

EXPLORING SECONDARY WRITING TEACHERS' METACOGNITION: AN AVENUE TO  
PROFESSIONAL DEVELOPMENT

by

JOY ALISON MARTIN

B.A., Hastings College, 1996  
M.Ed., Wichita State University, 2001

AN ABSTRACT OF A DISSERTATION

submitted in partial fulfillment of the requirements for the degree

DOCTOR OF PHILOSOPHY

Department of Curriculum and Instruction  
College of Education

KANSAS STATE UNIVERSITY  
Manhattan, Kansas

2013

## Abstract

Writing teachers teach students to read, write, and think through text. They draw upon their own comprehension to determine if, when, and how to intervene in directing students to deeper, more thoughtfully written texts by encouraging them to monitor and regulate their thoughts—to be metacognitive. Writing itself has been called “applied metacognition,” for it is essentially the production of thought (Hacker, Keener, & Kircher, 2009, p. 154). Yet little is known about the metacognitive practices and behaviors of those who teach writing.

The purpose of this instrumental, collective case study was to explore and describe writing teachers’ metacognition as they took part in two range-finding events in a midwestern school district. Participants were tasked with reading and scoring student essays and providing narrative feedback to fuel training efforts for future scorers of the district’s writing assessments. Each range-finding event constituted a case with fourteen participants. Three administrative facilitators and four retired English teachers participated in both events, along with seven different practicing teachers per case.

The study concluded that, indeed, participants perceived and regulated their thinking in numerous ways while reading and responding to student essays. With Flavell’s (1979) theoretical model of metacognition as a framework for data analysis, 28 distinct content codes emerged in the data: 1) twelve codes under *metacognitive knowledge of person, task, and strategy*, 2) seven codes under *metacognitive experiences*, 3) six codes under *metacognitive goals (tasks)*, and 4) three codes under *metacognitive actions (strategies)*. In addition, three dichotomous themes emerged across the cases indicating transformational distinctions in teachers’ thinking: 1) teaching writing and scoring writing, 2) confusion and clarity, and 3) frustrations and fruits.

The study highlighted the potential of improving teachers’ meta-thinking about teaching and assessing writing through dialectic conversations with other professionals. Its findings and conclusions implicate teacher educators, practicing teachers, and school district administrators to seek opportunities for cultivating teachers’ awareness, monitoring, and regulation of their thoughts about content, instruction, and selves to better serve their students.

EXPLORING SECONDARY WRITING TEACHERS' METACOGNITION: AN AVENUE TO  
PROFESSIONAL DEVELOPMENT

by

JOY ALISON MARTIN

B.A., Hastings College, 1996  
M.Ed., Wichita State University, 2001

A DISSERTATION

submitted in partial fulfillment of the requirements for the degree

DOCTOR OF PHILOSOPHY

Department of Curriculum and Instruction  
College of Education

KANSAS STATE UNIVERSITY  
Manhattan, Kansas

2013

Approved by:

Major Professor  
Dr. Lotta Larson

# **Copyright**

JOY ALISON MARTIN

2013

## Abstract

Writing teachers teach students to read, write, and think through text. They draw upon their own comprehension to determine if, when, and how to intervene in directing students to deeper, more thoughtfully written texts by encouraging them to monitor and regulate their thoughts—to be metacognitive. Writing itself has been called “applied metacognition,” for it is essentially the production of thought (Hacker, Keener, & Kircher, 2009, p. 154). Yet little is known about the metacognitive practices and behaviors of those who teach writing.

The purpose of this instrumental, collective case study was to explore and describe writing teachers’ metacognition as they took part in two range-finding events in a midwestern school district. Participants were tasked with reading and scoring student essays and providing narrative feedback to fuel training efforts for future scorers of the district’s writing assessments. Each range-finding event constituted a case with fourteen participants. Three administrative facilitators and four retired English teachers participated in both events, along with seven different practicing teachers per case.

The study concluded that, indeed, participants perceived and regulated their thinking in numerous ways while reading and responding to student essays. With Flavell’s (1979) theoretical model of metacognition as a framework for data analysis, 28 distinct content codes emerged in the data: 1) twelve codes under *metacognitive knowledge of person, task, and strategy*, 2) seven codes under *metacognitive experiences*, 3) six codes under *metacognitive goals (tasks)*, and 4) three codes under *metacognitive actions (strategies)*. In addition, three dichotomous themes emerged across the cases indicating transformational distinctions in teachers’ thinking: 1) teaching writing and scoring writing, 2) confusion and clarity, and 3) frustrations and fruits.

The study highlighted the potential of improving teachers’ meta-thinking about teaching and assessing writing through dialectic conversations with other professionals. Its findings and conclusions implicate teacher educators, practicing teachers, and school district administrators to seek opportunities for cultivating teachers’ awareness, monitoring, and regulation of their thoughts about content, instruction, and selves to better serve their students.

# Table of Contents

List of Tables .....	xii
Acknowledgements.....	xiii
Dedication.....	xiv
Preface.....	xv
CHAPTER ONE - INTRODUCTION.....	1
Overlays of Conceptual Framework.....	3
Theoretical Model of Metacognition .....	3
Metacognition and the Reading-Writing Connection.....	6
Metacognition and Reading Comprehension.....	7
Metacognition and the Writing Process.....	8
Teacher Effectiveness .....	11
Writing Teachers.....	12
A Midwestern State Story.....	14
Statement of Problem.....	16
Purpose of Study.....	18
Research Questions.....	18
Significance of Study.....	19
Limitations and Assumptions of the Study.....	20
Definitions of Terms.....	21
Organization of Study.....	23
CHAPTER TWO – LITERATURE REVIEW .....	25
Theoretical Underpinnings .....	25
Social Constructivism Theory.....	25
Zone of Proximal Development.....	26
Cognitive Apprenticeship .....	27
Inner Speech.....	29
Internalization .....	31
Social Cognitive Theory .....	32
Modeling.....	32

Agency .....	33
Self-efficacy .....	33
Self-regulated Learning .....	34
Related Research.....	36
Relevant Research on Metacognition .....	36
The Advent of Metacognition as a Researchable Phenomenon.....	37
Teachers’ Interactivity in Literacy Instruction .....	39
Instructional Conversations .....	45
Thoughtfully Adaptive Teaching.....	50
Teachers’ Metacognition .....	53
Relevant Research on Adaptive Expertise .....	58
Characteristics of Expert Teachers .....	59
Writing Teacher as Model Thinker.....	64
Teacher Response to Student Writing.....	68
Writing Teachers’ Training.....	69
Summary.....	72
CHAPTER THREE – METHODOLOGY .....	73
Research Design .....	74
Pilot Study.....	75
Setting .....	78
Participants.....	79
Participant Demographics .....	80
Range-finding Process .....	82
District’s Range-finding Protocol .....	82
Data Collection .....	85
Observations and Field Notes .....	85
Annotated Rubrics .....	86
Digital Audio Recordings .....	87
Focus Group Interviews .....	87
Individual Interviews .....	88
Phase One of Data Collection.....	88

Phase Two of Data Collection .....	89
Phase Three of Data Collection .....	89
Data Analysis .....	91
Phase One of Data Analysis.....	92
Phase Two of Data Analysis.....	92
Phase Three of Data Analysis.....	93
Establishing Trustworthiness.....	93
Credibility .....	94
Transferability.....	94
Dependability .....	95
Confirmability.....	95
Role of Researcher.....	96
Summary.....	96
CHAPTER FOUR – RESULTS: PHASES ONE AND TWO .....	98
Phase One - Within Case Analysis of Framework Codes .....	99
Phase Two - Within Case Analysis of Content Codes.....	100
Metacognitive Knowledge of Person.....	103
Intra-individual Knowledge of Person.....	103
Preferences.....	103
Tendencies .....	104
Insufficiencies.....	106
Inter-individual Knowledge of Person.....	108
Comparisons .....	108
Contrasts .....	109
Presumptions.....	111
Universals of Cognition .....	113
Elusiveness of Thought.....	114
Metacognitive Knowledge of Task.....	114
Scoring and Training.....	115
Writing and Writing Instruction.....	116
Rubric Components .....	119



Metacognitive Knowledge of Strategy .....	122
Scoring .....	122
Reading Comprehension.....	125
Metacognitive Experiences.....	128
Epiphanies.....	128
Recollections.....	129
Revelations.....	131
Awareness .....	133
Reflections .....	135
Verbalizations of Indecision .....	141
Questions.....	144
Metacognitive Goals (Tasks) .....	147
Pronouncements.....	147
Resolutions.....	149
Conclusions (derived).....	150
Modifications .....	151
Justifications .....	152
Recommendations.....	156
Metacognitive Actions (Strategies) .....	157
Steps.....	158
Challenge Questions .....	161
Requests .....	162
CHAPTER FIVE – RESULTS: PHASE THREE .....	164
Case Differences .....	164
Case Similarities .....	165
Teaching and Scoring.....	166
What Teaching Writing Requires .....	167
What Scoring Writing Requires.....	170
Confusion and Clarity .....	172
Conceptualizing Rubric Content.....	172
Seeking Clarity.....	174

Frustrations and Fruits .....	176
Defensiveness .....	176
Guardedness .....	180
Confidence .....	181
Maturation.....	183
CHAPTER SIX – DISCUSSION .....	186
Summary of Study .....	186
Findings .....	187
Subsidiary Research Question #1 .....	188
Flavell’s Corollaries.....	189
Range-finding as Cognitive Apprenticeship.....	191
Internalization .....	193
Subsidiary Research Question #2 .....	194
Evidence Demonstrating Knowledge of Strategies .....	194
Evidence Demonstrating Utilization of Strategies.....	195
Implicit and Explicit Monitoring and Regulation.....	195
Self-regulation.....	196
Subsidiary Research Question #3 .....	197
Thought-filled Professionals.....	197
Pedagogical Metacognition.....	199
Overarching Research Question.....	201
Significance of Study.....	204
Implications for Practice.....	206
Teacher Educators.....	206
Teachers .....	208
School District Administrators .....	209
Recommendations for Further Research.....	211
Closing Thoughts .....	213
A Writing Teacher Comes Full Circle: A Reflection .....	215
References.....	216
Appendix A – MPS’ 10 <sup>th</sup> Grade Writing Rubric .....	232

Appendix B – IRB Approval ..... 234  
Appendix C – Participant Letter ..... 235  
Appendix D – Participant Informed Consent Form ..... 236  
Appendix E – District Endorsement of Research Study ..... 238  
Appendix F – Rubric Supplement..... 239

## List of Tables

Table 1: Student Results—Statewide Writing Results .....	15
Table 2: 2008-2012 Statewide Writing Assessment Summary Report .....	15
Table 3: Participants’ Demographical Information .....	80
Table 4: Agenda for Range-finding Events .....	83
Table 5: Within Case Analysis Phase One—Framework Codes .....	92
Table 6: Within Case Analysis Phase Two—Content Codes within Framework .....	93
Table 7: Cross-Case Analysis Phase Three—Patterns and Themes .....	93
Table 8: Flavell’s Model with Content Codes.....	101
Table 9: Rubric Points of Differentiation and Definition .....	120
Table 10: Question Patterns in Metacognitive Experiences .....	145
Table 11: Metacognitive Fix-up Strategies.....	160
Table 12: Initial Topics Categorized in Cross-Case Themes.....	166
Table 13: Range-finding as Cognitive Apprenticeship.....	192

## **Acknowledgements**

Thank you, Dr. Larson, for your unparalleled support of me and this study. Your wisdom, encouragement, and kindness boosted me and directed my steps. I am ever grateful for you.

Thank you, Tami and Pat, for opening your minds and your doors to this study idea. You made this experience a professional dream come true.

Thank you, Dr. Goodson, Dr. Miller, and Dr. Curtis, for your insight, counsel, and generosity. You inspired me to dig deeply and to think big and to seek what might be found.

Thank you, Sue, for taking time to read this study through your wise lenses and strong heart. Your guidance as a writer and advocacy for writing teachers are priceless; we are kindred spirits.

Thank you, Shirley, for giving of yourself and your time, again and again. Your graciousness permitted me time to work, to write, and to think—critical components of this project.

Thank you, Dad and Mom, for teaching me the importance of hard work, the necessity of perseverance, and the wisdom to be grateful for every good gift.

Thank you, Joel, Laura, and Will, for having inquisitive minds and noble hearts that remind me of what really matters and inspire me to be a better person.

Thank you, Curt, my best friend, for your constant nourishing and cherishing; you give me courage, strength, and joy.

Above all, thank you, Divine Teacher, for your unfathomable goodness and mercy as you guide with such tender care.

# **Dedication**

To BVM

## Preface

In spring semester, 2009, I left room 201 after my third back-to-back section of Composition II, ruminating. It was rough draft conference week, and I had spent hours reading and talking with students about their papers—questioning, clarifying, encouraging, listening. The last conference of that day resembled many others except for one moment that revolutionized me. The student had struggled to grasp his paper’s focus and substantiate his position with claims, and so I set about working with him to first articulate his opinion and then flesh out his reasoning but found myself caught up in thoughts about my own thinking, mid-action. In that transcendental moment, I grasped the magnitude of the encounter. I was attempting to understand a student’s thinking so that I would know better how to help him see how to make his own thoughts recognizable to himself and sensible to others in written form. The vulnerability and influence and awesomeness of that moment and its responsibilities crystalized, and a personal quest began. *What was this meta-thinking? How extensive was it, and how was it affecting my teaching? What if other writing teachers lived in this intimacy of thought? What if they didn’t?*

## CHAPTER ONE - INTRODUCTION

Teaching writing is not easy. With singular uniqueness, writing teachers and students engage in an exacting process. Student readers become writers of their thoughts; student writers become readers of the thoughts they have written, and writing teachers read and write and talk about students' thoughts reflecting their reading and writing and thinking. Writing teachers come to revere this reading-writing-thinking connection, for they learn that with every literary experience, a reader and writer—participants in mutually-supportive processes—metaphorically “meet” at the text (Smith, 2001). Their interactions with students, then, become training grounds for developing skilled communicators who not only achieve aesthetic and philosophical appreciation for well-written texts (McLaughlin & DeVogd, 2011) but also a deeper understanding of what it means to read and write for understanding, for learning, for transformation; writing requires an awareness and regulation of thought. Hacker et al. (2009) defined writing as “the production of thought for oneself or others under the direction of one’s goal-directed metacognitive monitoring and control and the translation of that thought into an external symbolic representation” (p. 154). In other words, writers take stock of their thoughts and massage them effectively so as to be received and understood. Learning to write well involves thinking and thinking about thinking...and, consequently, the teaching of writing, even more so.

Because writing teachers work attentively with students’ development and regulation of thought, received and expressed, they perceive and address the students’ comprehension of the texts they are studying and generating, i.e., thinking informs exchanges with thinkers about their thinking. Thus, central to their work in developing students’ thinking (cognition) are teachers’ efforts to explicate and exercise their students’ thinking about thinking (metacognitive knowledge and behavior). Such metacognitive skills include knowing what, when, and how to apply certain reading, writing, or learning strategies; knowing how to orchestrate and regulate learning; and knowing how to apply literacy skills to other disciplines or contexts (Gourgey, 1998; Negretti, 2012). Students can be taught to become actively metacognitive learners (Wilson, Grisham, & Smetana, 2009). Simply put, metacognition is “thinking about one’s own thinking and controlling one’s own learning” (Roe, Stood-Hill, & Burns, 2011, p. 152). It is “knowledge and control of one’s own cognitive system” (Zohar, 1999, p. 414)—taking cognitive



activity as its object (Flavell, Miller, & Miller, 2002)—and a means of enhancing academic learning (Paris & Winograd, 1990). Likewise, metacognitive knowledge—which also involves motivation (Roe et al., 2011)—can inform proximate, task-oriented situations and thinkers’ more holistic conceptions of themselves as learners (Desautel, 2009; Zimmerman, 1990; Bandura, 1997). Contrarily, less metacognitively-skilled students “miss the internal dialogue of metacognition, a deficiency that does not allow them to explore their thinking processes” (Joseph, 2010, p. 100). Writing teachers work with students of varying abilities, seeking to maximize their capacities and striving to bring about robust, strategic, thoughtful instruction.

But at its core, this mindful instruction holds a two-fold assumption: the teachers’ *themselves* possess 1) the cognitive sophistication to discern the nature of their students’ comprehension, as evidenced through their writing, and 2) the metacognitive sophistication to know if, when, and how to intervene. In other words, teachers’ metacognitive knowledge and skills in content and pedagogy have the potential to encourage and develop students’ self-regulated learning, as well as their own. Impactful teachers possess understanding about their content and students and use it when making the minute-by-minute curricular and instructional decisions (Pressley, 2005; Wilson et al., 2009; Duffy, Miller, Parsons, & Meloth, 2009). Lin, Schwartz, and Hatano (2005) called this phenomenon “adaptive metacognition”—the adaptation of pedagogical responses and decisions to best suit the proximate learning situation. The National Research Council (2000) named it “adaptive expertise.” Wilson and Bai (2010) referred to it as a pedagogical understanding of metacognition—teachers’ understanding of what is necessary for the teaching of cognition and metacognition, and other literacy researchers have described it as “thoughtfully adaptive teaching” (Duffy et al., 2008). In short, writing teachers’ metacognition is awareness and regulation of their thinking in regards to students’ comprehension and command of text, read and written. While educational researchers have recognized the importance of developing teachers’ metacognitive thought (Duffy et al., 2009; Duffy et al., 2008; Zohar, 1999; Artzt & Armour-Thomas, 1998; Pressley, 2005; Wilson & Bai, 2010; Parsons, 2012), and strong writing teachers, in particular, are in high demand (NWP & Nagin, 2006; Leat & Lin, 2003), scant research addresses teaching teachers about writing instruction (Grisham & Wolsey, 2011). This study sought to explore and describe writing teachers’ thinking to illuminate an avenue for developing professional sophistication.

## Overlays of Conceptual Framework

Teachers' metacognition is a relatively uncharted phenomenon that draws upon multiple bodies of literature: reading comprehension, the writing process, critical thinking, metacognition, teacher effectiveness, and self-regulated learning. This introduction chapter purposefully lays out the conceptual framework for this study in a deliberate yet general manner to better prepare the reader for Chapter Two's more specific review of relevant theory and research.

### *Theoretical Model of Metacognition*

To begin, metacognition is simply defined as one's knowledge and beliefs about one's own cognitive processes and one's resulting attempts to regulate those cognitive processes to maximize learning (Ormrod, 2011). It is a specialized kind of knowledge and skill, which develops over time through personal and educational experiences (Stewart, Cooper, & Moulding, 2007; Pressley, 2005), and is vital to cognitive effectiveness (Gourgey, 1998). Flavell is credited with being the founder of modern metacognitive research (Dunlosky & Metcalfe, 2009). Below is his often quoted illustration of metacognitive activity:

For example, I am engaging in metacognition...if I notice that I am having more trouble learning A than B; if it strikes me that I should double-check C before accepting it as a fact; if it occurs to me that I had better scrutinize each and every alternative in any multiple-choice type task situation before deciding which is the best one; if I become unaware that I am not sure what the experimenter really wants me to do; if I sense that I had better make a note of D because I may forget it; if I think to ask someone about E to see if I have it right. (Flavell, 1976, p. 232)

In his landmark article, "Metacognition and Cognitive Monitoring: A New Area of Cognitive-Developmental Inquiry," Flavell (1979) laid out a theoretical model of the relatively "fuzzy concept" of metacognition (Baker & Brown, 1980; Paris & Winograd, 1990). His early conceptualization of metacognition continues to remain strong and influential in the field (Stolp & Zabucky, 2009). Flavell (1979) explained his model as containing the actions and interactions of four classes of phenomena: a) *metacognitive knowledge*, b) *metacognitive experiences*, c) *goals* (or tasks), and d) *actions* (or strategies). The first phenomenon, *metacognitive knowledge*, can be divided into three major categories of person, task, and strategy

variables. The person category refers to the learner's knowledge of his/her cognitive resources and the compatibility between himself/herself as a learner and the learning situation (Baker & Brown, 1980). An example is knowledge of failing to understand because of a coherent or incorrect representation of something (Nickerson, Perkins, & Smith, 1985). This variable can be further divided into three belief sub-categories: inter-individual differences (She is more socially sensitive than he.), intra-individual differences (I learn better by listening than reading.), and universals of cognition (There are various degrees and kinds of understanding, like attending, remembering, and problem-solving.) (Flavell, 1979). In brief, the person variables encompass everything one understands about oneself and others as cognitive beings (Nickerson et al., 1985). The second metacognitive knowledge category is task knowledge, which consists of self-regulatory mechanisms that assist a learner in problem-solving: checking, planning, monitoring, testing, revising, and evaluating (Baker & Brown, 1980). Through task knowledge, the learner is aware of the inherent challenges in a task and the best approach to take (Nickerson et al., 1985). Task knowledge can be divided into two sub-categories: information available during a cognitive enterprise and task demands or goals (Flavell, 1979), which can be as simple as understanding what a task requires of a learner. The third metacognitive knowledge category is strategy knowledge—understanding which strategies will likely bring about goals and sub-goals in cognitive undertakings (Flavell, 1979)—and recognizing the “relative merits of different approaches to the same cognitive task” (Nickerson et al., 1985, p. 101). Most metacognitive knowledge is a combination of interactions between these three types (person, task, and strategies).

