky (1962) and Applebee (1978) and the construction of argumentative writing. Andrews (1992) provides empirical data in support of his explanation that without teachers’ input or supports, eleven to thirteen-year-old students went through the exactly same stages in their argumentative writing. Andrews (1995) explains that considering these stages in argumentative writing provides “the emergent structure of arguments” and a way to consider “the qualities of arguments composed by students” (p. 37). I will compare his model with the Sophisticated Argumentative Writing model following the key points in Table 7.2.

Table 7.2: Comparison between Andrew’s (1995) model and the Sophisticated Argumentative Writing model

<table>
<thead>
<tr>
<th>Stance toward argumentation</th>
<th>Andrews’ model of the argumentative development</th>
<th>Sophisticated argumentative writing model</th>
</tr>
</thead>
<tbody>
<tr>
<td>-Explorative stance</td>
<td>-Explorative stance -Emphasis on the process of developing a central, unifying idea (thesis)</td>
<td>-same</td>
</tr>
</tbody>
</table>

Continued
Table 7.2 continued

<table>
<thead>
<tr>
<th>Purpose of the model</th>
<th>Expectation of students’ natural argumentative development or composition development</th>
<th>Students’ development of sophisticated argumentative writing with a teacher’s guidance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Logical layout</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Underlying view of rationality</td>
<td>Not clear</td>
<td>Dialogic</td>
</tr>
</tbody>
</table>

**Stance toward argumentation.** The two models are similar in their explorative stance to argumentation. Andrews’ model (1995) makes a significant contribution to the development of sophisticated argumentative writing by emphasizing the importance of an explorative stance on argumentation. Andrews (1995) explains that “The value of such a model is that it might help in the planning and design of arguments” (p.120). His model does not start from a pre-determined claim. Rather, the process of arriving at a central, unifying idea by considering multiple pieces of evidence was emphasized. Following Andrew’s (1995) model, the Sophisticated Argumentative Writing model also emphasizes the explorative stance and arriving at a thoughtful thesis through active interaction with evidence. It is interesting that the first three argumentative writing structures that were described in Andrews’ (1995) model, creating heaps, developing a unifying idea from the heaps, and further developing a thematic identity, were shown in many students’ argumentative writing processes in the third quarter in this study. In our own study, we observed that Rita’s writing processes were very close to Andrews’ (1995) aforementioned first three structures.
**Purpose of the models.** Andrews’ (1995) model of the argumentative development was drawn from cognitive expectations from Vygotsky’s (1962) concept formation stages in order to predict students’ natural process of argumentative development and composition of argument. In contrast, the Sophisticated Argumentative Writing model was intentionally developed by teachers for the purpose of developing students’ sophisticated argumentative writing. Teachers’ guidance during the process of developing an argumentative writing is assumed in the Sophisticated Argumentative Writing model.

Andrews’ (1995) model has an important role in showing the natural composition of argument in young students. On the other hand, in an educational context, we also need to consider students’ possible improvement with the support of teachers. The Sophisticated Argumentative Writing model, which was generated with the teachers’ guidance, has a different goal in suggesting ways to foster improvement in argumentative writing.

**Logical layout.** As he introduced his model, Andrews (2005) notes that “this model does not have the generic logical coherence” of Toulmin’s model (p. 120). As a result, Andrews’ (1995) model for argumentative writing does not display any differences in its visual representation from Applebee’s (1978) model for narrative writing. In comparison to Andrew’s (1995) model, the Sophisticated Argumentative Writing model displays its basic logical layout of an argument in the relationship between claim, evidence, and warrant following Toulmin’s (1958/2003) model.
Underlying view of rationality. Although Andrews (1995; 2005) generally takes a dialogic approach to argumentation, his model does not clearly reveal a dialogic or monologic stance toward argumentation. For a fully-fledged model of argumentative writing, Andrews (1995; 2005) only emphasizes centering and chaining as key parts of the writing process. On the other hand, the Sophisticated Argumentative Writing model makes clear its underlying dialogic view of rationality by developing the area of response to complexity, which emphasizes interacting with multiple perspectives and relevant tensions.

It is probable that the need to deal with a controversial issue did not visibly emerge in Andrew’s (1992) empirical study of students because of the young age of his participants, whose ages were 11 to 14, and because of the natural writing situation without teachers’ guidance. Based on the findings from our study, I propose a fully-fledged extension of Andrews (1995) model of argumentative writing. Again, Andrews (1995) model for argumentation was based on the two processes of centering and chaining. In order to consider “the qualities of arguments,” we found that one more stage of “response to complexity” needs to be considered in relation to centering and chaining.

Considering students’ recursive writing processes, we think that the process of “response to complexity” should not be restricted to any particular specific moment, such as before or after developing centering. However, before developing a fully-fledged argumentative writing model by combining centering and chaining, careful consideration of exploring tensions and integration of the insights from the exploration into the
centering of the thesis, is necessary for what our research team regards as a fully-fledged argumentative writing model (i.e., a Sophisticated Argumentative Writing model).

Vision for Conceptualizing Sophisticated Argumentative Writing

In this section, based on our findings, I would like to suggest two directions for conceptualizing sophisticated argumentative writing for argumentative writing classrooms where students struggle with a formulaic approach to argumentative writing: expressing dialogic underlying views of rationality and expressing an explorative stance toward argumentation.

I will further explain these points by contrasting the Sophisticated Argumentative Writing model with other major models about argumentation in the literacy fields. For the purposes of discussion, I have mapped rectangular coordinates based on two emerging key divisions. Figure 7.4 illustrates the rectangular coordinates with positioning of the Sophisticated Argumentative Writing model and other relevant models based on my current understanding.
From the beginning of this study, monologic and dialogic views of rationality were used as key heuristic divisions. The horizontal axis represents a spectrum, with models derived from underlying monologic views of rationality at one end and those taking a more dialogic underlying view of rationality at the other. Another key issue that emerged, an explorative stance vs. a defensive stance on argumentation, can be seen on the vertical axis. The vertical axis refers to a spectrum ranging from models with a defensive stance on argumentation at one end to those taking a more explorative stance at
the other. The distance of each model from the center point of the axis is a relative position rather than an absolute position.

The importance of developing logic has already been emphasized in argumentative writing (Fulkerson, 1996; Hillocks, 2010; Lunsford, 2002). With that in mind, it is worth noting that I have placed formal logic in the third quadrant of the figure, which represents the monologic view of underlying rationality with a defensive stance. Because Toulmin's (1958/2003) model has been dominant in argumentative writing classrooms, it has also come to be associated with principles of logic. Toulmin’s (1958/2003) model of argumentation can be regarded to have extended formal logic. Since Toulmin's (1958/2003) model represents a dialogic approach to argumentation with a defensive stance, it is located in the fourth quadrant. The model's strongly defensive stance on argumentation could be regarded as a limitation for our purposes focused as they are on developing sophisticated argumentative writing. It should also be noted that logic itself is not restricted to the lower half of the figure.

Andrews’ (1995) model of argumentative development is located on the vertical axis in the area of the explorative stance. His model has made a meaningful contribution to our own work in that it emphasizes an explorative stance to argumentation and a thesis which evolves in the process of developing argumentation. However, the model does not clearly reveal what kind of underlying views of rationality it embraces.
Kuhn’s (2016) intervention model\textsuperscript{25} is located in the first quadrant. Her model also has made a significant contribution to our work in that it represents dialogic views of rationality and an explorative stance toward argumentation. As a process-guiding model for developing argumentative writing, the model emphasizes interplay with opposing-side peers and the development of an argumentative writing in relation to opposing opinions. Considering weaknesses and strengths in opposing opinions and integrating insights from this exploration into the argumentative writing is highlighted, thus combining the two key elements which are germaine to our own model.

For this reason, I locate the Sophisticated Argumentative Writing model in the same quadrant as that of Kuhn’s (2016) model. However, the Sophisticated Argumentative Writing model is located in a more dialogic and explorative position. This positioning reflects its inclusion of interaction, not only with opposing opinions from a polarized position, but also with other potential complexities including contrasting warrants and evidence, and the like.