While the first phenomenon in his model is metacognitive knowledge, the second phenomenon is *metacognitive experiences*—cognitive or affective experiences that accompany an intellectual enterprise (Example: I am aware that I still do not understand.) (Hacker, 1998). Efklides (2012) described them as a “window to cognition...subjective feedback on the state of cognitive processing and accuracy of...response” (p. 294). Because they involve metacognitive feelings and judgments [of knowing], they can be flawed (Efklides, 2012). Metacognitive knowledge can give rise to metacognitive experiences, which can lead to the monitoring and regulating of cognitive *goals* (tasks) and *actions* (strategies), Flavell's third and fourth phenomena, respectively. Efklides (2008) argued that metacognition is phenomenon of three

distinct yet interrelated aspects: metacognitive knowledge, metacognitive experiences, and metacognitive skills.

Though researchers and theorists after Flavell have conceptualized and described these major categories in slightly unique ways, his early model is considered foundational. As a bottom line, metacognition theorists and researchers draw a clear distinction between two major components of metacognition: knowledge of cognition and regulation of cognition (Brown, Bransford, Ferrara, & Campione, 1982; Schraw, 1998). Presented here is a skeletal frame of Flavell's model. (See also Dunlosky and Metcalfe, 2009; Livingston, 1997; Pintrich, 2002; Griffeth & Ruan, 2005; Fernandez-Duque, Baird, & Posner, 2000; Hacker, 1998.).

1. *metacognitive knowledge*

- a. person – knowledge about self (and others) as cognitive being(s)
  - i. intra-individual differences
  - ii. inter-individual differences
  - iii. universals of cognition
- b. task – knowledge of specific cognitive task or content domain
- c. strategy – knowledge of the how, why, when of effective strategy use

2. *metacognitive experiences* – cognitive or affective experiences that lead to monitoring and regulating

3. *goals* (tasks) – cognitive decisions (the establishing, abandoning, or revising of goals) resulting from metacognitive knowledge and experiences

4. *actions* (strategies) – activation of strategies aimed at cognitive or metacognitive goals

In his early work with children, Flavell predicted his metacognitive ideas could be morphed into a method for teaching people to improve decision-making and learning...and rightly so.

Nickerson et al. (1985) attested to the edge metacognition brings to learning:

There is a difference between having some information in one's head and *being able to access it when it is needed*; between having a skill and *knowing when to apply it*; between improving one's performance on some particular task and *realizing that one has done so*. It is in part the recognition of such differences that has led to the notion of metacognition. (p. 101) (*The italics are mine.*)

While research has pointed to advancements in metacognitive instruction to improve students' comprehension of text (Paris, Cross, & Lipson, 1984; Pressely et al., 1992; Boulware-Gooden,

Carreker, Thornhill, & Malatesha, 2007; Burchard & Swerdzewski, 2009), little is known about *teachers'* metacognition in literary contexts. Detailed characterizations of qualitative evidence is limited (Duffy et al., 2009) though necessary to give rise to more advanced qualitative and quantitative studies. Exploring writing teachers' thinking and thinking about thinking begins with an understanding of the contextual aspects of writing instruction, namely, the reading-writing connection, which follows.

### ***Metacognition and the Reading-Writing Connection***

Next, we move from metacognition, in general, to the particular metacognitive activity experienced and expected in the English classroom—the hubbub of academic reading and writing. The nature of English teachers' work is situated within the reading-writing connection. At its heart, writing positions students as readers who study and reflect upon mentor texts, and writers, who reciprocate and extend their meaning-making through self-generated writings they shape through repeated readings...no easy task. Essentially, research has recognized bidirectional relations between reading and writing processes (Shanahan, 2006). While reading their own texts, writers engage in the same reading skills as when reading texts written by others (Sitko, 1998). When writers read their own writing, product and process converge. They generate thoughts, monitor and control their ideas and then translate the ideas into writing, continuing to monitor and control their translation (Hacker et al., 2009). Flower (1994) described this notion of control in regards to writing as such:

Metacognition is knowing that you know something and being able to talk about what you know (and what you do not, how your knowledge is organized, etc.) and secondly, about how your thinking operates. The object of cognition about cognition, then, is not only the topic knowledge one possesses but one's own thinking processes and strategies, as well. (p. 226)

Student reader-writers engage in complex, recursive transactions with text (Rosenblatt, 2004) with which the writing teacher is intimately involved, and such work is exacting. Teacher and students learn that good reading and writing masquerade strenuous mental effort, and they come to appreciate the taxing intellectual activity which absorbs and births text. Pieces of writing form through dual composing processes—reading and writing (Tierney & Pearson, 1983). Reader-writers construct meaning while reading and writing; the reader and writer each “adapt

perceptions” about the other “in negotiating what a text means” (Tierney & Pearson, 1983, p. 1). So in the writing classroom, effective learning comes with good thinking and channeled effort (Joseph, 2010); effective learning comes about through active, strategic comprehension as readers and writers, and effective learning requires monitoring of one’s cognitive activities (Baker & Brown, 1980). Metacognition is the key to this comprehension and monitoring (Wilson & Bai, 2010), and it leads to automatic, internalized processes (Pressley, 2002). This meta-knowledge—knowing about how readers and writers interact—and procedural knowledge—knowing how to see from others’ viewpoints and knowing how to analyze and critique—are pivotal (Fitzgerald & Shanahan, 2000) to the reading-writing-thinking work occurring in the English classroom. Yet metacognition’s interactive role within the reading-writing connection can be sub-divided further: metacognition and reading comprehension and metacognition and the writing process.

### ***Metacognition and Reading Comprehension***

Examining the reading-writing connection warrants a careful look at each component in relation to metacognition; the former, reading, is addressed here. Metacognition-and- reading-comprehension pertains to knowledge about and experiences with reading and how it is accomplished (Pressley, 2002). Metacognition has been the focus of an expansive corpus of reading research because of comprehension’s complex cognitive processes that require active engagement and application of strategies (Wilson & Bai, 2010). In other words, effective reading comprehension is heavily dependent upon cognitive and metacognitive factors. Skilled readers are metacognitive readers who utilize pre, during, and post-reading strategies; they know how to work themselves through comprehension pitfalls. Metacognition assists them in detecting and correcting errors of comprehension (Schreiber, 2005). Fisher, Lapp, and Frey (2011) explained that, before reading, skilled readers preview the text, activate appropriate background knowledge, and set a purpose for reading. During reading, skilled readers check understanding, monitor comprehension, integrate new with existing knowledge, and obtain appropriate help, when needed. But they can afford to be choosy. For example, they might decide to skip irrelevant information, re-read, take notes, or pause to reflect, all the while remaining attentive to text structure (Pressley, 2002). They keep tabs on what they understand and what they do not...and then adjust accordingly. Good readers need not apply constant

attention to evaluating their understanding (Baker & Brown, 1980; Sternberg, 1998), but they know to apply an appropriate strategy when an obstacle to comprehension, a “triggering event,” occurs (Baker & Brown, 1980, p. 12). Then once finished, skilled readers summarize, evaluate, and apply (Fisher et al., 2011); this post-reading phase might also include selective re-readings and continued monitoring (Pressley, 2002), if the reader deems such strategies necessary for accurate comprehension.

Contrarily, many children and adults fail to monitor their cognitions, leading to an inability to notice gaps in understanding (Garner & Alexander, 1989). Struggling readers, in particular, show metacognitive deficits in at least ten areas (Flavell, Miller, & Miller, 2002):

- 1) understanding the purposes of reading; 2) modifying reading strategies for different purposes; 3) identifying the important information in a passage; 4) recognizing the logical structure inherent in a passage; 5) considering how new information relates to what is already known; 6) attending to syntactic and semantic constraints—for example, spontaneously correcting errors in the text; 7) evaluating text for clarity, completeness, and consistency; 8) dealing with failures to understand; 9) deciding how well the material has been understood; and 10) attributing successful comprehension to their strategies. (p. 167)

Sizeable deficits in knowledge acquisition typically gained through reading comprehension can occur without adequately developed metacognition. Additionally, illusions of comprehension (Garner, 1990), misrepresentations or inaccuracies about what one thinks he knows, can occur with underdeveloped metacognition. Skilled readers, however, are metacognitive readers who actively engage in and monitor their consumption and use of text and, thus, advance in knowledge.

### ***Metacognition and the Writing Process***

Reading and writing are connected, complementary, and mutually-supported processes fueled by thought. However, metacognition-in-writing is less addressed in literacy circles than metacognition and reading comprehension (Griffeth & Ruan, 2005; Negretti, 2012). Still, English teachers know from lived experience that working with student writers includes working with students’ thinking. Teaching students to write better is teaching them to think better (Nickerson et al., 1985); it follows that teachers’ work with students transcends literal lines of

text. Writing influences thinking, promotes learning, encourages personal development, and forms connections to people and life (Axelrod & Cooper, 2010). Its very difficulty is its virtue (NWP & Nagin, 2006). Neuroscience attests the mental strain of writing. Berninger and Richards (2002) explained that writing places a greater burden on working memory than reading because it “is an immense juggling act,” syncing many jobs (p. 173). Eeking out meaning from an already constructed text requires less executive functioning than constructing and reshaping a text from scratch (Berninger & Richards, 2002). Murray (2004) illustrated the tumultuous mentality of a writer at work:

I may read a draft and feel despair. I’m good at despair. Nothing seems to work. But if I remember my craft I can scan the disaster draft and see that, indeed, it is badly organized; that it does include too many undeveloped topics and lacks focus; that its proportions are all wrong—too much description and too little documentation; that the language is uneven, clumsy, stumbling at times and then, yes, there are moments when the language works, when I can hear a clear and strong voice. I read the strong parts aloud and work—cutting, adding, reordering, shaping, fitting, polishing—to make the voice consistent and strong. As I work on the draft line by line, I find I am following the clear sound of voice I heard in fragments of the draft; I make one sentence clear and direct, and then another, and another. The draft begins to become better organized. I cut what doesn’t belong and achieve focus; I pare back the description; I build up documentation. I work on what is most effective in the draft, and as I make that even more effective, the writing that surrounds it gets attention and begins to improve. (p. 59)

The 1985 “Teaching Composition: A Position Statement” from the National Council of Teachers of English (NCTE) spoke of writing as being a powerful instrument of thought, giving writers a chance to personally develop and effect change in themselves and others. Likewise, David, Gordon, and Pollard (1995) cited the “development of writing ability and metacognitive awareness” to be an essential objective of any English class (p. 525); writing assists students in learning to control their thinking (Kurht & Farris, 1990; NWP & Nagin, 2006). It serves as an agent of transformation.

Writing, then, is a meaning-making activity; students compose thoughts and carefully plan the placement of their ideas (Tierney & Pearson, 1983) based on their purpose for writing, the stance they have chosen, and their perceptions of the reader’s needs. Nickerson et al. (1985)



described writing as relieving thinkers of keeping everything in their heads, consequently, permitting them to “develop lines of thought that would be too complex to keep track of without writing.” Their lines of thought are made permanent and available for further reflection, critique, and evaluation (p. 259). Students’ written products become a window to their understanding; teachers can examine how students use form and content interactively to demonstrate clear thinking (Fisher & Frey, 2007). Because writing is a constructive process, it relies heavily upon higher-order cognitive processes, such as imagining, generating, strategizing, reasoning, problem-solving, classifying, synthesizing, evaluating (Flavell, Miller, & Miller 2002), i.e., comprehension and its regulation. But knowing how and when and why to move from one cognitive process to another requires meta-level skill. Take, for instance, writers at work. They read their writing, rewrite, reread, reflect, and repeat the cycle as needed. Each rereading allows for thinking about the content in a new way, from a slightly adjusted cognitive perspective (Shanahan, 2006), leading to deepened understanding. The execution of these cognitive processes is under the writer’s direct control (Graham, 2006). Hacker et al. (2009) identify reading, re-reading, and reviewing as monitoring strategies and editing, drafting, idea generation, word production, translation, diagnosing, and revision as control strategies; the monitoring and controlling of thought is metacognition. In fact, they argue that writing is applied metacognition.

Writing researchers, Flower and Hayes, would agree. Research shows that writing is goal-directed, that writing goals are hierarchically organized, and that writers employ three major processes to accomplish these goals (Hayes & Flower, 1986). In their cognitive process model of writing, Flower and Hayes (1981) antiquated the traditional view of the writing process as linear sequence (pre-writing, writing, re-writing). They suggested that a more dynamic and hierarchical kind of processing occurs; writers work through a system of major thinking processes (planning, translating, and reviewing) and their respective sub-processes (generating, organizing, and goal-setting; and evaluating and revising), all the while, interacting with task environment and long-term memory factors. But as they work, writers monitor their major and sub-processes. The monitoring serves as the “writing strategist [who] determines when the writer moves from one process to the next” (Flower & Hayes, 1981, p. 374; Hacker et al., 2009)—a highly metacognitive activity.

Essentially, reader-writers’ metacognitive knowledge is about themselves, the tasks they face, and the strategies they employ (Garner, 1987). Thus, reader-writers, engaging in both

reading and writing processes concurrently, work from shared knowledge and draw upon cognitive abilities and linguistic features (Shanahan, 2006)—comprehension, or meaning-making, being their joint goal. Each seeks to reach the other, using skills, strategies, and knowledge to connect (Smith, 2001), though the biggest difference between good and poor readers and writers is in their strategy use, not skill use (NWP & Nagin, 2006), strategies being consciously-selected actions utilized to achieve specific goals (Zimmerman, 2001). Competent comprehenders generate a plan for understanding and use metacognitive knowledge strategically to actualize their goal (Fisher et al., 2011). Thus, accomplished readers and writers exhibit both cognitive and metacognitive behavior, and developing readers and writers need assistance in applying effective strategies at appropriate times so as to be led to higher levels of engagement (Joseph, 2003). Metacognitive teachers can support this development and substantially contribute to students' literary astuteness.

### *Teacher Effectiveness*

Between mounting accountability pressures, educational restructuring discussions, and the Common Core State Standards Initiative (CCSS, 2010), secondary teachers face more arduous responsibilities than ever before. 21<sup>st</sup> century learning calls for a new excellence. The high-tech demands of an accelerated global age move beyond basic competencies (“Framework” 2009). The new learning terrain calls for literate leaders capable of inciting in others the working and thinking skills essential to a dynamic future. Thus, an object of study under the national spotlight is teacher effectiveness (Sawchuck, 2010). The National Council of Teachers of English, in its summary notes of an executive committee discussion on adolescent literacy, promoted professional development endeavors aimed at teacher preparation to foster a “deep understanding of content and the rhetorical nature of literacy” (“Summary,” 1998-2011, para. 7). Likewise, in March 2010, the United States Department of Education released its “Blueprint for Reform,” a document addressing the reauthorization of the Elementary and Secondary Education Act. Listed as its second priority, the Blueprint cites the development of highly effective teachers (“Blueprint,” 2010). Further, the International Reading Association’s Standards for Reading Professionals, Revised 2010 listed “Professional Learning and Leadership” as its sixth standard. Element 6.2 of Standard 6 expressly addressed the teacher’s dispositions toward personal reading and writing, the teaching of reading and writing, and the pursuit of developing

literary knowledge and behaviors (IRA, 2010). Teacher competence is inclusive to discussions of improved literacy development in young adults.

Educational research is also shedding light on improved teacher effectiveness. Evidence shows that teacher quality matters (Bean, 2009; Darling-Hammond, 2000). In consecutive studies, Sanders and Horn stated that the students' teacher reigned as more influential in achievement gains than other factors (as cited in Bean 2009). Ruddell (1995) characterized influential literacy teachers as persons who "possess in-depth knowledge of reading and writing processes as well as content knowledge...who understand how to teach these processes effectively in their classrooms" (p. 465). Substantive professional development has the potential to guide delivery structure and learning activities to improve pedagogical knowledge and teaching skill (Rosemary, 2005; Morewood, Ankrum, & Bean, 2010). The current secondary literacy landscape poses new demands in teacher education and professional development—with the teacher's knowledge of and adaptability to content, pedagogy, and self at the forefront.

### ***Writing Teachers***

Effective teachers are typically described in metacognitive terms (Duffy et al., 2009). "The best teachers," said Pressley (2005), "have sophisticated understanding of their own thinking and their students' thinking," influencing their "instructional decision-making" (p. 394). They are thoughtful and attentive. They approach teaching philosophically—probing the foundations of thought and giving reasoned consideration to others' thoughts (Paul, 1990). This kind of intellectual charity is especially pertinent in writing instruction, where the teacher intervenes in the students' reading, writing, and thinking processes, teaching them what to do as they write (Hayes & Flower, 1986). English teachers, in a sense, induce the students' involvement in process (Dyson & Freedman, 1990) and, figuratively, travel alongside them. This kind of complex teaching requires "the construction of plans and making of rapid on-line decisions" in an environment where much of the information needed for problem-solving comes in the midst of the activity (Leinhardt & Greeno, 1986, p. 75). Griffith and Ruan (2005) explained the goal of metacognitive instruction to be "develop[ing] metacognitive awareness and self-regulatory mechanisms to support problem solving when... engaged in literacy-related activities" (p. 12). Writing instruction, then, is assumed to be metacognitive instruction.

While metacognitive instruction emphasizes helping learners monitor and regulate their thinking and learning, writing teachers' metacognition is concerned with adaptation to the environments in response to a multitude of instructional factors (Lin, Schwartz, & Hatano, 2005), stimulating growth from self-awareness and self-regulation and increasing the capacity for empathetic and sensitive awareness of learning (Paris & Winograd, 1990). Any practicing writing teacher knows that no teachable experience is the same, that each day brings new challenges and opportunities. Lin, Schwartz, and Hatano (2005) explained that many regular teaching scenarios contain hidden or implicit factors that lead to more sophisticated kinds of instructional decision-making. For example, knowledge, beliefs, and goals are ongoing, systematic components of teachers' metacognitive thinking, typically spanning their pre-active (planning), interactive (monitoring and regulating), and post-active (assessing and revising) work with students (Artzt & Armour-Thomas, 1998). An even closer look at an effective writing teacher's work reveals a refined understanding of tending students' thinking. Schallert and Kleiman (as cited in Baker & Brown, 1980) identified four skills effective teachers utilize when helping students comprehend. They 1) tailor the message to the students' levels of understanding, 2) regularly focus students' attention on key points, 3) incite students' monitoring through suitable questions, and 4) activate prior knowledge (schemata) to assist students' assimilation and accommodation of new knowledge. Common to each of these criteria is a prevailing attentiveness to the uniqueness of each student as a thinker and learner; teachers must, in a sense, position themselves as the learner, to see as the learner sees. Ross and Gibson (2010) would concur. They declared expert teaching as an "application of teachers' knowledge" and "concomitant understanding of the students' meaning construction process" (p. 176). They explained that experts in any domain possess significant understanding of content, perceive meaningful patterns, apply knowledge in variable contexts, and retrieve information effortlessly due to highly organized chunking of information (Ross & Gibson, 2010). Expert teachers exercise expert noticing.

The English classroom—a social environment complicated by its sensitive implications—is rife with cognitive and metacognitive responsibilities and implications. Writing teachers must monitor and tend students' reading comprehension, critical thinking, and reflective thinking with and through class readings and self-generated writings, and they orchestrate these complex intellectual activities by encouraging students' generation, clarification, and expression

of thought in ways respectful to different rhetorical situations. They must be teachers who look for potential, as Graves (1983) would say. They do not follow a single, universal heuristic for optimal progress in all scenarios they encounter in class. Each class, each student, each day is different. Rather, they draw upon vast sources of knowledge about themselves, their content, their students, and the instructional demands to determine best-case solutions, repeatedly. Writing teachers' work with students is heavily influenced by their own thought processes—their metacognitive knowledge, experiences, goals, and actions.

### *A Midwestern State Story*

The context of this study was the result of state-level and district-level efforts to improve writing instruction and students' writing performance. One midwestern state's story sparked the setting. For about twelve years previous to 2011-2012, the state utilized a holistic scoring rubric fashioned after the Six-trait Writing Model (Spandel, 2008) for a writing assessment that was essentially pass/fail. However, as Spandel (2008) pointed out, holistic scoring moves writers' "strengths or problems...up or down the scale together" (p. 21). This results in minimal isolation and identification of students' skill level at each trait, thus, leaving scant detailed data to inform teaching practices. In an effort to "raise the bar," the state markedly changed the scoring and administration of its state writing assessments during the 2011-2012 academic year. Its Director of Statewide Assessment explained that in preparation for spring testing of 2011, the State Board of Education approved more rigorous writing standards and an analytic scoring rubric (personal communication, June 11, 2012). The new rubric's domains were tightened into four, weighted categories: ideas & content, 35%; organization, 25%; word choice/voice, 20%; and sentence fluency/conventions, 20%. The writing assessment also moved from a paper/pencil test to an online, "on demand" format (personal communication, June 11, 2012). Expectations were set that the writing process taught in grades 8 and 11 should lead students to be "college and career ready" (personal communication, June 11, 2012).

Applying the State Board-approved higher cut scores to the 2012 writing results, the state's Department of Education determined that 23% of 8<sup>th</sup> grade students exceeded standards, 40% met the standards, and 36% fell below standards. The 11<sup>th</sup> grade results were similar. 27% of students exceeded standards, 35% met standards, and 38% fell below standards. See Table 1 for a visual display. These figures varied significantly from the previous years' results, 2008-

2011, where the majority of students met or exceeded standards. The 2012 column in Table 2 provides combined percentages for those students meeting and exceeding standards in 8<sup>th</sup> and 11<sup>th</sup> grades.

**Table 1: Student Results—Statewide Writing Results**

Grade Level	Average Scale Score*	Total # of Students	% Below the Standards	% Meeting the Standards	% Exceeding the Standards
8 <sup>th</sup>	44	20,822	36%	40%	23%
11 <sup>th</sup>	44	21,030	38%	35%	27%

\* The scale score range for 8th grade and 11th grade is 0 - 70.

**Table 2: 2008-2012 Statewide Writing Assessment Summary Report**

Percentage of Students Meeting Standards					
Grade Level	2008	2009	2010	2011	2012
Grade 4	91%	90%	88%	89%	92%
Grade 8	93%	95%	94%	89%	63%
Grade 11	94%	94%	94%	pilot year	62%

\*92% for 4<sup>th</sup> grade reflects the old scoring process. 4<sup>th</sup> grade will convert to the new scoring process for 2013.

Though a stark contrast from its past performances, the state’s Department of Education chose to view the writing results as a baseline, an opportunity to begin anew with more rigorous standards and expectations for writing instruction and performance. The revised analytic scoring rubric and performance level descriptors now give teachers and students a focus for improvement in writing proficiency. Thus, school districts in the state are currently looking into various avenues of professional development to enrich writing instruction and teacher training.

Of prominent interest to this study was a district near a larger metropolitan area—the third largest public school district in the state. In addition to assimilating itself to state-wide expectations, this district had also been undergoing parallel revisions to its district writing assessment, administered in grades 3, 5, 6, 7, and 10. The Director of Assessment, Research, and Evaluation for the district explained that during the 2011-2012 academic year, the district refined its writing rubrics—in a manner similar to the state—for the elementary, middle school, and high school levels, making them more applicable to and functional for classroom instruction. The new rubrics and writing prompts were then field-tested, resulting in a corpus of student essays which were to be used for three range-finding processes (Goldberg, 2012) during the 2012-2013 academic year: grades 3/5, grades 6/7, and grade 10 (personal communication, July 31, 2012). The range-finding events for 10<sup>th</sup> grade expository essays and 10<sup>th</sup> grade persuasive essays were

the basis of this completed study of secondary writing teachers' thinking. More detailed information about the district and the 10<sup>th</sup> grade range-finding process follows in Chapter Three.

### **Statement of Problem**

Little is known about writing teachers' thinking processes. Classroom teachers, composition professors, teacher educators, educational researchers, curriculum specialists, literacy specialists, administrators, and school districts (particularly the district site location of this study) can benefit from the findings and conclusions of this instrumental, collective case study. Exploring and examining the manifestations, perceptions, and regulation of writing teachers' metacognition while reading and responding to students' papers could illuminate ways to improve writing instruction. True, extensive amounts of metacognition research has occurred over the past thirty-plus years in multiple areas—developmental psychology, experimental psychology, cognitive psychology, neuropsychology, and educational psychology (Efklides, 2008). Additionally, research has led to advancements in metacognitive strategy instruction to improve students' comprehension of text (Paris et al., 1984; Pressely et al., 1992; Boulware-Gooden et al., 2007; Burchard & Swerdzewski, 2009), but, however, little is known about *teachers'* metacognition and its potential influences on students' cognitive and metacognitive abilities in literary contexts. Yet metacognition is critical for “helping teachers become adaptive experts” (Hammerness et al., 2005, p. 376). Research on teachers' metacognition, in general, is a work in progress; researchers assume that instructional effectiveness, demonstrated through student achievement, is related to teachers' metacognition (Duffy, Miller et al., 2009). But getting to the point of establishing the magnitude of this relationship—and how to further develop teachers' metacognitive thought—begins first with some initial probing into its essence. We need to have a good idea of what metacognition in writing teachers looks like, how it evidences itself, in order to tap more weighty research questions—which was precisely the intent of this study.

An exhaustive search of writing teachers' metacognition in English/reading/literacy classrooms at both secondary and post-secondary levels uncovered no studies directly related. However, a handful of studies were discovered regarding pre-service teachers' metacognitive knowledge, experiences, and skills and a recently growing body of literature on “thoughtfully adaptive teachers” (Duffy et al., 2009; Parsons, Williams, Burrowbridge, & Mauk, 2011; Parsons

et al., 2011; Duffy et al., 2008; Parsons, 2012). The scarcity of relevant research in writing teachers' metacognition is not surprising, given the challenges inherent in studying metacognition: the conflicting use of related terms (metacognition, adaptivity, self-regulation, and reflection), the difficulty of documenting the extent of teachers' thinking, and the dispositional/affective aspects of metacognition (Duffy et al., 2009). Yet at the beginning of this 21st century, where critical reading, writing, and thinking are topics of prominent concern (Manzo, Manzo, & Thomas, 2009) and many students are unprepared to engage in the mental demands of their coursework (Moss & Bordelon, 2007), we do well to turn our attention to the introspective exploration of sophisticated writing instruction: (i.e., teachers in "metacognitive control of their work") (Duffy, 2005, p. 306). Researching teachers' metacognition, then, implicates writing instruction. This study's exploration and description can facilitate teacher self-analysis, support teacher learning in developing the expertise necessary for effective metacognitive literacy instruction (Griffeth & Ruan, 2005), and inform more sophisticated professional development measures.

Bottom line, an English teacher's cardinal responsibility lies beyond the age-old concerns regarding students' knowledge of rhetorical strategies and their usage and command of Standard English: it is the manifestation of students' active, metacognitive engagement with thought so as to respond and produce text: to read and write to know. Such literary development is of singular importance because it leads students to negotiate meaning in and think critically about their lives—both inside and outside of school (Vacca & Alvermann, 1998). Helping students become thoughtful with texts they read and write means knowing how, when, and why to engage them in both cognitive and metacognitive endeavors (Vacca & Vacca, 2007) so that they can become more adept at reflecting and thinking critically (Ketch, 2005, p. 8). These tacit mental actions can be tended through meaningful interactions with pedagogically metacognitive and self-regulated teacher-learners who bring about deep thinking about thinking with text for the sake of producing new text. Studying experienced teachers can assist in the search for more information about the tasks and teacher behaviors educational research has found to be important (Berliner, 1986). It is worth our time to learn more about mental ways of sophisticated writing teachers.



## **Purpose of Study**

Using an instrumental, collective case study approach, this qualitative study sought to explore and describe experienced writing teachers' metacognition when reading and responding to student essays during a district's two range-finding events (Goldberg, 2012) in a midwestern state. Each range-finding event constituted a case, containing fourteen participants each. They participants were tasked with reading and scoring 10<sup>th</sup> grade expository essays and 10<sup>th</sup> grade persuasive essays, respectively, using the district's analytic scoring rubric. Their scores and accompanying narrative comments will be used to train future scorers of the district's writing assessments and to inform additional professional development initiatives. Teachers, administrators, instruction specialists, teacher educators, and researchers are seeking ways to improve writing instruction; thus, this study examined sophisticated teachers' thinking practices situated around the core of writing instruction: reading and responding to student essays. Throughout both range-finding events, I collected data as team members trained using the district's rubric, reviewed previously scored essays, practiced scoring as a whole group, read students' papers individually and collaboratively, though aloud, evaluated, discussed, rated writing quality, came to consensus, and reflected upon their own thinking processes during and after their reading and responding. The study remained open to the teachers' manifestations and perceptions of their own metacognition and self-regulation and all implicit and explicit means used to influence their own and other teachers' development and performance in reading comprehension, writing process, critical thinking, and metacognitive processing. Intensive time in the field gathering multiple forms of data, in addition to within-case and cross-case data analysis (Creswell, 2007), gave rise to a robust exploration and rich descriptions of this construct in relation to literary practices and instruction—in this specific midwestern school district and beyond. Detailed information of the research design is discussed in Chapter Three.

## **Research Questions**

Using Flavell's theoretical model of metacognition as its structure, this instrumental, collective case study used the following overarching and subsidiary research questions to frame and guide its data analysis (metacognitive knowledge, metacognitive experiences, goals, and actions). The theoretical framework, however, did consider the self-regulated learning perspective when collecting and analyzing data to account for the writing teachers' thinking

processes in relation to “complex interactions among the social psychological variables of motivation, emotion, and behavior” (Zimmerman, 1990; Stolp & Zabucky, 2009).

### **Overarching Research Question**

How do secondary English teachers perceive and regulate their own thinking when reading and responding to student essays?

### **Subsidiary Research Questions**

1. What evidence of English teachers’ metacognition emerges in response to student essays?
2. What strategies do English teachers use while reading and responding to student essays?
3. How do English teachers’ perceptions of their thinking impact their reading of and response to student essays?

### **Significance of Study**

This study sought a deeper understanding of writing teachers’ metacognitive thinking practices and behaviors—as shown in their external manifestations and verbalized self-perceptions of metacognition while engaged in their craft. It has the potential to highlight the complex and interactive components of teachers’ metacognition, to highlight thinking patterns and behaviors of teachers known as sophisticated, to highlight the impact and extent of teachers’ thinking when intensely engaged in their work, and to highlight potential avenues of professional development in thoughtful writing instruction. Since the inception of Flavell’s theoretical model of metacognition, research studies have noted the influences of metacognition on students’ self-reflection and academic and personal development (Joseph, 2003, 2010); however, few studies have examined the sophisticated teacher’s metacognition and self-regulated learning and their influence on the students’ reading and writing (Zohar, 1999; Wilson & Bai, 2010) or, further, how to encourage and improve pedagogical metacognition in practicing teachers. Their own metacognitive awareness, brought about by conscious study and practice of metacognitive activities, would better equip them for assisting students (Wilson, 1985), as a “necessary condition for teaching students to be metacognitive is a pedagogical understanding of metacognition” (Wilson & Bai, 2010, p. 270). In sum, this study attempted to arrive at new

information about teachers' knowledge of and experiences with metacognition in regards to teaching writing so as to better describe sophisticated pedagogical practices and behaviors.

### **Limitations and Assumptions of the Study**

This study did pose some limitations. First, its intent was to explore and describe so as to better understand an essence, and from the onset, it did not provide a decisive definition or even a standard description of a metacognitive teacher. It remained open to what emerged through teachers' responses and annotations in the range-finding processes or what they chose to self-disclose in the interviews.

Second, because of its tacit nature, metacognition is typically studied through what participants reveal verbally (oral and written manifestations) and through decision-making. Thus, the data collection methods were largely designed to capture evidence of teachers' metacognition while reading and responding to student essays. The data collection might have been limited to what manifested itself externally or what participants consciously recognized or determined meaningful enough to share.

Third, researchers claim that much of the knowledge expert or highly experienced teachers have acquired about their own thinking and self-regulated learning is often difficult to articulate because of the automaticity they have gained (Randi, 2004; Berliner, 1986). The study participants might not have been able to fully explicate their thinking or meta-thinking processes because of their very fluidity.

Fourth, this collective case study contained two cases. Though the analysis looked deeply within and across cases, this study did not aim for generalizability. Rather, its aim was a penetrating understanding of the phenomenon—a principle facet of qualitative research.

The proposed study also built upon some basic assumptions. First, because of the midwestern district's institutional and financial investment in the range-finding processes, I presumed their selection of retired teachers and practicing secondary teachers from their district to be metacognitive in teaching approach and action. Likewise, these carefully selected participant-teachers were presumed to be more likely to demonstrate expert knowledge of content and pedagogy than novice or more typical teachers.

Finally, my personal experience as a middle and high school English teacher, reading specialist, and college-level composition and development English instructor has led to a

significant interest in teachers' awareness and regulation of their own metacognition in relation to students' command and comprehension of text when writing. This interest extends to my study of writing pedagogy, my colleagues, practicing secondary teachers, and my own teaching.

### **Definitions of Terms**

The following terms are explicitly defined here, as they bear relation to the context of this study's framework and discussion.

1. **Agency** - one's personal capacity to originate and direct actions for given purposes (Zimmerman & Cleary, 2006).
2. **Affective** – an aspect referring to interests, attitudes, and self-concepts (Roe et al., 2011).
3. **Cognition** – the mental process of acquiring knowledge (Costa, 2001).
4. **Cognitive modeling** – thinking aloud to demonstrate a particular thinking strategy (Manzo, Manzo, & Thomas, 2009).
5. **Comprehension** – the strategic, cognitive process of constructing a meaning for text (Mosenthal, Schwartz, & MacIsacc, 1992).
6. **Critical thinking** – self-guided, self-disciplined thinking which attempts to reason at the highest level of quality in a fair-minded way (Paul & Elder, 2009b).
7. **Direct explanation** - teacher's ability to explain explicitly the reasoning and mental processes involved in successful reading comprehension (NICHD, 2000).
8. **Fix-up strategies** – actions taken during study reading to regain the thread of comprehension (Manzo, Manzo, & Thomas, 2009).
9. **Higher-order thinking processes** - intellectually disciplined process[es] of actively and skillfully conceptualizing, applying, analyzing, synthesizing, and/or evaluating (Philippot & Graves, 2009).
10. **Metacognition** – one's knowledge and beliefs about one's own cognitive processes and one's resulting attempts to regulate those cognitive processes to maximize learning and memory (Ormrod, 2011).
11. **Metacognitive control** – regulating an ongoing cognitive activity, such as stopping the activity, deciding to continue it, or changing it in mid-stream (Dunlosky & Metcalfe, 2009).

12. **Metacognitive experiences** – cognitive or affective experiences that may occur as a person completes a cognitive task and are most closely aligned with metacognitive monitoring (Dunlosky & Metcalfe, 2009).
13. **Metacognitive knowledge** – a person’s declarative knowledge or beliefs about how various factors influence the processes and outcomes of any given cognitive task (Dunlosky & Metcalfe, 2009).
14. **Metacognitive monitoring** – assessing or evaluating the ongoing progress or current state of a particular cognitive activity (Dunlosky & Metcalfe, 2009).
15. **Metacognitive reflection** – reviewing through reflection how one carried out a just-completed thinking operation (Costa, 2001).
16. **Metacognitive strategies** – sequential processes that one uses to control cognitive activities and ensure a cognitive goal has been met (Livingston, 1997).
17. **Pedagogical metacognition** – teachers’ understanding of what is necessary for the teaching of metacognition (Wilson & Bai, 2010).
18. **Perception** – obtaining awareness of something through the senses (Costa, 2001).
19. **Range-finding** – the selection of written responses (essays) that are later used as models to train scorers (Goldberg, 2012).
20. **Reading skill** – an automatic action that results in decoding and comprehension with speed, efficiency, and fluency and usually occurs without awareness of the components or control involved (Afflerbach, Pearson, & Paris, 2008).
21. **Reading strategy** – a deliberate, goal-directed attempt to control and modify the reader’s efforts to decode text, understand words, and construct meanings of text (Afflerbach et al., 2008).
22. **Scaffolding** – a process whereby a teacher monitors students’ learning carefully and steps in to provide assistance on an as-needed basis (Wharton-McDonald, Pressley, & Mistretta Hampston, 1998).
23. **Self-efficacy** - a person’s beliefs in or expectations of his/her ability to accomplish a particular task or goal (Zimmerman & Cleary, 2006).
24. **Self-regulation** - the ability to follow one’s chosen plan and to monitor its effectiveness (Paris et al., 1984).

25. **Strategy instruction** – making students aware of purpose of strategies, how and why they work, and when and where they can be used (Pressley et al., 1992).
26. **Transactional Strategies Instruction (TSI)** – an approach to comprehension instruction where students are taught to coordinate a repertoire of strategic processes (Pressley et al., 1992).
27. **Transfer** – the extent to which knowledge and skills acquired in one situation affect people’s learning or performance in a subsequent situation (Ormrod, 2011).

### **Organization of Study**

This chapter introduced the study to explore and describe secondary English teachers’ metacognition while reading and responding to student essays. The chapter included an overview of the conceptual framework, including the theoretical model of metacognition used to guide the research questions and data collection and analysis processes; a specific look at metacognition in reading comprehension and the writing process; teacher effectiveness, from the perspective of writing teachers, in general, and also the proximate situation involving a midwestern state’s writing teachers; statement of problem, purpose of the study; research questions; significance of the study; limitations and assumptions of the study; definition of terms, and organization of the ensuing study.

Chapter Two includes discussion of the study’s theoretical underpinnings, namely, Social Constructivism and the Social Cognitive Theory. In addition, it presents related research in three major areas: relevant research on metacognition, including the advent of the phenomenon as an object of research, teachers’ interactivity in literacy instruction, instructional conversations, thoughtfully adaptive teaching, and teachers’ metacognition; relevant research on adaptive expertise, including characteristics of expert teachers, writing teacher as model thinker, and teacher response in student writing; and relevant research on writing teachers’ training.

Chapter Three includes the full methodology, including discussion of the research design and case study design. In addition, it contains an overview of the pilot study that informed this study and details regarding the study’s setting and participants, the range-finding process that situates the study, data collection methods, an overview of the multi-phase data analysis process used, means of establishing trustworthiness, the role of researcher, and summary of the study.

Chapter Four contains the first part of the results from data analysis. It first explains Phase One, which analyzed the data according to Flavell's (1979) four corollaries of his theoretical model of metacognition. Then it details the results of analysis Phase Two, in which distinct content codes emerged within each of the four corollaries. Detailed results follow in a table as well as a narrative.

Chapter Five contains the results from the third phase of data analysis—cross-case analysis. It begins with a discussion of the two cases' differences. It then moves into discussion of their similarities by describing dichotomous themes which emerged across the cases, and it identifies and explains the sub-categories that emerged within each of the themes.

Chapter Six begins with a summary of the overall study. Then it provides some general discussion of the findings before moving into specific discussion of the three subsidiary research questions and the overarching research question. The chapter follows up the findings with discussion of the study's significance, and then it lays out the findings' implications for teacher educators, practicing teachers, and school district administrators. It then includes recommendations for future research and ends with closing thoughts.

## CHAPTER TWO – LITERATURE REVIEW

A literature review should provide the foundation for contributing to a knowledge base (Merriam, 1998), so this chapter begins with a discussion of the theoretical underpinnings supporting this study of writing teachers' metacognition: Social Constructivism Theory and Social Cognitive Theory. It details theoretical research for relevant aspects of each theory, listed respectively: zone of proximal development, cognitive apprenticeships, inner speech, internalization and, then, modeling, agency, self-efficacy, and self-regulated learning. Following the theoretical discussion, the chapter provides a review of relevant research from two large bodies of literature, metacognition and teacher expertise. The review of metacognition research contains sub-sections for the advent of metacognition as a researchable phenomenon, teachers' interactivity in literacy instruction, instructional conversations, thoughtfully adaptive teaching, and teachers' metacognition, and the review of teacher expertise research looks at characteristics of expert teachers, the writer teacher as model thinker, and teacher response in student writing. It ends with relevant research on writing teachers' training and then a summary. Cumulatively, the chapter gives the reader a context for justifying the study and understanding its potentiality.

### **Theoretical Underpinnings**

This study was influenced by two intersecting theoretical viewpoints, Social Constructivism Theory and Social Cognitive Theory. Both are incorporated under the larger perspective of Social Learning, which emphasizes the role of social interaction in the development of knowledge and learning (Tracey & Morrow, 2006). Though distinct, the two theories' tenets presented here complement and support one another, especially in the context of literacy instruction.