Although Kuhn’s (2016) model is already located in the quadrant that I want to suggest as the ideal direction for conceptualizing sophisticated argumentative writing with dialogic underlying views of rationality and an explorative stance, it is a direction which has not been commonly and/or explicitly conceptualized for sophisticated argumentative writing in argumentative writing classrooms. If students are struggling with a formulaic approach to argumentative writing like our students, the

\textsuperscript{25} Although Kuhn (2016) does not explicitly develop a model, I interpreted the repetitive intervention in her longitudinal study as a kind of model.
conceptualization of sophisticated argumentative writing based on expressing dialogic views of underlying rationality and expressing explorative stance may provide a useful approach as it did for us. I believe that the model proposed in our work provides insights for this new conceptualization of sophisticated argumentative writing, in particular for the possible productive role of tensions from multiple perspectives. There are undoubtedly a variety of creative ways of considering dialogic views and explorative ways that would fit within this conceptualization.

Generating a Model for the Teaching and Learning of Dialogic Argumentation: The TLDA Triangle

The Sophisticated Argumentative Writing model was generated in a classroom context. In order to help students develop sophisticated argumentative writing, the teaching and learning of dialogic argumentation is necessary. The present study generated another model for the teaching and learning of dialogic argumentation. I call this model the TLDA model (Teaching and Learning of Dialogic Argumentation model), or based on its shape, the TLDA triangle.

In this study, dialogic argumentation refers to an argumentation which is underpinned by dialogic views of rationality. As I have discussed, the dialogic view of rationality generally refers to a view of rationality which acknowledges multiple different views of rationality which are sensitive to contexts. Among the multiple dialogic views of rationality, this study mainly focused on Habermas’ (1984) view of communicative rationality, Gadamer’s (2004) investigational rationality, and Haraway’s (1988) positioning rationality which emphasize interactions with two or more perspectives from
different interlocutors, horizons, or positions. As a result, the model we developed also emphasizes the interactions between multiple perspectives.

In contrast to the Sophisticated Argumentative Writing model, the theoretical constructs generated for the TLDA model were not specifically introduced as theoretical constructs in the discussion sections in chapters 4, 5 and 6. This is because I had already introduced the emerging key constructs for the teaching and learning of dialogic arguments as they emerged in each quarter, although I did not call them theoretical constructs at the time. After conducting the retrospective analysis, including using constant comparative method to analyze the overall results by comparing the results from each quarter, I generated the theoretical constructs and the TLDA model. Figure 7.5 shows a visual representation of the TLDA model.

![Figure 7.5: A visual representation of the TLDA model](image)

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This model consists of three areas: extending repertoires of doing dialogic argument, reflecting on doing dialogic argument, and teacher’s guidance on dialogic argument. The first two areas were closely related to how we developed our interventions, and considering the goals of a literacy practice approach. The third area of teachers’ guidance on dialogic argument emerged in our retrospective analysis during and after interventions from the first quarter.

**Extending Repertoires of Doing Dialogic Argumentation**

The first area of the TLDA model is extending repertoires of engaging in dialogic argumentation. While analyzing the results of this study, we found that actually doing argumentation that put an emphasis on interactions with interlocutors and texts positively affected students’ development of argumentation. In addition, we found that extending repertoires of doing argumentation based on dialogic underlying views of rationality extended students’ understanding of argumentation. Students showed their understanding of dialogic arguments and their improvement in considering these aspects in their argumentative writing.

This first area of the model consists of four theoretical constructs: working towards consensus practice, positioning and repositioning practice, exploring tension practice, and network thinking practice. It is difficult to argue the order to the constructs, but I want to note that the order of constructs is based on a process that occurred organically in response to students’ difficulties. Positioning/repositioning practices and exploring tensions practices also emerged as a response to students’ limited exploration of tensions and complexities during working towards consensus practices. Network
thinking practices emerged as a response to students’ struggling with displaying complex ideas without meaningful connection or progressions of ideas to a nuanced, insightful thesis. This consideration of students’ emerging difficulties in implementing theories from the perspective of dialogic views of rationality shows one meaningful way of extending students’ repertoires of doing dialogic arguments.

**Working towards consensus practice.** The first theoretical construct in this area is the working towards consensus practice, which incorporates Habermas’ (1984) view of communicative rationality. This theoretical construct was generated in the first quarter based on our finding that it led students to consider a different goal of argumentation: working towards consensus rather than defending their own argument. We found that the goal of working towards consensus positively affected students’ active listening to interlocutors’ perspectives and increased their efforts to develop their arguments in relation to their interlocutors’ arguments. We developed the practice based on the argumentative topic in which students’ different warrants were most clearly displayed. We found that this argumentation topic helped students to actively engage in the practice and realize the dialogic aspects of warrants.

**Positioning and repositioning practice.** The second theoretical construct in this area is the positioning and repositioning practice, which incorporates Haraway’s (1988) positioning rationality. This practice emerged in the first quarter from the teacher’s guidance and was generated as a theoretical construct in the second quarter based on repeated practice and its positive effects on students’ extended understanding about the complexity of an argumentative topic. In order to help students carefully consider a
different perspective, approach, and/or lens, the teachers asked them to position and reposition themselves with a different lens and then reconsider their argument. For instance, students were asked to adopt the perspective of different characters in a scene and rethink the issue and their argument. Students were also asked to develop an argument from the position of an author of a text which was not written in an argument form. They were then asked to reposition themselves with their own lens and redevelop the argument. This mobile positioning practice was found to be helpful for students in understanding an issue from different perspectives, which led to a deepening understanding of the complexity of the argumentative topic. Students’ argumentative writings also showed an increased discussion of the complex issues, including changing their approaches (positioning) to an issue.

Exploring tension practice. The third theoretical construct in this area is the exploring tension practice, which incorporates Gadamer’s (2004) investigational rationality. In our intervention, the exploring tension practice was usually intertwined with the positioning and repositioning practices. This practice also emerged in the first quarter from the teachers’ guidance and was generated as a theoretical construct in the second quarter.

When students explored tensions from different positions in their interaction with a text, they were actively searching for multiple tensions. We found that the purpose of exploring tensions in an argument positively contributed to students’ understanding of the productive force of tensions. We also found that students more actively dealt with complex issues in their argumentative writing after exploring tensions.
Network thinking practice. The fourth theoretical construct in this area is that of network thinking practice, which incorporates Gadamer’s (2004) investigational rationality. We developed this practice because many students were struggling to develop a meaningful thesis from their extended complex thinking and exploration of tensions. This theoretical construct was generated from the intervention in the third quarter. Responding to students’ difficulties and struggles, two aspects were emphasized in this practice: what to connect and how to connect. In other words, our network thinking practices were designed with two emphases: developing practices for emphasizing a connection(s) between areas chosen based on students’ difficulties and developing practices for providing guidance on how to make these connections.

In our case, we focused on how to connect a thesis with a system of evidence and how to integrate insights from exploring tensions into the thesis. We designed the network thinking practices and the writing assignment in the intervention by providing a way to arrive at a thesis based on the first, second, third and fourth network thinking practices. This is not the only way to help students arrive at a thesis, but it provided one way to work on it. Our previously discussed analysis of students’ argumentative writings demonstrated that these practices were helpful in the development of a thoughtful thesis that fits our conceptualization. The network practice we designed should be particularly useful for literature-based argumentative writing and other kinds of writing in which teachers can provide a variety of evidence.
Reflecting on Doing Dialogic Argumentation

The second area of the TLDA model is reflecting on doing dialogic argumentation, which was generated in the first quarter and repeatedly confirmed in the second and third quarters. Lave and Wenger (2002) argue for the special function of talk in participation. With regard to talking about a practice, they emphasize sharing stories about past participation experiences. They argue that such stories and experiences can constitute situated knowledge and can constitute a crucial part of “diagnosing and carrying out” new practices (p. 109). In our study, we provided opportunities for students to reflect on their previous practices. This was based on the reflection practices that were designed and on the teachers’ ongoing questions during and after the practices. We found that reflecting on their own thinking and reflecting on the nature of argumentation and argumentative writing positively affected students’ extended understanding of dialogic aspects of argumentation.

Reflection on students’ thinking. While reflecting on previous practices, students often discussed their thinking processes during the practice. As I noted previously, students in the first quarter explicitly said or wrote that they became more aware of their thinking process or their classmates’ thinking processes. Doing argumentative practices that led to a new way of thinking and then reflecting on these practices were practices that appeared to complement each other to positively affect students’ development of meta-cognition about doing dialogic argument. By talking about their thinking during the practice, students made an effort to articulate their thinking processes and showed improvement in thinking about their thinking processes.
over time by revealing their ideas about argumentation as a tool of multiple thinking processes: critical thinking, creative thinking, complex thinking, and network thinking (audio files, student interviews, 5/10/14 – Mr. Moon’s classroom, 5/13/14—Ms. Vale’s classroom).

**Reflection on the nature of argumentation and argumentative writing.** We found that reflection on the nature of argumentation positively affected students’ extended understanding of argumentation. The teacher often asked questions about how they saw argumentation at that moment. Over time, students’ responses showed that they gradually eschewed adversarial and dichotomous models of argumentation and monologic views of rationality and moved towards more collaborative and explorative models of argumentation and diverse views of rationality.

The teachers also often asked questions about what the students were learning about argumentative writing and whether they had noticed any changes in their development of argumentative writing. Students’ reflections showed their increased awareness of different ways of developing an argument. In particular, the emphasis on the interactions with multiple perspectives showed their increased awareness of dialogic argumentation.

**Teacher’s Guidance on Dialogic Argumentation**

The last area of the TLDA model is teacher’s guidance on dialogic argumentation. Our retrospective analysis revealed that some of the teachers’ guidance played an influential role in students’ dialogic argument. This area emerged in the first quarter and was repeatedly confirmed in the following quarters.
**Top-down guidance.** The first theoretical construct for this area is teachers’ top-down guidance, which emerged in the second quarter and was repeatedly confirmed in the third quarter. Top-down guidance refers to guidance that a teacher shares with students in which the teacher sets forth clear, specific learning goals and an elaborately designed practice(s) to understand and achieve these goals.

For dialogic interactions, the equality of the relationship between interlocutors is often emphasized (Habermas, 1984). Although we acknowledge this point, we also found that the teachers’ other roles as a guide and vision maker were significant in the teaching and learning of dialogic argumentation. Classroom practices and developing argumentative writing based on dialogic views of rationality were not common practices for most students, so the teachers’ setting up of goals and actual practice based on dialogic views of rationality and clear sharing were found to be important theoretical constructs for the teaching and learning of dialogic argumentation.

**Bottom-up guidance.** The second theoretical construct, namely, teachers’ bottom-up guidance, also emerged in the second quarter and was repeatedly confirmed in the third quarter. Bottom-up guidance refers to very specific guidance which a teacher provides based on students’ work during their actual participation in an elaborately designed practice. We found that talking and providing feedback based on students’ current oral and/or written arguments hugely affected their understanding of the goal of the practice and its actual achievement. Bottom-up guidance was also identified as a way to deal with students’ academic gap. Although some struggling readers and/or writers could not ultimately achieve the shared goal in their arguments, we observed that the
teachers could provide more achievable goals in their bottom-up guidance and the students showed improvement with respect to the adjusted goals.

**Questions.** The third theoretical construct is the teachers’ questions. Both the teachers’ raising of thoughtful questions and the teachers’ encouraging students to develop questions were found to be important in the teaching and learning of dialogic arguments. Teachers’ thoughtful questions made up a large part of the previous theoretical constructs of top-down guidance and bottom-up guidance. Raising thoughtful questions to make the connection between the designed dialogic practices and students’ previous experiences was found to be an important step for opening students’ eyes to the importance of the dialogic practice and for increasing their critical awareness of their usual argumentative practices. We also observed that the teachers’ thoughtful questions regarding dialogic argumentation, such as attachment questions and detachment questions, hugely affected students’ realization of the dialogic aspect of argumentation and warrants.

Another type of question that emerged as part of the theoretical construct were questions that students developed for their argumentative writing after encouragement from their teachers. In the first quarter, students struggled with and showed resistance to developing meaningful questions for their argumentation by themselves. With the teachers’ repeated encouragement, many students improved in this ability. In the third quarter, we often observed students actively developing questions by themselves for further inquiry and successfully developing their argumentative writing based on these questions.
Positioning interlocutors as resources. The last theoretical construct is positioning interlocutors as resources for the student's dialogic argumentation. This was generated in the first quarter and repeatedly confirmed in the following quarters. In the classrooms, the teachers often repeated the idea that the interlocutors such as the teacher and classmates are important resources for the process of developing dialogic argumentation. They specifically emphasized that having an interlocutor who has a different perspective is a valuable resource. Over time, we could see that students made an effort to engage in conversation and oral argumentation with their teacher and classmates. The most impressive observation was that when students had conflicts with their classmates due to their different approaches and perspectives during the whole group discussion, they often reached out to the students who expressed different perspectives during their individual writing to get insights on how to deal with the tensions in their argumentative writing. We also found that many students actually included the conversation and insights in their argumentative writing.

Closing Comment

The “journey” taken in the development of this study and the recording of it in this dissertation started with my ethnographic and discourse analysis studies in argumentative writing courses, including those of the teachers who were engaged in this dissertation study. Sharing the vision of integrating dialogic views of rationality into their classroom dialogic argumentative practices in order to overcome students’ formulaic approach to argumentation, we were inspired to conduct this formative and design experiment.
Our journey is ongoing. I have maintained my interaction with the two teachers and we have continued to develop our ideas since designing and conducting the actual intervention from August 2013 to June 2014. For instance, as a part of the larger argumentative project, I observed Ms. Vale’s classroom about once a week from August 2014 to June 2015 and participated in regular meetings with the two teachers. After the first project, we have continued to have close interactions that arise from our continued study of the nature of argumentative writing as well as our shared vision for students’ development of sophisticated argumentative writing based on dialogic views of rationality.

The vision of our research team was to provide a new conceptualization for argumentative writing and the teaching and learning of argumentative writing in order to help teachers and students avoid formulaic approaches and mechanical skills and to guide them to develop complex and networked thinking and communication abilities based on dialogic views of rationality. We hope that in the development of our Sophisticated Argumentative Writing model, we have generated insights for new ways of conceptualizing sophisticated argumentative writing particularly in high school writing classrooms, and that could provide an alternative to the dominant view of argumentation as a formulaic structure advocating for a particular position in a singular voice. We also hope the TLDA model that we have generated will provide insights for the teaching and learning of dialogic argumentation and promote actual improvements in students’ argumentative writing based on the Sophisticated Argumentative Writing model.
We acknowledge that we have barely touched upon the issues in our findings and current suggestions, but we hope to have opened some new doors to research and of the teaching and learning of dialogic argumentation based on dialogic views of rationality. We hope that future research can further examine, confirm, extend, revise, and challenge the Sophisticated Argumentative Writing model and the TLDA Model in other research contexts.
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Appendix A: Prepared student interview questions

Today’s date is 0000, and I am interviewing 000 who is an 11th grader at 0000000. Before we start our interview, it is important to note that you have the right to end the interview at any time, and you do not have to answer any questions you would prefer not to answer.

- **General experiences in learning argumentation/argumnetative writing**
  - How long have you been studying argumentative writing?
  - Tell me about your feelings regarding the study of argumentative writing. Do you like studying it? Why or why not? Do you feel it is important? Why?
  - Can you explain anything about what you learned in this course about argumentation and argumentative writing?
  - After taking this course, are there some changes in your understanding of argumentation or argumentative writing? Or in your ability to do argumentation or argumentative writing?
  - Describe some of your memorable events in learning argumentation. You can describe times when it went well or poorly.
  - Can you remember any favorite lessons or activities while taking this course?
  - Can you tell me about your most successful experience in learning argumentative writing?
  - Did you experience any difficulties in this class?
  - Could you describe some of your memorable discussions in this course?
  - How did you feel about disagreements during discussion? How do you typically respond? When there were disagreements, how were they handled?
  - How do you consider yourself as a writer?
  - If any, in what ways do you think your argumentation has improved in this course?
  - How do you think your argumentation could still improve?

- **Understanding about argumentation/argumentative writing**
  - How do you feel about argumentative writing?
  - What do you think the difference is between a good argument and a great argument?
  - If you needed to explain the concept of warrant to a friend who did not know about it, how would you explain it?
  - If you needed to explain the concept of evidence to a friend who did not know about it, how would you explain it?

- **Understanding about rationality**
  - What would you consider to be an unreasonable argument?
  - What are the signs that a person is not rational?
  - Do you think your arguments are ever unreasonable? If so, in what way? If not, how do you make sure they are reasonable?

Is there anything else you would like to tell me about the learning of argumentative writing that we have not discussed? Thank you!
Appendix B: Prepared teacher background interview questions (IES Grant)

<table>
<thead>
<tr>
<th>Argumentative Writing Project</th>
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<tbody>
<tr>
<td>Interview Protocol: Teacher Background</td>
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Remind participant of his/her rights to end the interview at any time and that they do not have to answer any questions they would prefer not to answer.