### ***Social Constructivism Theory***

Constructivism is a theory that emphasizes a learner's active construction of knowledge: when actively involved in the learning process, the learner incorporates new knowledge into existing knowledge (Tracey & Morrow, 2006); it is a theory of knowing, not a theory of teaching, but Bransford, Derry, Berliner, Hammerness, and Beckett (2005) stressed that it neither implies all learning is discovery-based nor that direct instruction is harmful. On the contrary, it



merely suggests that teachers consider students' prior knowledge and conceptions when designing instruction (Bransford et al., 2005). Social Constructivism falls under the umbrella of Constructivism but from the perspective of social learning. It holds at its center the role of social interaction in the development of knowledge (Tracey & Morrow, 2006). The prominent theorist of Social Constructivism was Lev Vygotsky. He believed that adults could intentionally foster children's cognitive development and, thus, highlighted adults' assistance of children's cognitive growth (Ormrod, 2011). According to Vygotsky, interactions with adults help children attach meaning to objects and events by "transforming" or "mediating" situations they encounter (2011, p. 39). Though he recognized the importance of biological factors, characteristics, and dispositions (nature), he emphasized the role of nurture (Ormrod, 2011). Four tenets of Vygotsky's theory are especially pertinent to the study of writing teachers' metacognition: zone of proximal development, cognitive apprenticeships, inner speech, and internalization.

### ***Zone of Proximal Development***

Vygotsky claimed that learning and development are interrelated from the beginning of a child's life but that learning should be aligned with his/her developmental level (Vygotsky, 1978); every person has two developmental levels—the actual developmental level and the level of potential development (Vygotsky, 1978; Vygotsky, 1934/1986). With adult assistance, children are capable of achieving more than what would be possible on their own. "The discrepancy between a child's actual mental age and the level he reaches in solving problems with assistance indicates the zone of proximal development" (Vygotsky, 1934/1986, p. 187). A student's potential developmental level is determined through problem solving under adult guidance (Vygotsky, 1978, p. 86). In actuality, children develop more by attempting tasks they are unable to accomplish alone; the challenges stimulate cognitive growth (Ormrod, 2011). The kinds of assistance teachers can provide is often call *scaffolding*. It refers to the assistance competent adults can design and incorporate into learning experiences (Tracey & Morrow, 2006); scaffolding's inverse is fading: the gradual removal of support until students are able to perform tasks independently (Dennen & Burner, 2008). Clark and Graves (2004) called scaffolding "one of the most recommended, versatile, and powerful instructional techniques of constructivist teaching" (p. 570); through scaffolding, the teacher can orchestrate the students' grasp and management of the parts while still maintaining the wholeness of the task at hand

(2004). In their work with different kinds of metacognitive scaffolds (structuring and problematizing), Molenaar, Van Boxtel, and Slegers (2011) differentiated between the *why*, *what*, and *how* of scaffolding. Scaffolding should have a rationale, a targeted learning activity it is mediating to sustain, and a particular nature and design through which it will be delivered. Though their research extended previous literature on individual students by looking at learning in a collaborative setting, they affirmed that metacognitive scaffolds can increase learning outcomes (Molenaar et al., 2011). Teachers can support students' development by working in their zones of proximal development, which Horowitz et al. (2005) stated involves cognizance of and sensitivity to students' readiness.

### ***Cognitive Apprenticeship***

A mode of instruction which can occur within a student's zone of proximal development is the *cognitive apprenticeship*. A cognitive apprenticeship uses cognitive and metacognitive skills and processes to guide learning (Dennen & Burner, 2008); it is type of instruction that makes thinking visible (Collins, Brown, & Holum, 1991), and it rests upon the Vygotskian perspective of the dialectic process—the notion that advancement comes from contradiction (McCaslin & Hickey, 2001). Similar to a traditional apprenticeship that provides on-the-job training between a novice and an expert, a cognitive apprenticeship permits a student to not only learn how to perform academic tasks but also how to *think* about the skills and processes embedded within them (Ormrod, 2011), and it takes place in the midst of a conversational exchange, where the teacher deliberately brings thinking to the surface. It includes mutual dialogues, direct explanation, modeling, and encouragement (Paris & Winograd, 1990; Kellogg, 2008). Thus, Collins et al. (1991) explained that the teacher's thinking must be clear to the student and the student's to the teacher in order to devise and implement methods to bring the student to expert practice. In the course of the conversation(s), "the teacher and the student together analyze the situation and develop the best approach to take, and the teacher models effective ways of thinking about and mentally processing the situation" (Ormrod, 2011, p. 47). But even more, this dialectic exchange allows a student to witness the processes and practices of an experienced or informed "other." Common features of cognitive apprenticeships include: modeling, coaching, scaffolding, articulation, reflection, and exploration (Collins et al., 1991). In a writing class, then, when where written discourse and dialogue are the essential cognitive

tools (Risko, Roskos, & Vukelich, 2005), knowledge and regulation of thinking—both students’ and teachers’ thinking—play prominent roles in this valuable instruction.

The cognitive apprenticeship can give rise to what Risko et al. (2005) described as “graduated mismatching” (p. 326), a dialectic process: in such, the teacher’s questions are gradually mismatched to the students’ thinking to create instabilities, and then they scaffold the reorganization of thinking toward a newer goal. Ruddell (1995) described this process as meaning negotiation, which includes the teacher, student, and classroom community in its context. Strategic questions which require reflection are especially instrumental in such exchanges to bring about students’ thinking about thinking in unique contexts, for they permit lingering and pondering and intellectual wonder. These questions could be framed so as to help students strategically and thoughtfully determine *how* they arrived at the answer (Fordham, 2006). Likewise, Sitko (1998) acknowledged the implications of teachers’ written conversations that encourage reflection about students’ metacognitive awareness of decisions made through the writing process. The teacher’s goal as the experienced other is to match support (encourage) a student’s thinking abilities and then stimulate new learning that improves these abilities (Risko et al., 2005). Thus, the conversations teachers hold and the questions they ask matter.

This theme of cognitive apprenticeship resonates with a model of writing known as knowledge transformation, most frequently found in adults and more sophisticated students (Hayes, 1990). Bereiter and Scardamalia (1987) contrasted *knowledge telling* with *knowledge transformation*—the former model of writing relies upon readily available knowledge. Hillocks (1995) explained that ideas which exist in memory or bits and pieces of text can be directly transferred to paper. But the latter model, knowledge transformation, is a process in which thoughts come into existence because of writing. “Through thinking and restating, these [dribblets take] the form of fully developed thoughts” (p. 10). Transformation of thought implies the exercise of metacognition, for writers consider what the text says, what they want it to say, and the necessary changes to meet their textual goal(s). Accomplished writers differ from novice writers because they possess a host of self-regulatory strategies and can “monitor progress toward goals, identify obstacles, and solve problems” (Bereiter & Scardamalia, 1987, p. 250). Then Kellogg (2008) extended Bereiter & Scardamalia’s (1987) discussion of writing development to include a third, highly proficient stage: *knowledge crafting*, a stage which describes mature writers who aspire to become professional writers. Interestingly, writers in this

most advanced stage are able to sustain and work between three representations in mind at the same time—the author’s ideas, the text-in-process itself, and a potential reader’s interpretation. Kellogg (2008) noted the intense demand this mental activity places on a writer and the need for time, practice, and guidance—explicit and implicit—to foster such development:

It takes at least two decades of maturation, instruction, and training to advance from 1) the beginner’s stage of using writing to tell what one knows, to 2) the intermediate stages of transforming what one knows for the author’s benefit, and to 3) the final stage of crafting what one knows for the reader’s benefit. (p. 3)

The interplay of mental representations stimulates a deeper, more profound understanding of the message to be sent and how and why, leading to more global revisions, and it is primarily limited by the writer’s ability to exercise “executive control” (monitoring and regulating) of his or her working memory where the representations are stored (p. 14). The more automatic the retrieval and monitoring skills become, the less mentally taxing is the writing process. Writers become less egocentric and more aware of readers (Murray, 2004). Kellogg’s three-staged developmental process poses steep implications for teachers tasked with steering students down a “college ready” (CCSS, 2010) path. Teachers can assist students’ sophisticated composing processes using a technique called *procedural facilitation*, special strengthening procedures that make thinking processes and cues explicit so as to ease the burden on working memory for learners; it is a means of supporting students’ efforts before they move on to independence (Bereiter & Scardamalia, 1987; Graham, 2006; Sitko, 1998; Collins et al., 1991). It is, in essence, the scaffolding of procedural cognitive steps in these working relationships that allows student writers to grow as metacognitive self-monitors and self-regulators.

### ***Inner Speech***

Another relevant assumption of Vygotsky’s theory of Social Constructivism involves the interdependence of thought and language. He suggested thought and language are distinct, independent processes in the early years of life, but as children acquire language, their thoughts morph with words; “their socialized speech is turned inward... Language, thus, takes on an intrapersonal function in addition to its interpersonal use” (Vygotsky, 1978, p. 27), i.e., they learn to express their thinking (Ormrod, 2011). He saw language as a symbolic system through which people encode and represent the world—a “cognitive tool” through which culture and

meaning are passed along (Ormrod, 2011, p. 40). A young child's external talk (self-talk)—or egocentric talk, as Piaget called it—is his way of guiding and directing behavior through challenging tasks; it matures into *inner speech* so that children are talking to themselves mentally. Vygotsky (1934/1986) explained the nature of inner speech as such:

Absence of vocalization per se is only a consequence of the specific character of inner speech, which is neither an antecedent of external speech nor its reproduction in memory, but is, in a sense, the opposite of external speech. The latter is the turning of thoughts into words, their materialization and objectification. With inner speech, the process is reversed, going from outside to inside. Overt speech sublimates into thoughts...Egocentric speech [self-talk] is stage of development preceding inner speech: Both fulfill intellectual functions; their structures are similar. Egocentric speech disappears at school age, when inner speech begins to develop. From all this, we infer that one changes into the other. (p. 226)

This internal development has significant ramifications for higher functioning thought processes, for it indicates a movement from the “social, collective activity of the child to his more individualized activity” (Vygotsky, 1934/1986, p. 228). This internal speech serves as the primary vehicle of thought and self-direction (Bandura, 1997), and it implies a conscious distinction between his thought for self and thought for others.

In *Thought and Language*, Vygotsky (1934/1986) provided a “thought-provoking” account of the movement of thought and words through a series of planes. Inner speech is unintelligible to another person; it is almost speech without words or “thinking in pure meanings” (p. 249)—its structure is much whittled down from external speech because the object of thought has already been perceived (by oneself). Vygotsky likened inner speech to a “mental draft,” where ideas and meaning are conceptualized though not lucidly. But he explained that a verbal thought begins from a motive that births the thought (coming from an affective-volitional tendency) and is then shaped, first in inner speech, then in meaning of words, and finally in words to be expressed externally. Inversely then, understanding another's speech is dependent upon understanding not only his/her words or even thoughts...but the motivation behind the thought. Witte (1992) extended this view with the argument that thought can occur independently of linguistic language *and* that the language can serve as an instrument of thought. In either case, the concept of inner speech should be of particular interest to writing teachers

because their work principally involves comprehending, assessing, and guiding students' thoughts through language.

### ***Internalization***

As in the case of inner speech, Vygotsky taught that complex mental processes begin with social activity and become internalized as children use them independently (Ormrod, 2011). "Learning presupposes a specific social nature and a process by which children grow into the intellectual life of those around them" (Vygotsky, 1978, p. 88). Students need to experience higher mental functioning externally with others before internalization of this functioning can occur (Tracey & Morrow, 2006). For example, students who routinely participate in discussions where they are asked to explain how they know or what makes them respond as they do are more likely to internalize such inquiry (Dean & Kuhn, 2003). Brown et al. (1982) discussed the internalization that occurs in mature thinkers who initiate conflict and engage in argumentation with themselves; these experienced thinkers assume the "supportive other" role and then learn how to complete learning tasks on their own, tackle new problematic situations, and, essentially, "learn how to learn" (p. 137). But even then, internalization will be unique to each person. Vygotsky (1978) stated:

Learning awakens a variety of internal developmental processes that are able to operate only when the child is interacting with people in his environment and in cooperation with his peers. Once these processes are internalized, they become part of the child's independent developmental achievement. (p. 90)

Internalization is what leads to transfer, which the National Research Council (2000) defined as the ability to extend what has been learned in one context to new contexts and is dependent upon the degree of mastery of original subject, depth of understanding, and an ample investment of time. Transferring knowledge, skills, and strategies to new situations is the preeminent goal of learning, and it is critically dependent upon metacognition (Burke, 2009; Nickerson et al., 1985; Dean & Kuhn, 2003) and learning about ourselves as learners (Bransford et al., 2005).

Metacognitive models can instigate transfer; this brings us to the next theoretical underpinning: Social Cognitive Theory.

## ***Social Cognitive Theory***

Social Cognitive Theory also falls under the perspective of social learning. Originally known as Social Learning Theory, its developer, Albert Bandura, joined features of Behaviorism with social learning (Tracey & Morrow, 2006). At its core is an emphasis on observational (vicarious) learning. He claimed that people learn more from watching others than from experiencing events themselves (Tracey & Morrow, 2006). This perspective can shed light on what and how people learn by observing others and then, in turn, how they begin to manipulate their own behavior (Ormrod, 2011). Four corollaries of Bandura's theory specifically pertain to writing teachers' metacognition: modeling, agency, self-efficacy, and self-regulated learning.

### ***Modeling***

According to Bandura's Social Cognitive Theory, observational learning includes a *model* (a live or symbolic person we learn from) and an *observer* (Tracey & Morrow, 2006). Effective models demonstrate competence in their field, hold some type of prestige or power, and exhibit characteristics relevant to the learners' personal circumstances (Ormrod, 2011). *Modeling* is a process in which observers pattern their thoughts, beliefs, and behaviors after a model (Schunk & Zimmerman, 2007). Modeling is also a means of promoting internalization (as discussed previously, and self-efficacy and self-regulated learning (Schunk & Zimmerman, 2007), both described below. It can be physical or cognitive in nature (Ormrod, 2011), though Bandura emphasized the importance of thought and interpretation in all observational learning (Tracey & Morrow, 2006). This study touched upon two types of cognitive modeling: models that represented products of effective writing, as demonstrated in the scored essays, and cognitive modeling exercised by the administrative facilitators and writing teacher participants who had had previous scoring experience. The latter is of special importance, for teachers model both cognitive and metacognitive skills for their students (Schraw, 1998). Cognitive modeling has been shown to be especially effective when the model not only shows the learner *how* to complete a task but also *how to think* about the task (Ormrod, 2011). Explicit, overt sharing of thoughts during tasks can make overt thoughts observable and can lead to improved self-efficacy (Bandura, 1997; Schraw, 1998).

## *Agency*

Bandura held that people can exercise control over their behavior—they can be contributors (not sole determiners!) of what happens to them (Bandura, 1997; Bandura, 1989). Zimmerman and Cleary (2006) defined agency as one’s personal capacity to “originate and direct actions for given purposes” (p. 45). Specific to humans is the ability to exercise control over thought processes, motivation, and action (Bandura, 1989). Furthermore, Bandura also proposed the idea of *reciprocal causation*—a mutual influence and interplay between people and their environments. Actions, personal factors (cognitive and affective), and the environment “operate as interacting determinants [of varying strengths at various times] that influence one another bidirectionally” (Bandura, 1997, p. 6). In this way, people make “causal contributions to their own psychosocial functioning” (Bandura, 1997, p. 2). Schunk and Zimmerman (2007) provided the following example of interactions:

For example, one’s personal self-efficacy beliefs about writing an essay can influence one’s writing behaviors, such as choice of literary topics, effort, and persistence. Self-efficacy beliefs also can affect a person’s environment; for example, efficacious students who are trying to write in a noisy social or physical environment may redouble their personal concentration to avoid distractions. (p. 8)

Human motivation and action are not matters of chance or total personal control but of *intentionality* in the context of environment and personal (cognitive and affective) factors.

## *Self-efficacy*

Agency is influenced by and exercised through self-efficacy (Bandura, 1998; Bandura, 1997; Zimmerman & Cleary, 2006)—a person’s beliefs in or expectations of his/her ability to accomplish a particular task or goal. They play a part in a person’s overall sense of self (Ormrod, 2011). Different from self-esteem, which concerns itself with self-worth, self-efficacy is judgment of personal capacity for specific action. For example, a person can recognize he/she is significantly unskilled in the kitchen (low self-efficacy) and still maintain a high sense of self-worth (high self-esteem), or a student can possess high self-efficacy for multiplication problems but a low self-efficacy for oil painting. These beliefs are subjective, focused on activity (not personality traits), domain and context-specific (limited in scope and function), measured against mastery criteria, and determined prior to completing a task (Zimmerman & Cleary, 2006). A



person's belief in his/her ability to accomplish a task makes a difference in the types of tasks or goals he/she selects. "Unless people believe they can produce a desired effect by their actions," said Bandura (1997), "they will have little incentive to act" (p. 3), and so self-efficacy has the potential to affect actions, goals, effort, and perseverance (Ormrod, 2011; Tracey & Morrow, 2006). The thinking processes one exercises can support or hinder achievement.

Specific to this study is Bandura's discussion of teachers' perceived self-efficacy. He (1989) explained that thinking allows us to anticipate events and determine ways of exercising control in daily events. Some activities [especially teaching] "involve inferential judgments about conditional relations between events in probabilistic environments" (Bandura, 1989, p. 1176); they interact with a tremendous amount of information and contend with uncertainties, ambiguities, conflicts, and continual variability. And yet teachers are tasked with constructing learning environments that promote cognitive development—a task which is dependent upon teachers' abilities and self-efficacy (Bandura, 1997)—specifically, their ability to problem-solve complex decisions. Their beliefs of perceived competence can flavor their entire perspective of teaching and receptiveness to instructional practices. Teachers working from a high sense of instructional efficacy, for example, invest more personally, through time and energy, because of their belief in their students' ability to be taught; they are more certain of their ability to bring about desired effects through their pedagogical actions. They tend to persuade and motivate students intrinsically, promoting self-directed learning. Ormrod (2011) also noted that teachers with high self-efficacy more willingly experiment with teaching strategies, sustain higher expectations, and persist longer in helping students learn. Contrarily, Bandura (1997) stated that teachers with a lower sense of instructional efficacy struggle to create mastery learning experiences for their students and can even undermine students' cognitive development and understanding of their own abilities. The efficacy of teachers' thinking makes a difference.

### ***Self-regulated Learning***

In accordance with Social Cognitive Theory, learners who become in control of their learning are said to be *self-regulated*: they are "metacognitively, motivationally, and behaviorally active participants in their own learning" (Zimmerman, 1990, p. 4; Bandura, 1993). In fact, schools are tasked with equipping students with the necessary skills and intellectual tools to assist themselves throughout their lifetimes (Bandura, 1993). Self-regulation is a volitional

process (Efklides, 2008), focused on cognition, and, overall, a key part of effective instruction (Bandura, 1997). Zimmerman (1990) described self-regulated learners as metacognitive learners who plan, set goals, organize, self-monitor, and self-evaluate throughout the learning process, enabling them to be self-aware self-starters who exercise noteworthy effort and persistence. They have a distinctive awareness of the relationships between regulatory processes and learning, along with a mature sense of using strategies to achieve learning goals, because of their awareness of and responsiveness to self-monitoring feedback (Zimmerman, 1995); that is, they pay attention to themselves as learners. From the social cognitive perspective, self-regulation is a large construct involving metacognition in addition to self-efficacy; personal agency; and motivational, emotional, and behavioral processes (Zimmerman, 1995). McCombs and Marzano (1990) suggested that metacognitive awareness and understanding are a bridge between cognitive development and self-regulation that encourages students' *skill* and *will* to grow in self-regulated learning. Moreover, the objective of metacognition is to help one become skillful at using knowledge (Nickerson et al., 1985). Because of these intricate relationships, researchers recommend studying metacognition with consideration of the variables of motivation, emotion, and behavior (Zimmerman, 1990; Stolp & Zarbrucky, 2009; Efklides, 2008; Boekaerts, 1995). Therefore, this study considered metacognition to be an integral part of self-regulated learning in teachers, who, in turn, strive to instill self-regulated learning behavior in the context of reading and writing.