Say: “Today’s date is _______ and I am interviewing ______________________ who teaches ____ grade ___ track English language arts at ________________ High School.”

Sessions are audio recorded (video, if possible).

Description of School Context
- School and community relations
- Special qualities/challenges of school
- What is it like teaching there?
- To what extent do the administration and English department and other faculty value writing instruction?
- Any special writing initiatives at school for teachers or students?

Describe your professional background and education, especially as it pertains to teaching English language arts and writing.
- Undergraduate degree
- Graduate work
- Professional activities (e.g., attending conferences)

Describe the students in the class
- Academic abilities
- Writing abilities
- Reading abilities
- Your working relationship with students

Questions about the target class, the curriculum for the class
Tell me about how argumentative writing fits into the course as a whole. How is argumentative writing related to the readings you assign or other parts of your curriculum?
When you began the school year, what do you assume that your students know about argumentative writing? What would you like them to know as they begin the school year and what would like them to know by the end of the school year?

**General Questions about teaching argumentative writing**
Do students seem to like learning to do argumentative writing? How do you know? What do they find engaging? What do they find challenging/easy about learning to do argumentative writing?

Tell me about your most successful experience teaching argumentative writing. Why was it successful?

**Conceptual framework for teaching argumentative writing**
How do you define argumentative writing? What are the key components of argumentative writing? How is it similar to and different from other types of writing?

How would you describe your approach to teaching argumentative writing? What instructional strategies do you view as critical to teaching argumentative writing?

Are there ideas from the Summer Workshop that you plan to develop for teaching argumentative writing?

What are your general goals for teaching argumentative writing? (Prompt for teaching reasoning, considering other perspectives, learning from other people’s arguments, deep understanding of the topic, etc.)

**General experiences in teaching argumentative writing**
How long have you been teaching argumentative writing? How has your teaching evolved over time? Describe some of your more memorable events in teaching argumentative writing (times when it went exceptionally well and times when the instruction did not go well).

If you were to guide a new teacher in teaching argumentative writing, what advice would they give to that new teacher?

Do you consider your students to be good writers of arguments? Why?

Is there anything else you would like to tell me about the teaching and learning of argumentative writing that we have not discussed.

Thank you!
Appendix C: CP 11 English diagnostic test writing prompt

Prompt 1

In some states, legislators have debated whether teenagers should be required to maintain a “C” grade average in school before receiving a driver’s license. Some people think this would be a good policy because having passing grades shows that students are responsible enough to be good drivers. Other people think such a policy would not be appropriate because they see no relationship between grades in school and driving skills. In your opinion, should teenagers be required to maintain a “C” average in school before receiving a driver’s license?

In your essay, take a position on this question. You may write about either one of the two points of view given, or you may present a different point of view on this question. Use specific reasons and examples to support your position.
Appendix D: Handouts that the teachers developed based on Hillock’s (2010) practice

Moving Beyond Simple Arguments:
Using Toulmin Logic to Create Written Arguments

DIRECTIONS: Carefully read the following “Investigator's Report” about the “Slip or Trip” Case. Using different marks or different colored markers/pens, create a key and then identify the argument’s claims, evidence, and warrants:

Dear Chief Jones:

We have concluded our investigation of the death of Arthur Volupides. According to his wife Queenie, she returned home from the country club and began preparing for the arrival of friends (from the club) who would be joining in a few minutes. She then claims that Arthur fell coming down the stairs to get another drink. The hit on the head he took from the fall supposedly killed him. After careful examination of the details, we cannot claim for sure that Queenie Volupides killed her husband Arthur, but we believe beyond a reasonable doubt that the story she is telling is a lie.

First off, the position of the body suggests that there was no way Arthur could have fallen while coming down the stairs. When we arrived at the scene, Arthur’s body was face-up, with his head on the floor and his feet lying on two separate steps. It is highly improbable that someone falling down the stairs would land in this position. When someone falls down stairs, he would most likely either land face-down (or if he did land face-up from slipping, he would be feet first). Also, the momentum from a fatal fall would almost certainly be enough to carry a body farther than to have his feet lying on steps. We don’t know how Arthur’s body ended up in this position, but it is most likely not from falling down the stairs.

Second, Arthur’s physical appearance does not support that he fell down the stairs. Upon examining the body, we noticed that all of Arthur’s clothes were neat; even his bathrobe remained tied. When a body falls such a long distance, the impact would most likely disturb one’s clothes, causing him to become disheveled. An

KEY

THESIS (MAIN CLAIM):

EVIDENCE:

SUPPORTING CLAIMS:

WARRANTS:
examination of the body revealed that the only wound exists on Arthur's head. A fall down several stairs would cause bruises, scratches, and bumps on multiple parts of the body; yet, none of these exist on the corpse of Mr. Volupides.

Also, the physical surroundings around Arthur Volupides are very neat. None of the candles or mirrors on the wall are disturbed, and neither is the rug on which Arthur landed. Generally, if someone falls, he will grab onto everything around him to try to catch himself, and none of the objects in question seem to suggest that this happened. Also, a body falling from several feet would certainly scrunch up the rug. The fact that none of these surroundings are messed up suggests strongly that Mr. Volupides did not fall down the stairs.

Speaking of surrounding objects, the most convincing piece of evidence is the glass that we found resting in Mr. Volupides's hand. According to the neighbors, Queenie was quick to point out he still had the glass in his hand from when he fell, and we found the glass in his hand when we arrived. Someone falling will either drop what he's holding to brace himself, or if he holds onto it, it will break, especially if it's made of glass. Furthermore, we found the glass in Arthur's left hand. Someone walking down the stairs would most likely hold onto the banister—especially if he's drunk, as Queenie claimed—and in the case of the Volupides house, the banister is on the left side of the stairs. It is unlikely that Arthur would have held the glass and the banister in the same hand. All of this offers pretty concrete proof that Queenie was lying, and it furthermore suggests that the glass may have been planted in Arthur's hands after he died.

There are many other arguments that could be made suggesting that Queenie killed her husband, but based on the combination of all of this evidence, we can at least infer that Queenie was lying, which itself suggests that some sort of foul play may have occurred. We recommend further investigation into this case.

CP English 11

The Lunchroom Murder—Investigator’s Report

You have investigated the curious case of Ernie’s Lunchroom murder…you have gathered evidence, thought through possibilities, and tested the logic of various explanations. Now, it is your job to report your findings to your chief. **Type up a report to your superior officer in which you make your argument.** Use what you have learned about logic and critical thinking (i.e. Toulmin argumentation)

_Type your document in the class GoogleDrive folder, but bring a printed copy of your report to class tomorrow because you will be asked to label all of your Toulmin elements in class._

**GRADING GUIDELINES**

**Criteria for A work:**
- Written in **multi-paragraph form**, with clear **thesis (main idea)**, as well as clear **topic sentences** to body paragraphs
- Uses at least 5 **pieces of evidence (preferably more)** to thoroughly address all possibilities and all people in the scene
- Solves the case **accurately**
- Explains evidence logically and accurately by using **clear, specific, and thorough warrants** to build the argument, but also demonstrates evidence of **creative or original thinking**.  *(Impressive critical thinking)*

**Criteria for B work:**
- Written in **multi-paragraph form** OR as **one paragraph**, with a clear thesis (main idea)
- Uses at least **5 pieces of evidence**
- Solves the case **accurately**
- Explains evidence mostly logically and accurately by using **clear, specific warrants** to build the argument, demonstrating **logical thinking**.  *(Solid critical thinking)*

**Criteria for B- or C+ work:**
- Written in **multi-paragraph form** OR as **one paragraph**, with a clear thesis (main idea)
- Uses at least 5 pieces of evidence
- Does not solve the case **accurately**
- Explains the evidence somewhat **inconsistently**, but clearly understands what warrants are and how they function, providing many warrants to develop ideas, demonstrating **somewhat illogical thinking**  *(Uneven critical thinking)*

**Criteria for C work:**
- Written in **multi-paragraph form** OR as **one paragraph**.
- Uses **less than 5 pieces of evidence** and solves case **accurately**
- Uses at least **5 pieces of evidence**, AND:
  - Does not solve the case **accurately**
  - Explains the evidence **inadequately**, showing some understanding of warrants and how they function, but **needs to use warrants more effectively** to build the argument, demonstrating the **need for more thorough thinking**  *(Underdeveloped critical thinking)*

**Criteria for D work:**
- Written in **multi-paragraph form** OR **one paragraph**
- Uses **less than 5 pieces of evidence**
- Does not solve the case **accurately**
- Explains the evidence in a way that **severely lacks development**—showing a very limited understanding of warrants and how they function, demonstrating **problematic thinking**  *(Limited critical thinking)*

**Criteria for F work:**
- Shows severe lack of development or critical thinking
Appendix E: Handout for working towards consensus practice on lifeboat ethics

**Lifeboat Ethics: Who to Save? Who Goes Under?**

In the middle of the night, a large passenger liner hits a gigantic iceberg. The ship, now with a large hole in it, begins sinking. It is only a matter of time before the ship is completely submerged.

People start panicking and jumping into lifeboats. You find yourself swimming in the frigid water up to a lifeboat with fifteen other people; however, this boat can only support nine people. If seven of the sixteen are not eliminated, then the lifeboat will sink, and everyone aboard will die. No other lifeboats are around. How would you decide to proceed? Here are the people in your lifeboat:

1. A doctor. A general practitioner, he is addicted to drugs and very nervous. Age 60.


3. A prostitute, with no parents. She is an excellent nurse who has already saved a drowning child. Age 37.

4. A male criminal who has been charged with murder. He is the man most capable of navigating the boat. Age 37.

5. A man mentally disturbed, who carries important government secrets in his head, age 41.

6. A successful orthopedic salesman and member of the local Rotary Club. Age 51.

7. A young boy, paralyzed since birth. He cannot use his hands, or do anything for himself, so he must be fed by others. Age 8.

8. A married couple. He is a construction worker, who drinks a lot. Age 27. She is a housewife with two children at home. Age 23.

9. An HIV-positive restaurant owner. He is a national gay rights activist. Age 40.
10. A teacher considered one of the best in New York. Age 32.

11. A Muslim Imam. Member of the National Council of Muslim-American Relations. Age 46.

12. A retired man, formally a professor of literature. He has a great sense of humor, showed courage in the Korean and Vietnam Wars, and was in a concentration camp for three years, age 82.

13. A married couple deeply in love, but yet no children. She is studying to be a pharmacist. Age 24. He is unemployed, but volunteers for the homeless. Age 23.

14. Yourself

**Homework Writing Prompt:** Choose the ONE person who you feel most strongly about saving and create a Toulmin paragraph in which you provide logical reasoning to support your argument.
Appendix F: Handout for a great discussion

A Great Discussion...

A student who successfully contributes to a great discussion will:

- Provide insightful and meaningful responses.

- Use specific examples and evidence from texts and the real world to support/construct a point.

- Demonstrate active listening by responding to others’ ideas to build new, insightful ideas (more than “I agree” or “I disagree”). Respectfully disagree with other participants and can explain why by using warranting and backing to make a point.

- Demonstrate active listening by respecting participants while they are speaking, taking and using specific notes while observing.

- Be willing to answer new and challenging questions that arise from discussion.

- Avoid repeating ideas that have already been stated.

The following is a way to assess your discussion skills:

A: I can discuss so well that I can build on what other people say and then take my ideas beyond that in order to make something new.

B: I can discuss well enough that I can build on what other people say.

C: I can participate in the discussion, but I do not further the discussion because I can only agree with what other people say.

D: I only contributed once or twice to the discussion and did not say anything new. I really struggle voicing my thoughts in front of a crowd.

F: I did not do a thing.

According to today’s discussion only, I would grade myself a _____ because...
Appendix G: Reflection handout in the first quarter

<table>
<thead>
<tr>
<th>“Lifeboat Ethics” Reflection: Debriefing and Deep Thinking</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1.</strong> Based on your responses and opinions, and the thought processes and reasons you used to justify your opinions, what observations can you make about your own personal beliefs and values?</td>
</tr>
<tr>
<td><strong>2.</strong> FOCUS ON THINGS PEOPLE IN THE CLASS TENDED TO AGREE UPON AS WELL AS DISAGREE UPON. Based on the way others in the class responded and backed up their responses, what generalizations can you arrive at about your classmates? About people in this school? Do you have any personal thoughts about this? (This is an open-ended question, obviously; your thoughts will be confidential).</td>
</tr>
<tr>
<td><strong>3.</strong> All of the opinions you expressed during this activity stemmed from the warrants of your arguments. Remember, warrants are general rules or principles you believe to be true. You used these personal beliefs to help you interpret the evidence presented to you in order to form and justify your conclusions (claims). Everyone else in the class also grounded their arguments in their own personal beliefs. In other words, not everyone in the class always believed in the same warrants, which is often the case when people make arguments about morals, ethics, and judgments. Therefore, what have you learned about how to build an effective argument when your audience disagrees with your basic beliefs (warrants)?</td>
</tr>
<tr>
<td><strong>4.</strong> What final thoughts, observations, insights or questions do you have about this activity or what you learned (or were supposed to have learned) from it? What would you like to communicate to the teacher about this activity in general? Or, is there anything else important you have thought of as a result of this exercise? Please do not leave this blank, but do some unstructured reflecting on what you gained from the activity. Strive to be deep. Please write your answer to this question on the back of the sheet.</td>
</tr>
</tbody>
</table>
Appendix H: Evidence chart for developing an argument

<table>
<thead>
<tr>
<th>EVIDENCE (specific and relevant)</th>
<th>WARRANT (&quot;As a rule...&quot;)</th>
<th>CLAIM</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
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</tbody>
</table>
Appendix I: A sample of exploring tensions based on their evidence chart from a group of students
Appendix J: Handout for Steve Jobs’ quotation

But is it REALLY that simple?
Investigating Commonly Held Beliefs

The following quotation comes from a commencement speech given by Steve Jobs to the graduating class of Stanford University in 2005:

“Your time is limited, so don’t waste it living someone else’s life. Don’t be trapped by dogma—which is living with the results of other people’s thinking. Don’t let the noise of others’ opinions drown out your own inner voice. And most importantly, have the courage to follow your heart and intuition. They somehow already know what you truly want to become. Everything else is secondary.”

Response questions

1. Summarize the claim Jobs is arguing (that means condense and put it in your own words).

2. Below, create an argument that supports Job’s claim. That involves selecting three pieces of evidence from your knowledge, experience, reading, familiarity with history, pop culture, etc. Any evidence is fair game as long as it is specific and relevant, and as long as you can explain the warrants that connect to evidence to the claim.

<table>
<thead>
<tr>
<th>EVIDENCE (specific and relevant)</th>
<th>WARRANT (“As a rule…”)</th>
<th>CLAIM (rewrite what you wrote for # 1 above)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
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<tr>
<td>3.</td>
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</tbody>
</table>
Appendix K: Handout which includes the poem The Unknown Citizen

The Unknown Citizen
by W.H. Auden

He was loved by the season of Sapphires to be
One against whom there was no official complaint.
And all the reports on his conduct sworn
That in the modern sense of the word, he was a saint.

For it everything he did he served the Greater Community.
Except for the moment the day he retired.
He worked in a factory and never got drunk.
But smiled his employer, Fudge Wunderer.

But he wasn’t much noticed in his town.
For his Union reports he had made us.
(Ours report on his union show it was sound)
And our Social Psychology workers found

That he was popular with his mates and liked a drink.
The press are convinced that he bought a paper every day.
And that his reactions to advertisements were normal in every way.

We must take it in his name, as we have never done before.
And as his health card shows he was once in hospital but let’s see what

The Prisoners Research and High Grade Living declare
He was fully eligible to the advantages of the treatment plan.
And had everything necessary in the Modern Man.
A phonograph, a radio, a car and a frig茫ate.

Our research into Public Opinion are constant
That he held the proper opinion for the time of year.
When there was peace, he was for peace when there was war, he went.
He was married and added five children to the population.
Which our statistic says was the right number for a parent of his

And our teachers report that he never interfered with their

Uncle 32? Was he happy? The question is absurd.
Was anything really wrong, we should certainly have heard.
Appendix L: The handout for final writing prompt for the second quarter in Ms. Vale’s class.

CP English 11 Midterm: Essay Question
2013-2014

Writing Prompt:
After reading Into the Wild, reflect on the following question: Is Chris McCandless a hero? Your response should specify what it means to be a hero. Therefore, you need create a system of evidence that allows your reader to understand how you view Chris as a person, and it should consider the various tensions that surround your argument. Finally, be sure to explain what implications our society might be faced with based upon the answer you have arrived at in your thinking.