To clarify, metacognition contains two major aspects, self-appraisal and self-management (Paris & Winograd, 1990). Through self-appraisal, a learner thinks about what he/she knows and can do; this knowledge can be broken down into declarative, procedural, and conditional knowledge. Schraw (1998) said declarative knowledge is “about” things; procedural knowledge refers to knowing “how” to do things, and conditional knowledge is about the “why” and “when” of cognition. Self-management, then, becomes “metacognition in action” (Paris & Winograd, 1990, p. 18). The learner begins to control and manage the cognitive processes in his/her learning, but this occurs over time. Schunk and Zimmerman (2007) proposed a social cognitive model of self-regulation development containing four phases: observation, emulation, self-control (internalization), and self-regulation. In the first phase, the learner observes models explaining and demonstrating a skill. Then the learner performs the skill in such a way as to imitate the model. During the third phase, the learner performs the skill independently, and

finally, the learner adapts his/her skill to accommodate changes in conditions and contexts. Ormrod (2011) explained that self-regulated learning begins with other people helping learners to stay focused, suggest strategies, and monitor progress. This external control moves to a shared control and regulation (co-regulation) and on to inner control and self-regulation (McCaslin & Hickey, 2001), much like Vygotsky argued. Co-regulation is a shared responsibility that results in self-regulation (McCaslin & Hickey, 2001), and encouraging self-regulated learning is, in some respects, teaching students (and teachers!) to “be their own boss” (Randi, 2004, p. 1825). Studying metacognition is a viable place to start. Efklides (2008) argued that metacognition is the “sine-qua-non constituent of social interaction and of co-regulation and other-regulation of behavior” (p. 277). One’s thinking can even be influenced by how one perceives what others think about his/her thinking (Stolp & Zabrocky, 2009). In sum, both students’ and teachers’ metacognition have the potential to influence self-regulated learning in the classroom.

## **Related Research**

In addition to theoretical underpinnings, this literature review also presents instrumental research studies that pertain to experienced writing teachers’ thinking processes. The relevant research has been grouped into two main categories: research on metacognition and research on teacher expertise. Yet each section is sub-divided into smaller clusters or groupings of studies that reflect unique aspects of the two major categories. In all, the discussion of relevant research served as a backdrop for the present study and illuminates a sizeable gap in research.

### ***Relevant Research on Metacognition***

Chapter One introduced Flavell’s theoretical model of metacognition, but this section of relevant research begins with some history of metacognition as a researchable phenomenon, continues with research on teachers’ interactivity in literacy instruction, moves into a review of instructional conversations, includes an overview of a subset of metacognitive research called “thoughtfully adaptive teaching,” and ends with a discussion of studies in teacher metacognition—a body of literature most associated with the present study.

### ***The Advent of Metacognition as a Researchable Phenomenon***

Metacognition itself is nothing new. For centuries, people have taken note of their thinking and used what they learned to refine their mental capacities and make better decisions. Philosophers advocated knowing oneself, and furthermore, “introspection” had become a popular psychological technique in the late 1800s and early 1900s (Dunlosky & Metcalfe, 2009), despite some methodological concerns about its reliability and the “Comte’s paradox” of how a thinker could be divided against himself (Dunlosky & Metcalfe, 2009; Nelson, 1996; Nelson & Narens, 1996). The French philosopher’s paradox became quite a challenge for philosophers (those interested in discovering consciousness) and psychologists (those interested in actualizing consciousness) who asked themselves how a person could both observe and be the object observed (Nelson, 1996). Later on, Nelson and Narens (1996) constructed a metacognitive model to refute the paradox; its object and meta-levels showed how a single process as Comte advocated could be analyzed as two simultaneous processes. In their model, cognition was the object level, and cognitions regarding the first level cognitions served as the meta-level—the overriding level. Bidirectional arrows connecting the object and meta-levels represented the influx of information, assisting in the control and monitoring processes between the levels. Their model was considered an impetus toward a theory of metacognition (Veenman, Van Hout-Wolters, & Afflerbach, 2006). Nelson (1996) reasoned:

Any lower-level cognition can itself be the subject of a higher-level cognition and...the lower-level and higher-level cognition can occur simultaneously. Information flowing from the object-level to the meta-level is monitoring, and information flowing from the meta-level to the object-level is control. (p. 105)

But long before Nelson and Narens constructed their model, metacognition as a researchable phenomenon came about because of unanswered questions. In the 1960s, behaviorism started to lose its hold as the leading school of psychology because psychologists were recognizing that behavior could not always be explained through stimulus-response connections (Dunlosky & Metcalfe, 2009)—that changes in learning and knowledge and behavior are often due to internal mental activity invisible to the human eye (Tracey & Morrow, 2006). Thus was born the Cognitive Renaissance (Dunlosky & Metcalfe, 2009), which emphasized the role of thinking in human functioning and behavior.

Cognitive psychology, which addresses many mental phenomena that influence human behavior, holds these basic assumptions, according to Ormrod (2011). First, cognitive processes (thinking processes) influence what is learned. Second, people's cognitive processes can sometimes be inferred through their behavior. Third, people are selective about what they mentally process and learn, and fourth, meaning and understanding are not derived directly from the environment but constructed by the learner (pp. 181-182). The study of metacognition is akin to the study of cognitive processes but at a "meta" level. It includes awareness and reflection of one's cognitive processes and attempts to correspond in a manner benefiting learning and memory (Ormrod, 2011, p. 250), and these thoughts are tied to a person's internal mental representation of reality (Hacker, 1998).

In accordance with this notion of reality, an oft-debated topic among metacognition researchers is whether or not people's cognitive and metacognitive processes are conscious or non-conscious—also referred to as explicit or implicit. It is generally agreed that acquisition of new knowledge in an unfamiliar domain requires extra cognitive effort, whereas activity that is automatic requires less overt monitoring and control (Stolp & Zabucky, 2009; Sternberg, 1998; Hacker et al., 2009). Afflerbach et al. (2008) pointed to this situation as one of intentionality, as in the case of skills versus strategies. Yet self-monitoring can occur behind the scenes, implicitly, coming to fuller attention when an error in processing or understanding is detected (Veenman et al., 2006). Such a conscious event can occur even through vicarious learning when observing another person. Nonetheless, Efklides (2008) argued that metacognition has both a conscious and non-conscious nature because it manifests itself as either a bottom-up or top-down process. The bottom-up process refers to the continuous implicit monitoring and processing of information—checking for errors or inconsistencies; if implicit regulation is not possible, the discrepancy comes to conscious awareness (via metacognitive feelings). For example, in the domain of reading, Palinscar and Brown (1984) described the bottom-up process as a "debugging."

The well-practiced decoding and comprehension skills of expert readers permit them to proceed relatively automatically, until a triggering event alerts them to a comprehension failure. While the process is flowing smoothly, construction of meaning is very rapid; but when a comprehension failure is detected, readers must slow down and allot extra

processing to the problem area. They must employ debugging devices or active strategies that take time and effort. (p. 118)

In contrast, top-down processing begins with an explicit awareness of error, discrepancy, or new information taking place—for example, in social interactions or when retrieving fresh information in working memory (p. 281). It refers to a more overt, deliberate kind of monitoring and control, one that demands continual attention throughout. This type of attentive control is what neuropsychologists mean when they speak of *executive attention*, a part of executive functioning regulated by the frontal lobes of the brain (Fernandez-Duque, Baird, & Posner, 2000). Executive attention is an explicit learning necessary to achieve high-levels of comprehension, calculation, and abstraction (Posner & Rothbart, 2007, p. 81). Perkins and Salomon's (1992) description of low-high road transfer also paralleled Efklides' (2008) notion of dual processing. Low road transfer refers to simple and easy transfer of learning from one context to another because a mastered skill, automatic due to continual practice. Conversely, high road transfer is more taxing and less automatic. It involves a new situation requiring “mindful abstraction of a principle”—a laborious application of that principle to a new context or new situation (p. 7). Gray areas like this befuddle researchers and lie beyond the scope of this study. Yet they contribute to the relevance of metacognition in teaching and learning.

John Flavell's highly influential article discussed in Chapter One initiated a surge of research infiltrating many domains of psychology: clinical, developmental, child, cognitive, neurological, and educational. Because of expansiveness of metacognitive literature, the remainder of this review stems from the last of the four general categories of metacognitive research Hacker (1998) identified: studies of cognitive monitoring, studies of regulation of one's thinking processes, studies of both monitoring and regulation, and *studies of the educational application of metacognition*, particularly within the confines of writing instruction.

### ***Teachers' Interactivity in Literacy Instruction***

Despite metacognition's increasing importance in educational research, researchers have found gaps in what teachers are cognitively and metacognitively contributing in the classroom. Emig's 1971 study on twelfth graders' composing processes resulted in pertinent findings even before metacognition took root in educational research. Her multi-case study of eight secondary students used a ten dimensional process of the composing to analyze the data, a process she

presented in both outline and narrative form. Emig (1971) explained the tenth dimension, the *seeming influence of a teacher*, as an “elusive matter” informed by five different types of sources—the fifth being “the most difficult information to obtain: . . . what those composition teachers actually do in the classroom as they teach” (p. 44). She learned, in general, that twelfth graders engage in two modes of composition: reflexive and extensive; reflexive could be equated with what is known today as personal or expressive writing, and extensive writing is similar to what is now called expository writing. But in regard to the tenth dimension of the composing process (*seeming influence of teacher*), Emig (1971) found that the composition teachers set inflexible parameters which differed considerably from what professional writers had described as germane to the writing process and students had personally experienced. This inconsistency led to inward frustration in students, despite their compliance with teachers’ demands. Teachers were evaluating the “accidents rather than the essences of discourse” (p. 93)—the externals rather than the substance. Emig (1971) stressed concern over teacher illiteracy and, more significantly, teachers’ lack of writing experience, resulting in an underdeveloped understanding of a process they were to be teaching—a process Graves (1983) said writing teachers need to know.

In a similar vein, Durkin (1978/1979) conducted an observational study (of near 300 hours) in grades three through six to determine how much time was allotted to comprehension instruction. Because of a pilot study conducted the previous year which revealed quite a dearth of hours during reading instructional period, Durkin decided to observe during reading *and* social studies. Also, she conducted three sub-studies alongside the main study to insure a variety of perspectives on the data. One sub-study concentrated on fourth grade, where learning to read transitions to reading to learn. The second sub-study examined schools to determine differences in time allotted to comprehension instruction, and the third sub-study involved the rotation of observation days; the schedule allowed for observations on all five days, during the months of September through May. In addition, all teachers knew of the observations ahead of time, and principals were asked to select their best teachers for observation, but at the conclusion of the study, she determined that “practically no comprehension instruction had occurred,” though “comprehension assessment through interrogation was common” (Durkin, 1978/1979, p. 520). Teachers “turned out to be assignment givers”: large amounts of time were spent on giving, finishing, and grading assignments, along with “transitional and non-instruction” activities (p.

520). Durkin (1978/1979) claimed that the study assumed teachers would engage in sequences of instruction-application-practice; however, her data revealed that teachers were “mentioners, assignment givers, checkers, and interrogators” (p. 523). In a sobering statement, Durkin professed a real concern:

Knowing what *does* influence teachers is mandatory, if their behavior is to be changed. And everything uncovered in this research indicates that it must be changed if only to reduce the boredom and irrelevance that were so pervasive when classrooms were observed. Even if what was seen produces good readers—or at least successful test-takers—change still would be recommended to overcome the monotony of observed practices. (p. 525)

Like Emig, Durkin highlighted an absence of engaged instruction and self-regulated learning in students and teachers.

After Emig’s and Durkin’s work, interest in literacy instruction grew, with emphasis on the writing process and writing instruction. Two seminal studies appeared through the National Council of Teachers of English: *Writing in the Secondary Schools: English and the Content Areas* by Applebee (1981) and *How Writing Shapes Thinking: A Study of Teaching and Learning* by Langer and Applebee (1987). Also interested in literacy instruction, Applebee completed these two noteworthy studies regarding an inside view of teachers’ writing practices in secondary schools. The first study sought to explore and describe the instructional situations and contexts in which secondary students were learning how to write. Applebee (1981) collected data to determine the type of writing assignments, teachers’ rationales and techniques, and the variance in writing assignment characteristics (within subjects and grade levels), and the study contained two components—observations in ninth and eleventh grad classrooms, spread from October through April in seven content areas including English, and a national questionnaire completed by 754 respondents. Regarding the nature of writing tasks, Applebee (1981) found that 44% of observed lesson time involved writing activities of two types, mechanical (short answers, fill-in-blank, etc.) and informative (note-taking); writing to record information for later use was an important part of the curriculum in all subject areas. Only 3% of the classroom teachers required writing at least a paragraph long (p. 30), and on 10% of instruction time in the English classes was devoted to longer writing (p. 58). The study closed with three major suggestions for improving the teaching of writing in secondary schools: 1) incorporate more instructional



situations that use writing to learn rather than record newly obtained information, 2) use recent research (at the time) on the writing process to inform teachers' understanding and design of instructional practices, and 3) construct learning contexts where writing tasks simulate real or natural purposes.

Building upon Applebee's previous work which indicated writing is rarely used to foster learning and that high-level skills are seldom taught, Langer and Applebee (1987) sought to examine the effective teaching of writing so as to improve the quality of students' thinking. Their research held as its primary assumption that writing leads to clarity and accessibility of ideas but also "changes the development and shape of the ideas themselves" (p. 3). They argued that early writing instruction tended to be prescriptive and product-centered, with the process approach gaining ground and support in the 70s and 80s and leading to a need for studying thinking during the teaching and learning of the composing process. Their study, funded by the National Institute of Education, contained eight secondary content area classrooms functioning as case studies spanning three years; they used interviews, observations, think aloud protocols, do-designed writing lessons and activities, and writing samples fueled by a couple of sub-studies the first year. Langer and Applebee (1987) detailed the teacher participants' pedagogical interests and concerns, noting that their underlying notions of teaching and learning most significantly determined their use of writing in the classroom. In fact, teachers' instruction and assignment design developed uniquely according to the "individual teacher's subject-specific goals, general constructs of teaching, and methods of evaluation" (p. 65). Most of the teachers adjusted their approach to writing instruction during the course of the three years—moving toward a conceptualization of writing as a means of learning, but the type of changes they made remained connected to their systems of evaluation and control. Langer and Applebee (1987) learned that more important than changing curricula or instructional activities to promote change in schools is the need to attend to the purposes of the changes in relation to teachers' understandings of, approaches to, and manipulation of learning. Though their extensive study culminated in several findings, one has special meaning for this present research on writing teachers' thinking:

Effective writing instruction provides carefully structured support or scaffolding as students undertake new and more difficult tasks. In the process of completing those tasks, students internalize information and strategies relevant to the tasks, learning the

concepts and skills they will need in order eventually to undertake similar tasks on their own. (Langer & Applebee, 1987, p. 139)

This finding resonates with elements of both Social Constructivism and Social Cognitive Theory. Scaffolded interactivity between teacher and student is central to effective literacy instruction, and scaffolding is metacognitive because it requires teachers to regulate and control knowledge to know how and when to incorporate spontaneous scaffolds (Duffy et al., 2009). Langer and Applebee (1987; Langer & Applebee, 1986) summarized five components of effective instructional scaffolding: ownership, appropriateness, structure, collaboration, and internalization. But the task of overseeing the construction and removal of instructional scaffolding is complex. It implies teachers' efforts, their personal understanding of the writing process and the developmental challenges within it, their ability to observe and assess students' progress and signs of distress, and, ultimately, their precision in drawing upon resources to assist the learners (Dyson & Freedman, 1990; Hammann, 2005).

Palincsar and Brown's (1984) work on reciprocal teaching also considered the teachers' interactivity in bringing about internalization. It opened a new avenue of literacy instruction research by looking at teachers' efforts to foster and monitor students' comprehension of texts with a dual-focus on teacher modeling and strategy instruction. First, they identified the four factors of learning from text as being decoding fluency, considerate texts, compatible content, and strategic activity but chose to concentrate on strategic activity by studying comprehension-fostering and comprehension-monitoring activities (also called "fix-up strategies" and "knowledge extending activities") of poor seventh grade comprehenders (p. 120). Then, after reviewing the literature on comprehension instruction, Palincsar and Brown (1984) determined six functions of comprehension instruction:

- 1) Understanding the purposes of reading, both explicit and implicit; 2) activating relevant background knowledge; 3) allocating attention so that concentration could be focused on the major content at the expense of trivia; 4) critical evaluation of content for internal consistency and compatibility with prior knowledge and common sense; 5) monitoring ongoing activities to see if comprehension is occurring, by engaging in such activities as periodic review and self-interrogation; and 6) drawing and testing inferences of many kinds, including interpretations, predictions, and conclusions. (p. 120)

They distilled the six functions down into four activities, which would become the basis of their study— summarizing (self-review), questioning, clarifying, and predicting—because they could be used to both foster and monitor comprehension. Thus, they designed a Vygotskian intervention called *reciprocal teaching*, a carefully scaffolded mediation; the teacher and student(s) took turns leading discussions about text using the four aforementioned activities (p. 124). After a brief pilot study, Palinscar and Brown conducted two follow-up studies. In the first mixed methods study, Palinscar served as the teacher of the intervention group; the study contained thirty-four participants, twenty-four of whom had reading problems. There were two control groups who received no intervention and two treatment groups, reciprocal teaching and locating information. Also, the study was spread over four phases stretching out over eight weeks. Students received daily assessments with ten comprehension questions, and all dialogues were recorded and transcribed. Palinscar and Brown (1984) posited that students responded well to the intervention of reciprocal teaching and gradually performed more and more like the adult model, especially because she (Palinscar) challenged the students slightly beyond levels that had already achieved.

The second study was a replication of the first but using four reading teachers and four groups of students, mostly seventh graders. The procedures and materials were identical to the first study. Because the groups were larger, the teachers were able to hand over modeling duties to students and serve as coach. Overall, Palinscar and Brown (1984) discovered similar results in the two studies. Notably, the “effect of the reciprocal teaching intervention was reliable, durable, and transferred...the similarities are more striking than the differences” (p. 166). In summing up both studies, Palinscar and Brown (1984) cited qualitative improvement in students’ dialogue, quantitative improvement in comprehension test scores, durable effects, generalizable effects to the classroom setting, reliable transfer, and an enthusiastic response. The researchers attributed the intervention’s success to extensive training of its four activities because the instruction (from both the researcher and volunteer teachers) involved heavy modeling of challenging comprehension-fostering and comprehension-monitoring behaviors typically difficult to “see” in good readers. In addition, students were made to respond, due to the flow of the intervention; thus, teachers were better able to assess their thinking and adjust instruction accordingly. “The teacher did not merely instruct the students and then leave them to work unaided; she entered into an interaction where the students and the teacher were mutually

responsible for getting the task done” (p. 169)...much like a cognitive apprenticeship (Dennen & Burner, 2008; Collins et al., 1991).

Effective literacy instruction comes about through a progression of interactions between teacher and students, and each encounter is laden with proximate tasks, varied students’ skills and dispositions, principles of the content, and an overarching instructional objective, giving credence to the weightiness of the teacher’s state of mind. After over 200 hours of observations, Wharton-McDonald et al. (1998) gleaned eight characteristics of high-achieving teachers that propagate interaction. Those most applicable to this study were: *instructional density*, the insertion of multiple goals and mini-lessons within a single lesson; *extensive use of scaffolding*, particularly through the use of questioning; *encouragement of self-regulation* through metacognitive monitoring, modeling thinking processes, and explicitly asking students to assess their quality of their work; and *awareness of purpose*—in their practices and goals driving these practices. Highly influential teachers can probe students’ internal motivation, energize intellectual curiosity, and assess students’ self-understanding to move them to become engaged (Ruddell, 1995). When engaged in the writing process, teacher and students focus on the development of text and ideas, in contrast, says Peter Elbow, from the “consumption of texts and ideas,” as in other content courses (as cited in David et al., 1995, p. 528). Further, the best teachers are “methodologically eclectic” (Duffy, 2005). They know when, why, and how to engage students. They make curricular and instructional decisions based on how and what students come to know (Fordham, 2006). Each transaction with students is a unique, dynamic encounter.

### ***Instructional Conversations***

Instructional talk, whether written or spoken, can impact student learning and achievement. It is a “principal mechanism for organizing our thoughts, making sense of ideas, and pushing our thinking in new directions” (Ritchhart, 2002, p. 117). In their research on explicit explanation in reading instruction, Book, Duffy, Roehler, Meloth, and Vavrus (1985) posed a generalizable conclusion that when teachers explicitly talk about what is taught, how to complete tasks, and why they are important, their students become more aware of what they are learning; in other words, the researchers determined a positive relationship between explicit explanation and metacognitive awareness—an instruction they described as *proactive*. At the

same time, they acknowledged that proactive, explicit instruction was not synonymous with scripted curriculums established in advance. Rather, they advocated an engaging explanatory instruction that “requires an understanding of not only how to initially present new information but of how to reshape and elaborate on explanations in response to students’ restructuring of information” (p. 30). Thus, they observed twenty-two fifth grade teachers from thirteen schools. The treatment group received multi-session training on how to explain tasks, how to analyze tasks, and how to introduce lessons accordingly. In addition, they watched a researcher model explanation and were to design their own skill lesson using the explanation model they had learned. The researchers collected observational data and conducted interviews with students from low reading groups following the lessons and teachers, after sharing transcribed data with them. In sum, they determined that the teacher’s ability to check students’ understanding and guide them to independence in performing a skill during key interaction phases—in any content area—is an important means to increasing student awareness (Book et al., 1985). Of special note, however, was their acknowledgement of three instructional areas in need of work: developing interactive phases, making transitions from instruction to interaction, developing explanations of skills to demonstrate underlying thinking processes (p. 36). Previous literature has pointed to similar paucity (e.g., Emig, 1971; Durkin, 1978/1979; Langer & Applebee, 1987). More recently, Lawrence, Rabinowitz, and Perna (2009) explored how teachers’ instructional choices affect students’ development in secondary English language arts classrooms, where “literacy demands become more critical, metacognitive, and self-regulated” (p. 40). Their study of three qualitative studies revealed, like what Book et al. (1985) found, that in addition to collaborative conversations and choice, students need explicit strategy instruction that includes explanation, rationale, and modeling in scaffolded settings. Writing teachers must collaborate with the learner by modeling the problem-solving processing and ushering students into its flow (Dyson & Freedman, 1990). Here is where exploratory, descriptive research on expert teachers’ thinking can inform sophisticated instructional practices.

Further, Hayes and Flower (1986), whose cognitive process model of writing was discussed in Chapter One, recommended a process-oriented writing instruction where the teacher mediates the writing process with interventions to “teach students what to do” (p. 1106). They asserted that writing instruction should focus on cognition, not activities, because it is a goal-directed toward hierarchical goals and sub-goals, and writers use the major processes of

planning, generating, revising, and monitoring to achieve goals. But Hacker et al. (2009) took the process-oriented view even further. Their definition of writing stated at the beginning of Chapter One segues into the heart of their argument: writing is applied metacognition. Their argument sought to answer Witte's (1992) question regarding whether writing should be called process or product. The distinction is clear, they posed, when readers examine texts other than their own, but the distinction is blurred when readers examine their own texts. Then, "the process of writing is a reflection of our thinking, and the product of writing is a reflection of our thinking. How can we not look at our own writing and not also look at our own thoughts?" (Hacker et al., 2009, p. 160). When scrutinizing other people's writing, the reader knows process lies hidden in the writer's product. In fact, continued Hacker et al. (2009) a reader's task is to infer the writer's process.

As readers, we must reconstruct how the author used the processes of writing to express the meaning that he or she had in mind, and we must do this in a way that resembles as closely as possible the author's meaning and purpose for writing (i.e., engage in hermeneutical interpretation). Indeed, the goal of literary criticism is to expose the writer's thinking through an analysis of the writer's finished text. (2009, p. 161)

But reading one's own writing, one is in a "privileged position" because he/she monitors and controls both the generation of his/her thought and its translation (Hacker et al., 2009). They explained that not all thoughts make it to print—that, actually, only a subset of thoughts might be exposed on paper; only the writer knows which thoughts are translated and shared. Implications here are abundant for writing teachers who serve simultaneously as interpreters of students' texts (assessing process and product) and instructional guides to students' monitoring and controlling of thought, generated and translated—working with students for whom process and product are blurred. Hacker et al. (2009) then expanded Nelson and Narens' model of metacognition into a metacognitive model of writing. Still containing the object and meta levels and the dynamic processes of monitoring and control, their model also accounts for explicit and implicit monitoring and control between the object and meta levels and even implicit processing between explicit control strategies of planning, production, and revision and explicit monitoring strategies of re-reading and reviewing—reminiscent of Flower and Hayes' (1980) cognitive process model of writing.

But prior to Hacker, Keener, and Kircher's work with the metacognitive model of writing, Sitko (1998) studied the role metacognition takes in revision when feedback is involved. Like them, Sitko was concerned with the translation and interpretation that occurs between reader and writer. Using feedback, writers "re-present the text to their own minds via the misunderstanding of others." Writers then construct "created space between themselves and their writing" in order to fix anticipated comprehension problems and readjust their writing objectives to make a satisfying reading experience for the reader (Sitko, 1993, p. 173). Consequently, Sitko (1993) developed a collaborative educational intervention called *interpretive reading* based on the assumption that when writers interpret feedback in order to make decisions about revision, they are highly engaged in metacognition.

Writers have to attend to and arbitrate significant and sometimes conflicting voices. The task requires that they construct, out of their own previous understanding of what they wrote and out of their readers' understanding, yet another version of their task and their text. (Sitko, 1998, p. 106)

The intervention allows a writer to hear a reader working through his/her text; the reader provides interpretive feedback by summarizing and predicting so that the writer can see how the reader is seeing (Sitko, 1998). Sitko (1993) explained that using the interpretive reading strategy, the reader must 1) read the text audibly, 2) pause periodically to "think aloud" about the content by a) summarizing the point and b) predicting what he or she expects to come next (p. 178). The intervention strategy situates itself within the reading-writing connection, explicating the intentions of readers and writing engaged in the communication of thought and the effects that the reading and writing experiences have upon the participants. Writers gain insight into how aspects of their text cue the reader's interpretation (Sitko, 1993). Running alongside the intervention is a decision tree Sitko (1993) designed using think aloud protocols; it takes the writer through a series of evaluative questions and assists the reader-writer in problem-solving inherent in revision: "Do I understand the feedback? Do I agree that there is a problem? Is the problem in the text? Can I find the problematic place? Do I want to fix it? Can I find a way to solve the problem?" (p. 183). Collectively, the intervention and the decision tree serve as metacognitive scaffolding. But in a writing class, the teacher is the primary reader of feedback—the one who often initiates revision decisions. Thus, the metacognitive nature of interpreting feedback for the sake of altering a text implicates the teacher along with the student-

reader, with the social dynamics of these exchanges between teacher and student becoming more complicated and influencing the extent of revision.

It is in the midst of instructional conversations—written and spoken, individual or in collaborative settings—that teachers mediate in students’ reading, writing, and thinking. The mediation, supported by metacognitive strategy instruction, makes cognition visible through teachers’ introductions, explanations, task analyses, and modeling. A rather new study illustrated the importance of a teacher’s savvy in guiding students along strategically so as to bring them to internalization of skill. Negretti (2012, April) suggested a link between task perception and conditional metacognitive awareness—the *when* and *why* of applying certain knowledge and strategies. Working with three sections of community college students over the course of a traditional semester, Negretti (2012) investigated how metacognitive awareness develops over time in beginning academic writers and how this awareness relates to students’ perception of the task at hand, choices of strategies, and overall evaluation of their writing—these final three elements making up “rhetorical consciousness” (p. 144). One key finding was that at the root of students’ ability to use metacognitive awareness to self-regulate and evaluate their own writing lies their understanding of the nature and purpose of text. And often, their grasp of what a task entails and what it requires of them—and why—comes about from the teacher’s careful tending, explicit explanation, and scaffolded means of heightening their understanding. Relatedly, Negretti (2012) reported the development of their conditional metacognitive awareness stimulated their understanding of strategy application. In other words, helping students know when and how and why to use certain strategies at certain times for certain reasons can lead to their growth in task and self-knowledge as self-regulated learners.

Moreover, the ability to introduce, recommend, and explain writing strategies to students as they plan, compose, revise, and edit their writing is one of eleven elements of effective writing instruction (Graham & Perin, 2007). The meta-analysis, *Writing Next: Effective Strategies to Improve Writing of Adolescents in Middle and High Schools*, reported eleven elements to improve writing achievement in grades 4-12, writing strategies, being the first. The other ten elements included: summarization, collaborative writing, specific product goals, word processing, sentence combining, pre-writing, inquiry activities, process writing approach, study of models, and writing for content learning (Graham & Perin, 2007). This report and other strategy instruction research (Pressley et al., 1992; Hammann, 2005; Graff, 2010; Nash-Ditzel,



2010) point to the need for reciprocal exchanges between teacher and students to encourage the acquisition of metacognitive knowledge and metacognitive awareness and the orchestration of strategies to foster internalization of skill and “high road transfer” (Perkins & Salomon, 1992; Graff, 2010; Wells, 2011; Smith, 2010). Such efficacious teaching requires cognitive and metacognitive flexibility and attentiveness.

### ***Thoughtfully Adaptive Teaching***

A tangential, emerging body of literature supporting the research of teachers’ metacognition is *thoughtfully adaptive teaching*. It is described in the literature as “teacher decision-making,” “responsive elaboration,” “adaptive expertise,” “adaptive metacognition,” “wise improvisation” (Duffy et al., 2008, p. 160). While its nature resonates with that of metacognition, its research tends to concentrate on the types of and reasons for teachers’ adaptations, or instructional and curriculum adjustments, in the classroom. As a matter of fact, Parsons (2012) explained that the theoretical framework of thoughtfully adaptive teaching takes both Social Constructivism and teacher metacognition as its primary informants; hence, it is subordinated under this present study on writing teachers’ thinking. Nonetheless, advances in this field furnish the study of teacher metacognition with empirical support because of their insights into teacher intentionality.

A series of related studies (Duffy, Webb, Parsons, Kear, & Miller, 2006; Duffy et al., 2008; Parsons, Davis, Scales, Williams, & Kear, 2010; Parsons et al., 2011; Parsons, Williams, Burrowbridge, & Mauk, 2011; Parsons, 2012) show the recent emergence of thoughtful adaptations, the first beginning in approximately 2006 with a paper presented at the National Reading Conference, “Does Thoughtfully Adaptive Teaching Exist?” Later in 2008, Duffy et al. reported the second study of a longitudinal research project to examine teachers’ thoughtful adaptations. Prefacing this second study was a first study which asked the question: Can we identify teacher adaptations during literacy instruction? (p. 161). Through the first study, they identified 187 teacher adaptations and were able to define thoughtfully adaptive teaching as “a form of executive control in which teachers modify professional information and/or practices in order to meet the needs of particular students or particular instructional situations within the framework of the lesson plan” (p. 161). The second study, however, was their attempt to better understand the nature of teachers’ adaptations. It contained four case studies of eight

participants, gathered through convenience sampling—a combination of pre-service and in-service teachers, and data collection methods included observations of 48 reading lessons, interviews with the teachers following each lesson, and 53 interviews with students.

But in this second study, the researchers adjusted the definitional criterion, differentiated between the adaptations and the teachers' rationales, and rated the extent to which metacognitive thought was evident in both the adaptations and rationales (Duffy et al., 2008). First, after distinguishing between a "reaction" and an "adaptation," they modified the previous definition to: "We will note it as a thoughtful adaptation if the teacher is making a non-routine, proactive decision (i.e., not something we see the teacher do in other observations) that requires thought and is invented on the spot in order to make instruction suitable for the goal the teacher is pursuing" (p. 163). Second, they then reanalyzed all 187 teacher responses from the first study and, using a grounded theory approach, established a coding system for seven types of adaptations: 1) modifies lesson objective; 2) changes the means by which the lesson objective is achieved through elaborating or through changing strategy, task, activity or through changing assignment or materials (or through changing routines or procedures); 3) invents examples, metaphors, analogies, or verbal or physical illustrations; 4) inserts mini-lessons; 5) suggests different perspectives to students; 6) omits a planned activity or assignment; and 7) changes the planned order of instruction (2008, p. 164). Likewise, they reanalyzed the first study's data to develop a coding system for teachers' rationales. Nine types of rationales were identified through a grounded theory approach (2008): 1) because the objective was not met, 2) to challenge or elaborate, 3) to teach a specific strategy or skill, 4) to help students make connections to prior knowledge, 5) using knowledge of students or of classroom dynamics to alter instruction, 6) to check student understanding, 7) anticipation of upcoming difficulty, 8) to manage time, 9) to promote student engagement (p. 164). Third, they developed a three-category coding system—*considerably thoughtful*, *thoughtful*, and *minimally thoughtful*—described as the following:

To be rated as *considerably thoughtful*, an adaptation or rationale must have demonstrated an exemplary or creative use of professional knowledge or practice and have been clearly associated with a larger goal the teacher holds for literacy growth. An adaptation or rationale was rated as *thoughtful* if it was tied to the specific lesson objective or larger goal and did not meet any of the criteria for minimally thoughtful. An

adaptation or rationale was rated as *minimally thoughtful* if it met any of the following criteria: it required minimal thought; it was fragmented, unclear, or demonstrated incorrect use of professional knowledge or practice; or it did not contribute to a lesson objective or goal. (Duffy et al., 2008, p. 164)

Thus, in the second study of their longitudinal efforts, they noted a total of 42 teacher adaptations over 48 observed lessons. Only 5 adaptations were rated as “considerably thoughtful,” whereas 17 were rated “thoughtful” and 20 rated “minimally thoughtful. Also, of the 44 rationales, only 6 were rated as “considerably thoughtful.” 13 were “thoughtful,” and 25 were “minimally thoughtful” (2008, p. 166-167). (A couple of the teachers had provided more than one rationale.)

The researchers acknowledged the limitations of sample size and convenience sampling but suggested they had made a start to understanding literacy teachers’ adaptations. For example, they recognized the need to differentiate between adaptations and reactive responses, arguing that not all spontaneous teacher decisions are equal. Also, their research raises some questions (Duffy et al., 2008): Why so few high quality adaptations? Do constraining, scripted programs influence teacher adaptations? How do we teach literacy teachers to engage in substantive adaptations and to employ more metacognitive thought? How do teachers adaptations relate to student performance?

In a similar follow-up study using the same coding systems, Parson et al. (2010) conducted a collaborative, longitudinal project to further examine if teachers adapt their literacy instruction and why and what is the thoughtfulness of both their adaptations and rationales. The study included 24 elementary teachers, kindergarten through sixth grade who all taught in Title 1 schools, again, gathered through convenience sampling. The participants ranged in experience from first-year to 27-year veteran, and the researchers gathered three types of data: teacher lesson plans, classroom observations, and interviews with teachers after each observation, for a total of 154 observations and interviews, each. They determined teachers adapted their instruction 353 times in the 154 observations. 62% of the adaptations were rated as “minimally thoughtful,” while only 3% were rated as “considerably thoughtful.” Regarding the rationales, 65% were rated as “minimally thoughtful,” and 1% was rated as “considerably thoughtful” (p. 227-228). The researchers asserted that their findings added to the collection of empirical data in this new body of research literature by beginning to note patterns in teachers’ adaptations and rationales. The data also pointed to a contrast with research literature which speaks of “effective

reading teachers adapt[ing] their instruction in thoughtful ways” (p. 231). The study discussed two prevailing concerns for future research: how restricted literacy instruction (scripted instruction) affects professional decision-making and why some teachers were more adaptive than others—a concern germane to this study.

Parson’s (2012) most recent study complemented and augmented the previous research by examining two teachers’ adaptations and reflections in detail but in light of the tasks in which they occurred, thus, addressing the latter concern Parson et al. (2010) noted, regarding scripted instruction. Two third grade teachers were selected using purposeful sampling because of their qualifications, teaching history, and past evaluations. That data were collected in a similar manner as the previous studies, using the same coding systems, but the openness of each task was determined through a rubric that rated five task components: authenticity, collaboration, challenge level, student choice, and length of task; the tasks were then determined to be closed, moderately open, or open (p. 7). Parsons (2012) found that, in addition to them adapting their instruction more frequently in open-ended tasks, the teachers’ adaptations were mostly in response to students, though they differed in frequency: 39 and 19 adaptations. Second, teachers were monitoring student progress and adapting accordingly, thus, demonstrating metacognition. Third, their varied reflections on their adaptations resonated with their metacognition and spoke of “co-construction of classroom teaching and learning and the metacognitive thought required to navigate this co-construction” (p. 16). Parsons (2012) recommended using the research on teachers’ thoughtful adaptations as a necessary step in studying the more longitudinal question of their effect on students’ self-regulated learning.

### ***Teachers’ Metacognition***

Most intrinsic to this present study of writing teachers’ thinking is the small body of literature on teachers’ metacognition. The theme of teacher as “thoughtful professional” has emerged in the research on teaching and learning (Peterson, 1988), developing into the more recent emphasis of “teacher as metacognitive professional”—though, clearly a work in progress (Duffy et al., 2009). Metacognitive teachers are described as people who “have developed habits of mind that prompt them to continually self-assess their performance and modify their assumptions and actions as needed” (Hammerness et al., 2005, p. 376) . In contrast, people who are not as metacognitive “rely on external feedback from others to tell them what to do and how

to change” (Hammerness et al., 2005, p. 376). The beginnings of teacher metacognition includes the recognition of routines, procedures, and instructional design as integral to effective teaching (Brophy, 1982) but arrives at an understanding that invisible and deliberate mental practices contribute to sophisticated instruction (Duffy et al., 2009). The perspective previously rooted in behavioral psychology has now broadened to include teachers’ cognitions and metacognitions (Artzt & Armour-Thomas, 1998). Though little research has explored teachers’ explicit awareness of and ability to discuss their metacognition (Wilson & Bai, 2010), the studies in this section shed light on means of advancing the field and applying its fruits to writing instruction.

In one such study, Zohar (1999) investigated teachers’ metacognitive declarative knowledge regarding higher-order thinking skills in junior high science classes in the educational context of the Thinking in Science project, where higher-order thinking is infused into the science curriculum. Precisely, the study sought to examine teachers’ intuitive (implicit) knowledge regarding metacognition of thinking skills. Zohar (1999) defined metacognitive declarative knowledge as “knowledge that includes an explicit awareness (that may be described in words) of one’s reasoning patterns as well as the ability to think of (and talk about) reasoning patterns as distinct entities that may be related to specific tasks” (p. 416). Thus, the study concerned itself with the relationships between the teachers’ metacognitive declarative knowledge of thinking skills (what they recognized they knew about thinking and could articulate) and their pedagogical knowledge of thinking skills (their knowledge of how to teach thinking skills) (Zohar, 1999). It took place during in-service courses of 24 to 56 hours in length, spanning several months. The in-service courses included training sessions in instructional goals and higher-order thinking concepts, like transfer and metacognition. Additionally, teachers participated in creative workshops and reflective workshops. Concurrent to the in-service course, teachers were to apply Thinking in Science materials in their classrooms and complete descriptive written reports, which were used in later reflection workshops.

Using a grounded method approach, the researcher drew interesting conclusions. Zohar (1999) explained: one, those teachers who had been teaching higher-order thinking prior to the study had not done so consciously nor engaged in metacognitive activities with their students; two, teachers were found to be deft at solving problems requiring procedural knowledge but were unable to articulate their own thinking while engaged in the problem-solving tasks; three, designing effective higher-order thinking instruction is hinged upon the explicit awareness of

thinking as an important goal in learning. The primary take-away was this: teachers' implicit or "intuitive" knowledge of thinking skills is not enough to teach higher-order thinking. In other words, being aware of thinking skills is necessary, but even more so, one must be able to articulate and translate this understanding of thinking skills in order to teach them. Likewise, Wilson, Grisham, and Smetana's (2009) work with content area teachers found that over time, their teachers' procedural knowledge of the comprehension strategy Question-Answer-Relationship (QAR) moved beyond regurgitation toward an ability to describe declarative and conditional knowledge benefits. Teachers' personal experience with the QAR strategy coupled with longitudinal professional development training in metacognitive thinking brought about a deeper understanding and internalization of it. Before helping students to become metacognitive, "teachers must first become increasingly metacognitive" (Wilson et al., 2009, p. 716). Both studies pointed to the potential of development in teachers' thinking about thinking simply by making teachers more explicitly aware and in control of their understanding.

Another study exploring teacher metacognition used a systematic approach to examine the full range of teacher thoughts in the pre-active, interactive, and post-active stages of teaching (Artzt & Armour-Thomas, 1998); the researchers viewed the teacher as problem-solver whose metacognition directs and controls instructional behavior in the classroom. A total of fourteen mathematics teachers participated in the study—seven experienced and seven beginning teachers. Artzt and Armour-Thomas (1998) videotaped each teacher conducting a lesson of his or her choice and conducted three interviews with each participant: a post-lesson structured interview, a stimulated-recall interview as they watched the videotaped lesson, and a debriefing interview. Data analysis of eight selected metacognitive components (knowledge, beliefs, goals, planning, monitoring, regulating, assessing, and revising) revealed two patterns. Group X—a group of five teachers (four experienced and one beginner)—centered their knowledge, beliefs, and goals on students' understanding and showed a consistency to the goals they had established before the lesson. Group Y—a group of four beginning teachers—centered their knowledge, beliefs, and goals on content coverage for skill development and time management. Their goals were mostly procedural, and they made no deviations from them, despite student feedback. Group Z—a group of three experienced and two beginning teachers—resembled characteristics of both Group X and Y. Artzt and Armour-Thomas (1998) reasoned that the teachers demonstrating metacognition were characterized by: well-designed tasks, intellectually and

socially stimulating learning environments where students shared responsibility for their learning, and extensive monitoring of verbal interactions. Yet Group Y teachers revealed fragmented knowledge, goals limited to isolated performance outcomes, minimal attention to students' learning with maximum attention to content coverage, poorly designed learning environments non-conducive to rich discourse, absence of monitoring to gain feedback, and no articulation of overarching beliefs. The latter group struggled to “maintain the ‘tension’ between simultaneously covering the content and attending to student understanding” (Artzt & Armour-Thomas, 1998, p. 21). Of special concern was their lack of monitoring and regulating instruction for student understanding—a critical metacognitive component of teaching (p. 22), resonating with what might be called *differentiated instruction*.