Tips:
This is an argument! You need to use everything that you have learned about what makes a good argument… so don’t forget anything.

- Do come out and state your claims
- Do use specific evidence from the text
- Do warrant your ideas
- Do offer backing to your ideas if you think that I’ll disagree with you (which I really like to do because it’s fun!)
- Do discuss the counterargument
  Do offer a rebuttal to the counterargument.
- Do use a strong writing voice.
- And, DO MAKE SENSE!

Evidence Chart: Feel free to use this chart or to build your own if you need more spaces.

<table>
<thead>
<tr>
<th>Evidence</th>
<th>Warrant</th>
<th>Claim</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix M: The handout for final writing prompt for the second quarter in Mr. Moon’s class

What’s the Big Idea?”
Exploring Tensions and Complexities
CP English 11 Quarter 2 Researched Exploratory Essay

GOAL:
To develop and support your own complex idea from the reading, writing, and research you have completed over this last quarter in a four-five-page paper (typed, double-spaced, MLA format)

TASK:
Choose an issue, question, or debate about an idea that does not have an easy answer. You are to suspend your personal judgments and opinions about your topic so that you approach the assignment with an open mind. You will write an account of your thinking process as you investigate this issue/question/debate. Your goal is to examine your issue, question, or debate from a variety of perspectives, assessing the strengths and weaknesses of different positions and points of view. You must also find and integrate the most compelling evidence you can find to explore your topic. You will be rewarded for the depth of your exploration and thinking, not necessarily for arriving at the “right answer.” In other words, your goal is not to present a simplified answer to your question, but to report on the process of wrestling with it.

QUESTIONS THAT MIGHT BE WORTH EXPLORING FOR THIS ASSIGNMENT:

(NOTE: The “answer,” if there is one, to all these questions is “it depends,” but the really interesting parts lie in the exploration of where, how, and why it depends—this is your job as a critical thinker.)

1. What is success? What are some of its competing definitions, and what are their merits and dangers?
2. What risks and rewards accompany being a rebel? Is rebellion worth it?
3. What is failure? Are mistakes valuable?
4. What are the dangers and merits of individuality?
5. What are the dangers and merits of conformity?
6. What causes one to isolate himself/herself? What are the dangers and merits of isolation?
7. What are the dangers and merits of living in a society defined by consumerism? How does consumerism influence the individual?
8. Is knowledge dangerous?
9. Do the rewards associated with risk really outweigh the risk?
10. Is money a must for success? What is money's function and influence?
11. Is education a necessity for success? What really is the point of an education? What does a good education do for a person? What does it mean to be well-educated?
12. How is self-reliance different from selfishness and self-centeredness?
13. Do we have an obligation toward the community? Toward society? What exactly is that obligation? And, how does it relate to our obligation toward ourselves?
14. What, really, is the allure of reckless behavior?
15. Your OWN thinking question? The only criteria is that it should be a thinking question that does not have an obvious “answer”

If you think you have “answered” the question, simply ask: “is it really this simple?”

RESEARCH REQUIREMENT:
You will have three days in the library to gather perspectives and evidence to explore in your final essay. All students will be responsible for finding four high-quality sources and evaluating them according to a “Source Approval Form.” Mrs. Poindexter will review these requirements before we begin researching in the library.

For your final paper, you must integrate the following number of sources:
- If you choose to use Into the Wild as one of your sources, you must also integrate two other sources from your research into your final essay.
- If you choose NOT to use Into the Wild as one of your sources, you must integrate three total sources from your research into your final essay.
Appendix N: Lacey’s full final argumentative writing for the second quarter

Conformity within Non-conformity

Conformity is all about contentment. Going with the flow of how society moves and thinks. But, what if that wasn’t an appropriate life style? What if that brought about unhappiness and sorrow? Transcendentalism and its ideas brought about a new movement that didn’t agree with society. According to Ralph Waldo Emerson, “the ‘Transcendentalist’ as one who displays a predominant ‘tendency to respect (his) intuitions’” (Moran). What Emerson is saying is that transcendentalists think with their hearts and not their mind. What I found interesting throughout my research was that the transcendentalist frame of mind was, essentially, the same even though they took an individualistic approach. This, in turn, led me to the question, when looking at nonconformity do people come together? And are people naturally drawn to relationships?

From this point I then dove right into my research. I asked the question is transcendentalism centered around the same beliefs, causing people to come together? Like Gale Student Resources in Context say in their article Transcendentalism, “while the many authors and philosophers affiliated with the movement did not agree on how to define transcendentalism, this very division reflected the individual nature of the movement and proponents’ shared belief that people were responsible for their own choices” (Gale Student Resources in Context). What this organization is saying is that because the individuals didn’t quite agree on the definition of transcendentalism. The fact that they all agreed that people are free to make their own choices brought their ideas together. Which I found interesting because for someone to individually think something through and disagree with someone else, but then have the same beliefs so the ideas somehow connect was very
contradictory. Then I found that even the critics of transcendentalism formed their own group that was centered around the mockery of it. Even the nonconformists of nonconformity formed their own group. In the same article, *Transcendentalism*, Gale Student Resources in Context complicates the matter further when they state, “The *Scarlet Letter* author Nathaniel Hawthorne once lived in a utopian community with transcendentalists and at times their influence is evident in his writings. He ultimately became disillusioned and mocked transcendentalists in his short story ‘The Celestial Railroad’ and other works” (Gale Student Resources in Context). Basically what this source is getting at is that disillusionment caused people to see through the holes in the ideals and beliefs of a certain group. Even esteemed writers like Edgar Allen Poe spoke poorly of transcendentalism. Which I found interesting because wouldn’t people who respected his works not want to follow something that an esteemed writer was not a part of?

Moving forward with my ideas I then questioned if transcendentalism was a healthy way of living. While reading *Into The Wild* by Jon Krakauer, I wondered if the main character Chris McCandless would have made it out if he had realized that completely embodying this life style was not the way. When Krakauer went to interview Wayne Westerberg, a person who had encountered McCandless during his voyage, Westerberg said, “He was so enthralled by these tails, however, that he seemed to forget they were works of fiction, constructions of the imagination that had more to do with London’s romantic sensibilities than with the actualities of life in the subarctic wilderness” (Krakauer 44). Krakauer’s point is that Westerberg was explaining that McCandless would get so wrapped up in what London was saying that he forgot to realize that London wrote in a romantic tone and not a realistic one. So if transcendentalism is so big on finding oneself, why did McCandless follow the ideas of someone else? Which brings me to my next point I found in my research. In the article, *New England Transcendentalism* by Michael Moran, he comments on a point brought up by O.B. Frothingham when he said that, “Frothingham was certainly right when he admitted that transcendentalism was not a synthetic theory of
life but something more like a state of mind” (Moran). Moran’s point is that transcendentalism is something that can help guide someone in life in theory but in practice it’s something that is hard to do. So revisiting what Westerberg said about McCandless, Moran’s point is totally contradicting it. McCandless believed he had to go out on this journey to remove himself from society and Moran said that transcendental ideas should guide everyday life so these two ideas contradict each other.

Krakauer’s Point that I got out of Westerberg said about McCandless was that he saw people like Emerson, Thoreau, and Tolstoy as role models. Then I go to thinking about impacts that influences can have on people. I really got into the question about what influences were seen throughout the transcendentalist movement? And then I got to thinking about the evolution of transcendentalism and how did it exactly evolve? Leading off with the influences, McCandless was very much influenced by the different ‘leaders’ of the transcendentalism movement. Krakauer explains that, “McCandless could endeavor to explain that he answered to statutes of a higher order. That as a latter day adherent of Henry David Thoreau, he took as gospel the essay ‘On the Duty of Civil Disobedience’ and thus considered it his moral responsibility to flout the laws of the state,” (Krakauer 28). What Krakauer is saying about McCandless is that if caught by law enforcement, McCandless could try to explain to them that he was following the word of his ‘gospel’ written by Thoreau his higher power or ‘god’ like figure per say. Moving onto the evolution of conformity, American transcendentalism was derived from European transcendentalism but they were similar and yet different. In Michael Moran’s article New England Transcendentalism he says that because transcendentalism reached America later it ‘lead its exponents to less fluctuating and at the same time less radical programs of social reform, (Moran). He then continues to say that if a German or English romantic started with enthusiasm ideals of the French Revolution by disillusionment from the Terrot thus ending his career a conservative, “Emerson’s disciples felt the outcome of the Revolution as something more distant and, in any
case, European. Their social philosophy was the natural outcome of their reactions to the very different American scene,” (Moran). Basically what Moran is saying is that because transcendentalism wasn’t received in the United States until later so the social reforming wasn’t as dramatic and they didn’t bother with “European” problems so they focused on America. So even from Europe to the United States transcendentalism evolved. Much like these men, McCandless wanted to find himself. McCandless was heavily influenced by these ideals, like I said. But, if McCandless wanted the true transcendental society cleanse why did he try so hard to follow in their footsteps? Why not do something unlike Emerson?