One of the most oft-noted pieces of literature in teacher metacognition compared conventional uses of metacognition with the types of metacognition used in the teaching profession. Lin, Schwartz, and Hatano (2005) asserted that successful teaching utilizes *adaptive metacognition*—the “adaptation of one’s self and one’s environment in response to a wide range of classroom variability” (p. 245). No single teaching experience is the same. From their review of metacognition literature, they determined that interventions used in metacognitive studies shared three contextual characteristics: well-defined problems, stable learning environments, and participants’ shared values and goals. But teacher metacognition is not so clean and easy. Lin, Schwartz, and Hatano (2005) summarized that teaching contains ill-defined problems, situations complicated by interacting factors, and no single path to a solution. An adaptive, metacognitive teacher is willing and able to look below the surface—to look at features that may be hidden in every teaching experience. Hammerness et al. (2005), too, spoke of the need for alertness. “Effective teachers particularly need to be metacognitive about their work. The more they learn about teaching and learning, the more accurately they can reflect on what they are doing well and on what needs to be improved” (p. 376). Teachers’ understanding of their own metacognition could promote the development of adaptive flexibility.

Wilson and Bai (2010) recently investigated teachers’ understanding of metacognition, their pedagogical understanding of metacognition, and the nature of what it means to teach students to be metacognitive. They clarified an assumption underscoring this study of writing teachers’ metacognition: that studying “teachers’ understanding of their metacognition, the challenges they face in doing so, and the relationships between their metacognitive knowledge

and pedagogical understanding of metacognition” is an important means of improving professional development (p. 270) for themselves and others. Wilson and Bai (2010) explained that in order for teachers to teach students to be metacognitive, they need to possess a pedagogical understanding of metacognition, meaning, they need to possess an understanding of how to teach students to be metacognitive. An understanding of such instruction utilizes strategies and techniques, modeling and scaffolding to promote and practice metacognitive skills and activity (Clark & Graves, 2005). However, Wilson and Bai (2010) expressed concern that the teaching of metacognition is not widespread.

The researchers created a Teacher Metacognition Scale (TMS) to measure participants’ perceptions of their understanding of their metacognition, their pedagogical understanding of metacognition, and their beliefs about what practices bring about students’ metacognition (2010, p. 272). It took into consideration teachers’ declarative, procedural, and conditional knowledge. Using a mixed method approach, the researchers studied 105 graduate students who were K-12 teachers, 73% of whom were majoring in a graduate reading program. The survey included two parts: an open-ended questionnaire and the TMS. In all, they determined that teachers’ understanding of metacognition is a merging of their (metacognitive) declarative, procedural, and conditional knowledge and seemed related to their perceptions of valuable instructional strategies (and a variety of them) to promote metacognitive behavior in students. The researchers felt the teacher participants had a rather rich understanding of the teaching of metacognition. Further, the participants revealed that teaching students to be metacognitive is an active process requiring engagement and awareness...and that the teaching of metacognition is both implicit and explicit. Thus, Wilson and Bai (2010) suggested professional development measures in several areas: differentiating between engagement and awareness when interacting with students, implementing practices that highlight instructional routines which can foster metacognitive behavior in students, focusing on the three types of metacognitive knowledge (declarative, procedural, and conditional) and how they influence teachers’ pedagogical understanding of metacognition, and emphasizing instructional practices that encourage metacognition. Of final note is the researchers’ explanation of a limitation to the study: the self-reported data might reflect what teachers’ know they should do to promote metacognitive behavior, not what they actually do in their classrooms (Wilson & Bai, 2010). This limitation



points to areas of caution when investigating teachers' deployment of their metacognitive knowledge and pedagogical understanding of metacognition in action.

In the same line of thinking, Curwen, Gretiz, Miller, White-Smith, and Calfee, (2010) researched the effect of a longitudinal Read-Write Cycle Project (RWC) on teachers' metacognition about their own practice fostering students' development. They contended that metacognition is the "missing link in instruction in most classrooms today" (p. 128) and that professional development of metacognitive instruction—as the RWC Project aimed to do—is necessary as a means of scaffolding teachers' understanding of metacognition to bring about the transfer of metacognitive practices into instruction. Essentially, the RWC Project integrated reading and writing and embedded them into content area instruction using multiple comprehension strategies. They studied 18 teachers from ten elementary schools over a three-year period by conducting 18 days of professional development, which included training in metacognition and metacognitive reflection, content domain building, reading and writing strategies, and instructional design (Curwen et al., 2010). Using a mixed methods design, the researchers discovered three themes related to teachers' metacognition leading to improved student practice: an increase in the awareness that comprehension is an ongoing process (not just stopping at the end of a chapter); an increase in student agency through students' choice, responsibility, and ownership; and an increase in enthusiasm and higher-order thinking through the use of comprehension strategies to bring about deeper reading. Curwen et al. (2010), and the other related studies in this section, emphasized the importance of ongoing metacognitive reflection and awareness as components of professional development.

### ***Relevant Research on Adaptive Expertise***

The second section of relevant research accentuates the need for "adaptive experts" in twenty-first century teaching and learning (Bransford, Darling-Hammond, & LePage, 2005, p. 3)—teachers who strive to expand their own capacities for growth and development for the benefit of those to whom they are responsible. The National Research Council (2000) explained the intentionality of a virtuoso:

Adaptive experts are able to approach new situations flexibly and to learn throughout their lifetimes. They not only use what they have learned, [but] they are metacognitive and continually question their current levels of expertise and attempt to move beyond

them. They don't simply attempt to do the same things more efficiently; they attempt to do them better. (p. 48)

Experts demonstrate metacognitive and self-regulatory skills not present in novices (Berliner, 1986); it is knowledge they have gained through extensive experience and deliberate practice (Ericsson, Krampe, & Tesch-Romer, 1993). Sternberg (1998) added that expertise comes about “through the interaction of whatever genetic dispositions [teachers] bear with experience via the environment” (p. 134). This section reviews literature from three remaining categories which assisted in framing the current study on writing teachers' metacognition: characteristics of expert teachers, writing teachers as model thinkers, and writing teachers' responses to students.

### ***Characteristics of Expert Teachers***

Experts in any field are known for their extensive knowledge and impressive performances; they make confounding tasks look easy. But hours upon grueling hours of effort and practice nurture expertise (Kellogg, 2008; National Research Council, 2000; Ericsson et al., 1993). The National Research Council (2000) identified six interrelated principles that characterize experts: Experts 1) notice features and meaningful patterns of information, 2) amass extensive content knowledge organized in ways to reflect deep understanding, 3) store knowledge that is conditionalized to reflect contexts, 4) retrieve information flexibly and with little attentional effort, 5) know their disciplines thoroughly, and 6) possess varying levels of flexibility. Despite the often deep underestimation of the complexity of teaching (Berliner, 1994), these six principles apply teachers' adaptive expertise.

***Detection of meaningful patterns.*** Experts have the ability to chunk large amounts of information into meaningful, strategic patterns. This chunking strategy supports and is supported by an expert's ability to organize in hierarchical ways. The expert grows more and more sensitive to detectable patterns because of these structures. In fact, one factor of acquiring competence in a field is an “increased ability to segment the perceptual field (learning to see)” (p. 36). Novices tend to not perceive the same cues as experts “reading a classroom” (Berliner, 1986, p. 11). Ross and Gibson (2010) validated this dimension of expertise in their study of expert noticing during literacy instruction. Drawing from the theoretical perspective of Social Cognitive Theory, the researchers analyzed and compared the characteristics of 22 expert and less expert K-12 teachers' noticing during observation of literacy instruction; the less expert

participants were students enrolled in a graduate program in reading/language arts. All participants watched one of three possible videoed lessons and recorded comments into a digital recorder as they watched. Comments were then transcribed and coded.

Overall, Ross and Gibson (2010) found that expert participants' observations and remarks specifically addressed students' literacy processes and metacognition. They presented elaborate and detailed comments and engaged in frequent hypothesizing while interpreting students' behavior (literacy, metacognitive, and affective), whereas less expert participants' noticing was limited, less detailed, and littered with infrequent hypothesizing not always integrated into extended observation of students' literacy, metacognitive, and affective behavior. Ross and Gibson (2010) warranted that expert noticing and the pedagogical reasoning that come from frequent hypothesizing can lead a teacher to make instructional changes that can foster students' self-monitoring and self-regulation. "This problem solving and quick, moment-by-moment implementation of instruction that is closely targeted to students' immediate needs engages teachers in a valuable cycle leading to internalization of the principles of effective instruction" (p. 189). In this way, writing and teaching are similar: they both demand continual revision, ongoing re-seeing of the reality at hand (Graves, 1983). Expert noticing improves teaching and learning for students and teacher.

***Specialized organization of content knowledge.*** A skilled teacher's complex knowledge structure contains interconnected sets of organized actions (Leinhardt & Greeno, 1986). These organized conceptual structures are called *schemata* (Leinhardt & Greeno, 1986; National Research Council, 2000). The way experts organize information influences their ability to understand and mentally represent problems, for experts form cognitive representations of every problem they encounter to demarcate the problem's space (Berliner, 1994; Kellogg, 2008; Ross & Gibson, 2010). Their knowledge is more or less organized by "big ideas" or "core concepts," not superficial attributes (National Research Council, 2000). Attaining more knowledge leads to building up conceptual chunks and defining relationships or connections between them (National Research Council, 2000). *Deep* and *extensive* describe the expert's big ideas. Given this, expert knowledge is domain-specific (Berliner, 1994; Ross & Gibson, 2010).

***Conditionalized, contextualized knowledge.*** Experts retain an extensive amount of knowledge in their discipline, but only a small portion is relevant to any particular problem; thus, their knowledge is conditionalized because it seems to be specialized for certain types of

contexts or settings. It does not automatically transfer across domains (Berliner, 1994). In contrast, knowledge that is not activated in certain settings, for certain reasons, is called *inert* knowledge—relevant but not needed (National Research Council, 2000). In a manner of speaking, experts have learned to make meaning applicable to various contexts. Berliner (1994) described them as top down processors who impose meaning on stimuli in their discipline of expertise, a disciplinary knowledge which seems to have moved from propositional knowledge, to case knowledge, to strategic knowledge—built upon the interplay of the first two (Shulman, 1986). Conditionalized knowing is an aspect of metacognitive knowledge (Schraw, 1998; Negretti, 2012), and it is an often forsaken type of learning emphasized and assessed in the classroom (National Research Council, 2000).

***Flexible, automatic retrieval of information.*** Because experts house domain knowledge schematically and contextually, it is easily retrievable. Retrieving information can be effortful, relatively effortful (fluent), and automatic (National Research Council, 2000); experts retrieve information automatically, though not always quickly. They tend to spend careful time assessing and contextualizing the problem before jumping to a solution. They strive to accurately interpret cues, which fosters automaticity and reduces cognitive processing load (Berliner, 1994) because a person can only attend to a certain number of items at a time (National Research Council, 2000). Brown et al. (1982) contrasted controlled processing, deliberate and effort-laden and limited by short-term memory constraints, with automatic processing, requiring little directed or attentive control. Automatization affords one freedom from attention and effort. This “automaticity of certain processes apparently enables people who have achieved eminence to transcend their daily existence and to rise to creative heights in their chosen field” (Berliner, 1986, p. 7). Automaticity accompanies expertise.

To support their automaticity, experts need routine. Expert teachers, for example, have been found to impose their routines and procedures (Brophy, 1982) to foster order in a way they could teach comfortably (Berliner, 1994; Leinhardt & Greeno, 1986). “Routines reduce cognitive load and expand the teacher’s facility to deal with unpredictable elements of a task” (Leinhardt & Greeno, 1986, p. 76), yet Hammerness et al. (2005) clarified that automatized routines differ from scripted instruction: learning to teach by rote contradicts the work of an adaptive expert who “solve[s] problems that arise while continuing to meet the needs of students and improving over time” (p. 364). Berliner (1994) offered a heuristic model of how adaptive

expertise develops—hypothesized here in the realm of teaching. Stage One is the Novice Level, characterized by deliberate deployment of context-free rules. Stage Two is the Advanced Beginner Level, characterized by insight and recognition of similarities across contexts; context here begins to guide teacher behavior yet with little discrimination of what is important. Stage Three is the Competent Level, characterized by rational action and a sense of personal agency. At this level, teachers make conscious choices about what deserves the exercising of personal control, along with recognizing personal responsibility for outcomes. Stage Four is the Proficient Level, characterized by intuition and conditionalized understanding. Teachers exercise a higher level of pattern recognition, categorization, and similarities in disparate events; they are able to make micro-adjustments and predictions. Stage Five is the Expert Level, characterized by arationality; their choosing and decision-making is fluid and effortless, not actually deductive or analytical. Sophisticated, fluid teaching rarely comes natural to an inexperienced teacher, though it can happen (e.g., Artzt & Armour-Thomas, 1998). Typically, teachers may not even hit their stride until at least five years of repeat performance (Berliner, 1994; Pressley, 2005; Kellogg, 2008), but only a small percentage of teachers move on to be experts (Berliner, 2001).

***Thorough grasp of discipline.*** An expert in a given content area, in general, is not necessarily a good teacher. Content knowledge differs from pedagogical knowledge (National Research Council, 2000). Shulman (1986) articulated this difference, arguing that teachers should amass three categories of content knowledge: subject matter content knowledge, pedagogical content knowledge, and curricular knowledge. Subject matter content should contain substantive and syntactic structures—organized major concepts and rules governing them, respectively. Pedagogical content knowledge is subject matter knowledge for teaching, including, knowing how to represent, illustrate, explain, represent, and demonstrate major ideas, in addition to an awareness of what deems certain ideas more challenging than others. Curricular knowledge refers to the full range of materials, tools, and interventions for teaching, similar to a doctor knowing of all possible treatments in his or her field. Leinhardt & Greeno (1986), too, suggested that teachers' pedagogical skill rests upon the fundamental system of subject matter knowledge in addition to lesson structure knowledge—what is needed to design and execute a lesson. Expert *teachers* have the double blessing of knowing how to teach exceptionally well because of possessing an extensive and deep understanding of exemplary teaching in their

chosen discipline. They know their students personally (Berliner, 1994) and have the ability to “look inside student work” and what is necessary to guide lesson planning (Berliner, 1986, p. 12). They can also anticipate students’ obstacles and tap into their prior knowledge to cultivate meaningful learning environments (National Research Council, 2000; Ross & Gibson, 2010), though verbalizing these abilities to others can be challenging because, ironically, expert teachers can experience what researchers call “expert blindness” (Berliner, 1986; Berliner, 1994)—an inability to articulate or describe one’s own actions. Experts can be oblivious to the fact that their knowledge has become implicit and invisible (Bransford, Derry et al., 2005). Of this, expert teachers must be wary.

***Flexible adaptability.*** Unique to the domain of teaching is the need to be flexible. No student is the same as any other; no learner’s need in any teachable moment in any given context will be repeated. Flexibility is the prime aspect of adaptive expertise. Experts begin with well-thought out general script to follow deviate flexibly and fluidly in response to students’ needs (Berliner, 1994); they seem comfortable to step outside the confines of protocol, though flexibly. Wharton-McDonald (2008) stressed this ability:

It is not enough to possess specific knowledge or to demonstrate a set of particular teaching behaviors; what distinguishes the most effective teachers from their more typical peers is their ability to understand the incredible complexity of a classroom full of learners and their flexibility in adapting instructional strategies and materials—to orchestrate the myriad variables of learning on a day-to-day and minute-to-minute basis. (p. 344)

Effective teachers individualize instruction. They differentiate. They metacogitate, which assists their ability to adapt and grow in competence; the teacher monitors his or her grasp of the situation and determines whether or not it needs adjustment, and how (National Research Council, 2000). Brooks (2007) described exemplary teachers as also being adaptive in their own manner of being. Exemplary literacy teachers, for example, need not read the same types of materials or write the same types of texts; they take the initiative to “reinvent themselves in their own image” (p. 189), taking as priority the students’ needs. They recognize they have more to learn. But more striking yet is the impact of a person’s mental model of expertise. Falling in line with the Social Cognitive Theory, the National Research Council (2000) spoke of the lingering effects of one’s view of expertise. Experts hesitate to oversimplify problems, choosing

rather to question, monitor, and regulate their own understanding because they realize there is more to learn or determine. Sternberg (1998) affirmed that many aspects of expertise involve meta-componential functioning: time allocations, development of representations, selection of strategies, prediction of difficulty, and monitoring; metacognition is an essential part of developing expertise.

### ***Writing Teacher as Model Thinker***

From a social cognitive perspective, teachers of writing have moral and ethical obligations to consider the type of thinking and meta-thinking they encourage in students through personal example—practitioners of both theoretical and practical reasoning. Ritchhart (2002) argued that values, behaviors, and ideas are caught more so than taught in classrooms:

In thoughtful classrooms, a disposition toward thinking is always on display. Teachers show their curiosity and interest. They display open-mindedness and the willingness to consider alternative perspectives. Teachers model their own process of seeking truth and understanding. They show a healthy skepticism and demonstrate what it looks like to be strategic in one's thinking. They frequently put their own thinking on display and model what it means to be reflective. This demonstration of thinking sets the tone for the classroom, establishing both the expectations for thought and fostering students' inclination toward thinking. (p. 161)

Secondary writing teachers, tasked with teaching complicated rhetorical structures, are better equipped to scaffold instruction, interact with student writers, and monitor developmental progress when they seek to cultivate and refine their own thinking skills by becoming agents of critical and reflective thinking.

Realistically speaking, critical thinking is easier to identify than define, for it involves a multi-faceted, disciplined process of questioning, considering, evaluating, judging, discriminating, reasoning, and effort. Paul and Elder (2009b), of the Critical Thinking Community, identified it as such:

Critical thinking is that mode of thinking—about any subject, content, or problem—in which the thinker improves the quality of his or her thinking by skillfully taking charge of the structures inherent in thinking and imposing intellectual standards upon them. (para. 10)

Critical and reflective thinking in a classroom context undergo a self-regulated quality improvement process largely in part because of the intellectual standards set, utilized, and modeled for thinking with and through texts. The said production and monitoring and regulation of skillful thinking behavior must be taught and modeled. The teacher's personal example serves as the most influential pedagogical technique; the "teacher who publicly demonstrates metacognition will probably produce students who metacogitate" (Costa, 2001, p. 411). Studies in teachers' metacognitive knowledge showed that direct consciousness of thinking skills is imperative for designing rich instructional activities that promote higher order thinking (Zohar, 1999; Wilson et al., 2009). The very teaching of critical thinking presumes one's attentiveness to personal thinking and one's ability to reflect and make suitable, prudent adjustments. However, metacognition is more than just reflection. Reflection is an integral part, a subset, of metacognition (Risko et al., 2005); it is "goal-directed, interpretive act that can let people understand, monitor, and guide cognition" (Flower, 1994, p. 234). Reflection assists the monitoring and regulating activity of metacognition, leading to critical thinking. The unreflective thinker, for example, may have developed thinking skills but inconsistently or ineffectively applies them due to a lack of self-monitoring of thought (Paul & Elder, 2009a). Joseph (2003) attributed most writing problems to a lack of reflective thinking. No metacognitive reflection means no looking, no looking back, and no looking again—no discursive practices, no reading and writing to learn.