So when sorting through this mess I created, I realized that even if people are individuals they can still believe in the same things. Even though there is hypocrisy surrounding the transcendentalist movement, I’ve come to realize that people need to be gutsy like the transcendentalists. They all followed their intuition and in turn they were happy. Krakuer wrote about McCandless saying, “to symbolize the complete severance from his previous life, he even adopted a new name. No longer would he answer to Chris McCandless; he was now Alexander Supertramp, master of his own destiny” (Krakuer 23). Krakuer is saying that McCandless changed his name to be able to control where his own life goes. Maybe transcendentalists really were saying they were individuals but then wanted someone else to bounce ideas off of? Maybe they really wanted to explore new things and then come back together to form an opinion to give to others? Now looking back at this mess, I have realized that I truly do believe that within non conformity, conformity lives inside of it.

Works Cited
Appendix O: Love triangle handout

Solving the Love Triangle?
GOAL: Use Textual Evidence to Make Logical Predictions (Ch 4-6).

In chapters 4 through 6, Fitzgerald depicts the rekindling relationship between Gatsby and Daisy. At this point, many questions are raised. Will Daisy leave Tom for Gatsby? Is Gatsby using the right strategy to win Daisy's love? Will Tom find out Daisy is cheating, and if so, how will he react? Fitzgerald places many details, descriptions, symbols, and instances of foreshadowing to suggest a conclusion.

Task: Use the T-chart below to jot down any quotations, details, symbols, or instances of foreshadowing that lead you to answer the following question:

Will Daisy leave Tom for Gatsby? What makes you think so?

- You should have plenty of evidence on BOTH sides of the chart.
- You should provide notes with your evidence explaining HOW it leads to a conclusion.
- Somewhere in your chart you should have each of the following:
  - A direct quotation
  - An instance of foreshadowing
  - A symbol
  - A detail

  Note: You need to have much more than four things on your chart, but at least one example of each of the above four categories must be represented on your chart.

Will Daisy leave Tom for Gatsby?

YES

NO
Appendix P: The mystery of heroism handouts

P.1: The Mystery of Heroism Handouts

<table>
<thead>
<tr>
<th>Name: ____________________________________________________</th>
<th>CP English 11</th>
</tr>
</thead>
</table>

“The Mystery of Heroism”
Annotation Homework and Debate Prep Organizer

WHILE READING THE STORY: Mark all textual evidence that COULD suggest that Collins is a hero. Also mark all textual evidence that COULD suggest that Collins is not a hero.

- For each quotation you mark, jot down comments in the margins about WHY you think it is evidence that Collins is or is not a hero.
- While reading you should strive to collect evidence for both sides equally; don’t take a side on the debate until after you finish the story.

AFTER READING THE STORY: Decide your position—Is Collins a hero? Why or why not?—and fill out the debate prep organizer below. You will not be allowed to participate in the debate if you have not annotated the story AND filled out the organizer below.

1. Have you marked your text up to find evidence that could be used to defend BOTH sides of the debate? (You should have multiple examples of evidence for both sides)

   YES   NO    (circle one)

2. Now, decide your position. Is Collins a hero?   YES   NO    (circle one)
3. Give the three **BEST** reasons for your position below. Support each with textual evidence. (bullet points are fine)

   a.

   b.

   c.

4. Explain why your position is stronger than the other side (again, bullet points are fine).
P.2: You Final Say: “A Mystery of Heroism” Exit Ticket

Name: ___________________________________________________ CP English 11

Your Final Say:
“A Mystery of Heroism” Exit Ticket

Learning Goal: Engage with a writer’s purposeful use of ambiguity in order to build a thematic interpretation of a story

Write a well-developed response to the following prompt.

How did this story and debate make you think about your own personal definition of heroism? What do you think is Crane’s message regarding heroism?

Requirements:
- Use at least two textual examples or quotations (preferably more) to develop your ideas.
- Show that you have read the story carefully, that you have listened thoughtfully to the debate today, and that you have reflected on how you define a hero.
- Move past cliché ideas (heroes are brave, heroes help people, etc.)

Write your response below:

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________
Appendix Q: Great Gatsby essay organizer handout
React: This is the part of the thinking where your interaction begins. You need to connect, ask, and re-observe.

Ask: What needs further explanation? What do you wonder? Just down at least 4 text-based questions.

Vocabulary: What are the unfamiliar words you need to know from this text? Just down words AND definitions.

Connect and Re-observe: What do your observations remind you of? What patterns do you see? What could stand for something else (symbol)? Why?

Interpret: Explain the multiple interpretations that this passage might have. How can you explain what this means? You should have several, no matter how “wrong” they may seem, put them down. You can sort them out later. Remember to see complexity, originality and significance. A bullet-point list is fine, but remember to look literal AND figurative.

Now, put it all together:

State: Now that you’ve done some thinking, take a stab at an idea. ONE idea. (This may not be the only idea. That’s okay.) What is the idea all your thinking points to? It should be an observation that gives insight into the book’s larger themes. Be careful so that you are NOT less profound here than you were in your questions.
Now, carefully re-examine the entire novel, and locate **three scenes** that also develop the topic you stated above. The best scenes will closely connect with, develop, or even perhaps challenge the idea of your pinpoint passage.

SCENE 1: Chapter____ Pgs.____ Summarize:

Relevant quoted textual evidence:

Why did you choose this scene/how does it build your idea?

SCENE 2: Chapter____ Pgs.____ Summarize:

Relevant quoted textual evidence:

Why did you choose this scene/how does it build your idea?

SCENE 3: Chapter____ Pgs.____ Summarize:

Relevant quoted textual evidence:

Why did you choose this scene/how does it build your idea?

Write a **thesis statement** about how and why the idea or impression from your pinpoint passage creates an important idea about the meaning of *The Great Gatsby* as a whole:
Appendix R: Rita’s full argumentative writing for the third quarter

Jay Gatsby, of Higher Class or Impostor?:
The American Dream and Social Class in *The Great Gatsby*

Throughout history, America has represented a place of Freedom, Security, and the belief there is no social class. “The American Dream” is traditionally defined as the belief that anyone, regardless of where they were born or what social class they were born into can achieve success through the social, economic, and political system in America. F. Scott Fitzgerald distinctly shows the flaws in American Society in the 1920’s in his classic book, *The Great Gatsby*. He portrays Gatsby as a man who started out as a “penniless young man without a past” (149), and worked his way up to having “those gleaming, dazzling parties of his” (179). He successfully climbed up the social ladder and has begun to live the American Dream. Fitzgerald is trying to point out that even though Gatsby has worked hard to achieve his wealth and success, he doesn’t realize that no matter how hard he works, he can never fully cross the “indiscernible barbed wire” (148) between social classes. He is trying to make that same statement about the social class system in America being at odds with the thought and ideal of “The American Dream”. Gatsby is constantly trying to “fit in” and be a part of Daisy's higher and wealthier social class. Once Gatsby finally arranges to and meets Daisy, he is compelled to show her all around his house in order to prove his wealth and ability to provide for her. His actions are contradictory because when a person is born wealthy or in a higher class, they usually don't need to openly show off, because it is an inherent part of the way they behave and carry themselves. Fitzgerald presents Gatsby as having achieved the American Dream starting out poor and making his way to the top. As Gatsby tries to win over Daisy with his wealth and new ability to provide for her, Fitzgerald seems to show that climbing up social ladder in America is
not just about working hard; there are other challenges that are usually concealed when discussing the American Dream.

There is one passage when Daisy is visiting him and to try to impress her he begins pulling out all of his clothes and throwing them about on his table. He begins with “I've got a man in England who buys me clothes. He sends over a selection of things at the beginning of each season, spring and fall” (92). Gatsby's goal is clearly to impress Daisy, and by stating that he has someone else buying his clothes for him and shipping them from England, he seems to be trying too hard to appear wealthy and sophisticated. He doesn't realize that she is used to living in opulence and it might not even have occurred to her that he wasn't living the same way. The rules, of the social class he is a part of now, don't come naturally to him; they are forced. He doesn't simply open the cabinets and allow Daisy and Nick to admire all of his beautiful shirts, ties, and suits, “piled like bricks in stacks a dozen high” (92). When he takes out his shirts and begins throwing them on the table, it shows that even though Gatsby has attained a high social status, he doesn't feel he is worthy of Daisy. Since he has had to fight and work hard for his wealth, he feels compelled to convince her that he is a part of her social class.

The types of shirts Gatsby owns are also important to show his move up the social ladder. He throws out, “shirts of sheer linen and thick silk and fine flannel...shirts with stripes and scrolls and plaids in coral and apple-green and lavender and faint orange, with monograms of Indian blue” (92). The variety of shirts he owns flaunts his wealth and also shows that he doesn't simply go with one type of attire. He appears to have a different shirt for every occasion suggesting that he has to dress differently for each one. This further exemplifies Gatsby's desire to be “perfect” and show that he “fits in” with Daisy. Each one of his shirts is made out of special material with his initials monogrammed on them. The simple fact that all of his shirts are monogrammed immediately point to the fact that he is rich because it is the shirts are clearly very expensive and if he is wearing them everyday, he shouldn't need to bring them out to show Daisy; she should already be aware of his wealth. All of this points to
the fact that Gatsby is trying to fit in, so clearly he doesn't already fit in, otherwise he wouldn't have to put in all this effort.

Gatsby and Daisy differ slightly in the question of where they got their fortune, but still they are in the same social class. Daisy acclaimed her wealth through her family, whereas Gatsby got his through illegal business. Even though at this point, Daisy and Gatsby are both at the same place financially, Gatsby doesn't quite belong. He seems to be acting, and simply playing a part, not actually believing that this rich, fancy life of his is a reality. He is an actor putting on a show to win Daisy. He has so many different shirts for every occasion or every different “role” he might have to play. For example, when he first meets Daisy, he is wearing, “a white flannel suit, silver shirt, and gold-colored tie” (84). This is the first time Gatsby is seeing Daisy in five years. Of course he wants to impress her, but he goes over the top. He is wearing colors that are normally associated with kings and queens: people of royalty. It clearly shows his desire to show off to Daisy, but he overdoes it by dressing and associating himself like nobility to get her approval. He also throws all of “those gleaming, dazzling parties” (179) hoping that one day she'll go to one and he will finally get to meet her.

Once Gatsby finishes throwing all the shirts out of the cabinets, Daisy begins to cry into the shirts. Daisy, is described as having a “voice that the ear follows up and down, as if each speech is an arrangement of notes that will never be played again” and that there is “an excitement” in her voice as well (9). She is remembered for the way she talks which generally the people of higher classes were listened to more often and simply have a way about them indicating their upper class status. For Daisy, it was her voice. Later in the book, she is described as being, “high in a white palace the king's daughter, the golden girl” (120). Not only does Daisy have a “voice full of money” she also has a wealthy air about her that everyone notices. Fitzgerald states that Daisy's voice was “muffled in the thick folds” (92). This comes to our attention because there is symbolism to Daisy's voice, it symbolizes the rich, wealthy class from old money. It
is being muffled which leads us to the conclusion that her wealthy, upper class status doesn't mean as much and is “muffled” when she is with Gatsby.

This isn't all that simple because as the reader gets to know more about Gatsby, they find that he doesn't really fit with Daisy in the real world. Gatsby while trying to be a part of her world, develops his own noticeable trait; he throws huge parties, but leaves some parts hidden, such as his past. His guests are constantly trying to figure out who he really is, “somebody told me they thought he killed a man once” (44). Gatsby is clearly gossiped about a lot just as a wealthy person's doings would be gossiped about. His poorer past is obviously unknown to the majority of his guests. As Gatsby is showing his house to Nick and Daisy, Nick notices something, “sometimes, he stared around at his possessions in a dazed way, as though...none of it was any longer real” (91). Gatsby himself seems to be amazed he has all this money and wealth; it's almost as if he can't wrap his head around it. Generally if a person is wealthy and rich by birth, they have acquired an ease with it; they expect it and can't imagine life any other way. This separates Gatsby from others in the higher social class because he wasn't always rich. He started out, “a penniless young man without a past”, (149). He remembers this and sometimes can't believe he actually made it. While Gatsby's reactions are logical and normal, it sets him apart from the upper class he desires to be a part of. He also is unaware of what he should do with all this new money he has acquired; he has had a “toilet set of pure dull gold” (91) installed. If anyone else from the rich, “east egg” saw that, they would probably laugh or snicker because having a pure gold toilet set is unsophisticated and not up to the standards of the upper class. Gatsby, however couldn't possibly know all the rules and standards of the class he so desperately wants to join, because he wasn't raised that way. He didn't grow up learning what he should wear and what he shouldn't; he wears a pink suit to the Buchanan's house and the prestigious Tom exclaims, “An Oxford man!...Like hell he is! He wears a pink suit!” (122). Or what to say and how to say it, or what something meant when someone said it. The upper class was very elite and nothing was ever stated directly, people would skirt around the issue, but never really mention it. This is shown when Daisy professes
her love to Gatsby, she says, “Ah...you look so cool...you always look so cool” (119), Tom picks up on it because he too, was raised in a wealthy family. The last and most important example is when Mr. and Ms. Sloane are at Gatsby's house. As the couple is leaving, they invite Gatsby to a dinner which he is supposed to politely decline as he will not know anyone there. Tom and Mr. Sloane talk about the disgrace Gatsby has just portrayed by not declining, “My God, I believe that man's coming,' said Tom. 'Doesn't he know she doesn't want him? She says she does want him. 'She has a big dinner party and he won't know a soul there”, (103). If Gatsby had been raised in an opulent family he would have known these cues which would have allowed him to pass through the “indiscernible barbed wire” between his social class and the wealthier classes above his.

Throughout the entire book, Fitzgerald shows that Gatsby desperately wants to be with Daisy. In order for him to achieve this dream, he feels he must be a part of her affluent social class and be able to successfully provide for her. At the closing of the novel, Fitzgerald states, “Gatsby believed in the green light, the orgastic future that year by year recedes before us. It eluded us then, but that's no matter—tomorrow we will run faster, stretch our arms out farther...And one fine morning—So we beat on, boats against the current, borne back ceaselessly into the past” (180). The green light Gatsby is constantly trying to reach is his life with Daisy. It is described as, “minute and far way” (21), or impossible to reach. Gatsby still does his best as he undoubtedly wants to go back in time and be with her. Everything he does is to recreate the past; in conversation with Nick, Nick says, “You can't repeat the past”, to which Gatsby responds, “Can't repeat the past?...Why of course you can!...I'm going to fix everything just the way it was before” (110). However, the more he tries, the more futile his efforts become and she begins to pull away. He tries to push against the “current” of time to reach “the green light”, Daisy and his dream of being with her slowly “recedes” and he is left pushing against the “waves” of Daisy's relationship with Tom. The metaphor of the green light not only symbolizes Gatsby's relationship with Daisy, but also the broader topic of the American Dream. It is a symbol of Gatsby trying to reach
towards the “green light” of acceptance in the social circle of the elite but with every encounter he has with them, he is pushed further from his goal.

As Gatsby is reaching for the “green light”, people all over America are reaching toward the higher class and the materialistic culture of the wealthy. They are pushing against the “current” of the fast paced business world and the “waves” are the awkward social encounters they have with people of the higher class because they don’t know the social rules. These encounters little by little assist as as their dream “recedes” before them.

Fitzgerald uses Gatsby in The Great Gatsby to show how in the early 20th century, simply working hard and gaining wealth was not enough to actually move up in society. Gatsby goes from being poor to having some of the best, well-known parties and yet he still is looked down upon by Tom Buchanan and others in that social class. He has done everything he could think of, but because he wasn't born into the upper class, he doesn't truly belong and in reality will never be able to. When he invites Nick and Daisy over and is showing them his house, he pulls out his clothes showing them off to prove his wealth which does not go with the social rules at that time. The social rules and regulations are very important in almost all societies around the world and used to put people “in their place”. Fitzgerald successfully uses the book to criticize how Americans feel that our society is better than others when in reality, we have a social hierarchy system that is the same as others, and it is predetermined by birth in a certain social class.