In order to explicate component skills of critical thinking—an otherwise nebulous phenomenon—Kuhn (1999; Kuhn & Dean, 2004) developed a hierarchy of epistemological levels to foster intellectual growth in critical thinking. The four-tiered model is dynamic in the sense that people may move fluidly from one level to another, depending upon the domain; it holds merit for secondary writing teachers assisting students through thought-provoking rhetorical structures like exposition and persuasion. The model begins with an initial realist stance of young children, an objective kind of knowing coming directly from an outside source, like a copy of outside reality...a "pre-epistemological unawareness of belief" (Kuhn, 1999, p. 22). Critical thinking plays no role in the realist level. Next is the absolutist level, also an objective kind of knowing in which "assertions are equated with reality, and disagreements are resolved by external authority" (Kuhn, 1999, p. 22), an initial epistemological stance. At this level, emphasis is placed on the known object (Kuhn & Dean, 2004), and assertions are right or



wrong, black or white. The third level is that of multiplist; here, the subjective overcomes the objective in an adolescent way of dealing with assertions. Because of disagreements in assertions, reality appears “unknowable” and critical thinking, irrelevant. The adolescent term “whatever” characterizes this stance. Kuhn (1999) claimed it is possible for people to stay in the pre-absolutist and absolutist stances for life, though many slide into the multiplist epistemological stance, “relinquishing the idea of certainty” (p. 22). The fourth level is the evaluative stance, an evaluative epistemology—a level few people reach. Here, judgments are formed and evaluated in accordance to particular criteria. Epistemological understanding (the awareness of what we know and how we know it) tends to advance with learning, deeming it a self-propagating process. Moving secondary students in the direction of this fourth level is the implicit goal of the secondary writing teacher preparing students to be “college ready” (CCSS, 2010).

Providing a hierarchical model is a beneficial way to formally evaluate critical thinking progress and, concurrently, share the responsibility of monitoring with students. Growth in understanding of one’s thinking can serve as a platform for developing intellectual values. Paul (1990) reasoned that sophisticated thinkers possess high degrees of relevant intellectual values: intellectual humility, intellectual integrity, intellectual perseverance, intellectual courage, intellectual empathy, intellectual autonomy, intellectual responsibility, and intellectual fair-mindedness. Just as character development thrives on virtuous behavior, so does the development of the intellect—beginning with humility. It seems only natural that learning about one’s reality, his or her personal truth, better prepares him or her for growth in all related virtues. Duffy (2002, p. 334) called this personal awareness “visioning”—a self-regulatory stance taken by outstanding teachers who obtain a conscious sense of themselves, their work, and their mission. Practically speaking, teachers with a vision concern themselves with intentions giving rise to action or a determination for action. Unlike theoretical (speculative) reasoning, the essence of argumentative writing—which utilizes propositions, claims, grounds to arrive at truth of belief...thinking ending in thinking—practical reasoning seeks realistic value in what a person should do and is concerned with volition. It requires deliberation or reflection supported by self-understanding and an understanding of norms relative to the matter at hand. To the extent that a person can discern the foundational basis of what drives and influences his or her intellect, volition, and heart is the extent to which he or she can be normatively true to self in practice.

The notion of teacher-as-practically reasonable practitioner holds as an assumption the *professional prerogative* that Pearson (2007) hailed—the “taking responsibility for one’s professional knowledge and ensuring that it is used wisely in making difficult decisions in the face of uncertain evidence about how to respond to the widely varying needs, interests, and circumstances of individuals” (p. 150). A thoughtful teacher sustains a comprehensive scope of the big picture while simultaneously considering the appropriate means to secure the good of others, the end.

Real progress in thinking, however, is more than just advancement on a continuum. All teachers and students think. Secondary writing teachers, then, help students probe and internalize their thinking, achieving depth and making meaning in a philosophical kind of way—a depth which comes through by letting them see what they have to say. Paul (1990, p. 471) suggested a philosopher’s question: “How should I understand the elements of thinking so as to be able to analyze, assess, and rationally control my own thinking and accurately understand and assess the thinking of others?” This rhetorical gem captures the essence of a sophisticated, metacognitive writing teacher. Encouraging dialogical and dialectical thinking (Paul, 2001) through personal example more effectively grooms students to engage in critical thinking behavior, i.e., analyzing, comparing, contrasting, synthesizing, and evaluating ideas. Dialogical thinking propels learners from constricted internal space to “reciprocal space,” where others’ ideas reside (Ritchhart, 2002, p. 119). These meaningful discussions naturally segue into writing that seeks to know.

Teaching writing well takes effort. It requires a teacher willing to seriously read, respond, and think with students. It requires the capacity to understand students and the delicacy to know how and when to intervene or direct or encourage. And it requires patience and firm hope in others’ developing ability—including one’s own. Essentially, it demands the very intellectual values expected of those with an “educated intellect” (Costa, 2001, p. 411). But most teachers need opportunities to work on their own philosophical thinking skills (Paul, 1990). The very teaching of critical thinking via reading and writing processes presumes one’s attentiveness to personal thinking and one’s ability to discern suitable, prudent adjustments while exercising a disposition for lifelong learning and continual inquiry (Pearson, 2007). The teacher’s metacognitive example serves as the most influential pedagogical technique. Then rich,

purposeful writing instruction has the potential to stimulate students' critical and reflective thinking and foster intellectually virtuous habits.

### ***Teacher Response to Student Writing***

Rich, purposeful writing instruction includes teachers' responses to students' writing. Teachers' feedback on students' papers—a Vygotskian activity with Bandurian overtones—is when “most teachers are likely to provide explicit, form-focused, and individualized instruction” (Patthey-Chavez, Matsumura, & Valdes, 2004, p. 463). It is a time when teachers can draw from their store of content and pedagogical knowledge to assist individual student writers who will represent a range of writing levels and abilities. When teacher responses are positive and focused on particular aspects of writing, they can be effective in enhancing writing skill, especially when preceded by instruction related to the nature of the comments (Hillocks, 1982). Feedback that provides specific improvement strategies can affect students' writing self-efficacy beliefs, planning, and revising and make students conscious of their personal approach to writing (Duijnhouwer, Prins, & Stokking, 2012). These oral and written encounters carry much weight in students' short-term and long-term performances.

Freedman, Greenleaf, and Sperling (1987), in *Response to Student Writing*, typified *successful response* to student writing as: 1) leaving ownership in students' hands, 2) communicating high expectations for all students, and 3) accompanying high expectations with sufficient help during the writing process. Yet research shows a scarcity in high-quality responses (e.g., Emig, 1971; Applebee, 1981; Parsons et al, 2010). Patthey-Chavez et al. (2004) conducted a mixed-methods study on the nature of teachers' written responses to student writings and the relationship of these responses to the quality of subsequent papers. The researchers examined written feedback from 11 teachers across five schools and 64 students. They classified all responses to student writing as surface-level (grammar, mechanics, usage) or content-level (comments to delete, add, reorganize, and questions to challenge) and reported that students received little content-level feedback on early drafts and showed little improvement over successive drafts. In fact, they found little evidence that “students were provided with written comments that deepened their understanding of texts, helped them understand how to use writing to express ideas, or expanded their thinking skills (Patthey et al., 2004, p. 474). Of the content-level feedback students did receive, about half pertained to requests for clarification;

only a small number of cases contained feedback for guiding students in how to revise rather than just clarify (2004, p. 472). Three students received thoughtful responses on final drafts, though the timing inhibited the feedback from serving as an effective instructional tool (Patthey et al., 2004). They argued for more professional support to assist teachers in providing substantive responses to student writing that evoke more developed and thoughtful writing. Effective response is connected to teachers' metacognition. Freedman et al. (1987) explained that teachers' in-process responses are attempts to encourage deep, critical thinking in students, but successful teacher responses are guided by "strong and consistent philosophy of teaching writing" that can be articulated to others; the teachers are consciously aware of why they teach as they do (p. 167). While this study did not attempt to analyze the type or quality of teachers' responses because of its primary concern with teachers' thoughts about their own thinking, it did hold adjacent an interest in teachers' awareness of and efforts to thoughtfully reciprocate with students.

### ***Writing Teachers' Training***

Writing teachers should demonstrate high competency in their field (Reid, 2009). Reid (2009) argued that writing teachers-in-training need to be challenged with difficult, exploratory, and critically reflective writing assignments so that they can be more empathetic and effective with their own students—that the best teachers have achieved their "skill mastery, knowledge, and intellectual fluidity" through struggles (p. 201). Then, they are more perceptive of incremental signs of progress in their students, especially through multiple drafts and revisions. Becker (2006) pointed to diagnostic skill as the most important factor in successfully revising texts: it distinguishes an expert writer from a novice. After studying expert writers, Horning determined that writing expertise (especially revision) is dependent upon multiple "meta" processes: meta-rhetorical, meta-strategic, and meta-linguistic awarenesses (as cited in Becker, 2006). A writing teacher serves as the diagnostician who works to help students become self-diagnosing. However, Murray (2004) began *A Writer Teaches Writing* with a sobering thought: most writing teachers "do not write, do not know how effective writing is made, and do not know how to teach writing" (p. 1). Composition pedagogy has been cited as a neglected area at most of the nation's teacher education programs (National Writing Project & Nagin, 2006). Therefore, professional development of pre-service and in-service teachers should lead to better

student writing (Fearn & Farnan, 2007). Fearn and Farnan (2007) recommended ten viable learning outcomes, highly influenced by the National Writing Project, for teachers of writing—the efficacy of which they investigated in five schools that had received professional development in at least one or more outcomes.

1. To teach students to think in and subsequently to write ideas and images.
2. To teach students to think in and subsequently write ideas and images in modes of discourse (describe, analyze, compare-contrast, criticize-persuade) that are central to writing.
3. To teach students to think in and subsequently write high-frequency, school-relevant relationships between form and function (short fiction, poetry, informative reports, reading responses, research letters, biography, autobiography, technical writing).
4. To teach students to use the paragraph for its essential organizational purpose in crafting ideas and images in the high-frequency and school-relevant genres, without reference to numbers or kinds of sentences, geometric shapes, rhyming patterns, or metaphors.
5. To teach students to think in and subsequently write the American English sentence in its various permutations, all to enhance the effectiveness of ideas and images, with no reference to subject and predicate, size of thoughts, and big letters and dots.
6. To teach students to recognize and use capital letters and punctuation marks as meaning markers, always in writing, only occasionally for editing.
7. To understand the distinction between vocabulary for reading and vocabulary for writing and to teach students vocabulary that enhances writing.
8. To teach students to approach and perform writing tasks for their own and others' purposes (prompts), on their own and on others' timelines.
9. To understand that practice makes permanent, not perfect, and, therefore, to use instruction to promote informed practice in writing for every student, every day.
10. To understand and teach students attributes of effective writing in response to students' own and others' purposes, including the realization that audiences select and give feedback to writers far more often than writers select audiences. (p. 19-20)

Two ideas become apparent when studying this list of outcomes. First, outcomes two through ten are extensions of outcome number one: teaching students to think in and write ideas and images. Teaching thinking is implicated in the teaching of writing. Second, obtaining content

knowledge and pedagogical knowledge of the ten outcomes in order to effectively teach them to writers of varying abilities and levels of development would require personal, lived experience with writing—and an understanding that Flower (1994) would characterize as a second level of metacognition, a level that is stable and conscious and able to be verbalized. Such development requires time and ample experience.

Then Grisham and Wolsey's (2011) fairly recent study of teacher candidates learning writing instruction revealed a paucity of writing instruction in the school sites of the study and lower levels of confidence in participants' understanding of teaching academic writing, yet their work with teacher candidates during a three-course sequence of literacy methods emphasizing direct instruction in writing pedagogy resulted in improved self-efficacy in the teaching of writing; teacher candidates simply needed sufficient time and experience to grow (Grisham & Wolsey, 2011). The researchers strongly advocated the need for better models of good writing instruction—"pedagogical models...[that] emphasize what teachers do while students write" (p. 362)—an objective of this study on writing teachers' metacognition! In a similar study, Morgan (2010) examined 42 pre-service teachers' understandings and perceptions of writing and themselves as writers during a 16-week course on writing instruction, one of four in a series of required literacy courses. The researcher wanted to study their writing experiences in the course to determine what resonated with them as future teachers of writing, knowing their need to live what they would be teaching. Future teachers of writing need to experience "slow, deep thinking, the search for the right word or phrase, the false starts and stops, along with the joy and satisfaction of getting ideas clearly stated on paper" (p. 352). Prior to the study, 60% of students did not feel confident in their own writing abilities, and many noted pivotal moments in their own academic careers when writing teachers encouraged or discouraged them through comments. During the study, participants identified certain concepts as instrumental in their learning of writing and understanding of future writing instruction: reading like a writer, undergoing similar experiences as their students, writing regularly, have choice in topic selection, and designing mini-lessons. By the end of the study, participants articulated an increased confidence in themselves as writers, a cognizance that writing takes work, and a development of their writing voice (Morgan, 2010). Like Grisham and Wolsey (2011), Morgan (2010) advocated that pre-service teachers receive more time and training in writing experience and writing instruction to instill a more positive disposition to writing and better grounding in

knowing how to help student-writers develop. Other research on pre-service teachers' literacy development (e.g., Reid, 2009; Hammann, 2005; Lesley, Watson, & Elliot, 2007) along with these two action research studies, though limited in scope and rooted the researchers' own classrooms, point to a connection between how teachers view themselves as writers and how they embrace reading-writing instruction.

### **Summary**

The literature reviewed in this chapter supported the intention of this study—to explore and describe experienced secondary writing teachers' thinking while reading and responding to student essays in order to inform professional development initiatives. The Social Constructivism Theory delineated the role that teachers play in interacting with and mediating in students' learning so as to foster their internalization of processes and skills. The Social Cognitive Theory supported the notion that teachers are observers *and* models, and the vicarious learning that occurs in the dynamic interaction of a writing classroom encourages students' control and monitoring of learning, writing self-efficacy, and self-regulatory learning behavior.

Additionally, the chapter's review of relevant research on metacognition pointed to its evolving prominence as a phenomenon in educational research and revealed both an important need for cognitively and metacognitively-astute teachers working with students' thinking, as well as a dearth of evidence of highly sophisticated interaction in literacy instruction...a concerning gap. Instructional conversations and thoughtfully adaptive teaching are privy to metacognitive instruction, yet the sparse collection of research studies on teachers' metacognition points to an area in need of further exploration in which this proposed study situates itself.

The supporting theories and metacognition literature, in addition to the professional demand for adaptive experts who model and teach critical and reflective thinking in meaningful and responsive ways, emphasize the weightiness of developing writing teachers who competently demonstrate the reading, writing, and thinking skills and behaviors they are tasked with cultivating in their students.

## CHAPTER THREE – METHODOLOGY

Limited research exists that explores teachers' explicit awareness or understanding of their metacognition (Wilson & Bai, 2010). Even less research is devoted to the metacognitive practices of sophisticated teachers (Pressley, 2002). Given this paucity, this instrumental, collective case study sought to explore and describe secondary writing teachers' thinking as they read and responded to student essays. However, teachers' metacognitive thinking is difficult to access because it is, essentially, an invisible act (Duffy et.al, 2009; Sitko, 1998). Nonetheless, its importance in characterizing effective literacy teachers and its potential in informing teacher education initiatives and professional development practices deem it worthy of study. A qualitative methodology made this challenging, somewhat ethereal exploration possible, giving access to patterns which emerged in individual cases and themes across cases. The study's overarching and subsidiary research questions follow:

### **Overarching Research Question**

How do secondary English teachers perceive and regulate their own thinking when reading and responding to student essays?

### **Subsidiary Research Questions**

1. What evidence of English teachers' metacognition emerges in response to student essays?
2. What strategies do English teachers use while reading and responding to student essays?
3. How do English teachers' perceptions of their thinking impact their reading of and response to student essays?

Flavell's model of metacognition framed the overarching and subsidiary research questions and the data collection and analysis processes. Below is the model in outline form. (See also Dunlosky and Metcalfe, 2009; Livingston, 1997; Pintrich, 2002; Griffeth & Ruan, 2005; Fernandez-Duque, Baird, & Posner, 2000; Hacker, 1998.).

1. *metacognitive knowledge*
  - a. person – knowledge about self (and others) as cognitive being(s)
    - i. intra-individual differences
    - ii. inter-individual differences



- iii. universals of cognition
      - b. task – knowledge of specific cognitive task or content domain
      - c. strategy – knowledge of the how, why, when of effective strategy use
- 2. *metacognitive experiences* – cognitive or affective experiences that lead to monitoring and regulating
- 3. *goals* (tasks) – cognitive decisions (the establishing, abandoning, or revising of goals) resulting from metacognitive knowledge and experiences
- 4. *actions* (strategies) – activation of strategies aimed at cognitive or metacognitive goals

This chapter describes the research design supporting the study, the previous pilot study that informed it, the setting, the participants, the range-finding processes involved, the data collection methods, the data analysis process, the establishment of trustworthiness, and the researcher’s role.

## **Research Design**

The present study used a qualitative methodology. Bogdan and Biklen (2007) differentiated between a methodology and methods; the former is a theoretical framework for a research project, whereas the latter makes up the specific techniques used. A research methodology as a whole represents a means of investigating certain kinds of questions (Van Manen, 1990). Qualitative research methodology, then, is an interpretative form of research in which a researcher seeks to gain deeper, richer understanding; in particular, its focus rests on understanding a phenomenon (Creswell, 2007) that is not quantifiable. It draws from the philosophy of phenomenology because of its emphasis on experience and interpretation (Merriam, 1998) and is typically concerned with the interpretive nature of human behavior and human experience (Bogdan & Bidlen, 2007). The objective of qualitative research is to understand (Stake, 1995). In other words, qualitative researchers identify and study an issue or essence thoughtfully; they seek to understand its complex interrelationships, taking as important the uniqueness of the individual case(s) and contexts (Stake, 1995). Underlying qualitative research questions is the assumption that reality studied is “holistic, multi-dimensional, and ever-changing” (Merriam, 1998, p. 202). The purpose of qualitative research is not to predict, prove, or control, nor does it aim to test hypotheses or obtain specific answers. Rather, it is naturalistic, descriptive, inductive, concerned with process, and pregnant with meaning (Bogdan & Biklen,

2007); as a result, the qualitative methodology permits emergence because the researcher is typically unsure of what to expect and is open to discovery. Moreover, qualitative data can provide rich insight into human behavior (Guba & Lincoln, 1994). Because education research involves people—and writing is a social and intrapersonal activity (Hacker et al., 2009)—an instrumental, collective case study methodology was best suited to explore and describe writing teachers’ perceptions of their metacognition.

Further, a case study is a detailed examination of a setting, subject, or event (Bogdan & Biklen, 2007)—the uniqueness and complexity of a single unit (Stake, 1995). The present *instrumental, collective case study* was “instrumental” because the case(s) (the range-finding events) was the means of studying something else, namely, teachers’ metacognition (Stake, 1995; Creswell, 2007); it was “collective” because it contained two distinct range-finding events (Goldberg, 2012), each with a unique team of seasoned and practicing English teachers. Each range-finding process and its accompanying team served as a case, so *collectively*, the study contained two cases. Creswell (2007) defined a case as a bounded system, which can be comprised of an individual, several individuals, a program, an event, or an activity (pp. 73-74). The incorporation of two or more subjects constitutes a collective or multiple-case study, as in the case of this study. Evidence from multiple cases can be more compelling and robust, though more time-intensive for the researcher (Yin, 2009). Even more, the case studies work well when the researcher wants to understand a real-life phenomenon in depth in its natural setting (Yin, 2009), especially when the phenomenon is not easily studied by other research methods (Gay, Mills, & Airasian, 2009)—like writing teachers’ metacognition. At the root of this study lay the intent of studying writing teachers’ “lived experiences” (Van Manen, 1990; Seidman, 2006) as thinking practitioners participating in a range-finding event so as to better understand their metacognitive knowledge and experiences in their work with student writing.

### **Pilot Study**

Informing this study was a pilot study that took place in the spring semester of 2012. Like the proposed study, the exploratory multi-case design utilized Flavell’s theoretical model of metacognition as a framework to study post-secondary writing instructors’ perceptions of their metacognition when working with students writing compositions. The pilot study contained four full-time English faculty participants, obtained through purposeful sampling, from the same

English department at a midwestern liberal arts college; each faculty participant represented one case. The data collection methods were threefold: in-depth individual interviews, follow-up interviews (as needed), and a focus group interview, and the analysis procedures essentially consisted of an interpretive scrutiny of qualitative data spanning four steps, beginning with categorical aggregation on each case and on the focus group transcript, a process Stake (1995) recommended for identifying gathering emerging ideas. Next was a cross-case synthesis technique Yin (2009) suggested for multiple cases; this produced a total of thirty-one mutual categories across the four cases. After further analysis and study of the theoretical framework, the categories were collapsed into themes (Creswell, 2007), and then generalizations of the case themes were developed in light of relevant literature. Four major themes emerged from the data: *reading-writing connections*, *adaptivity*, *conversational inquiry*, and *relatability*. All four themes incorporated the dynamic interplay of the four phenomena in Flavell's theoretical model of metacognition: *metacognitive knowledge* (person, task, and strategy variables), *metacognitive experiences*, *goals* (tasks), and *actions* (strategies).

The analysis and interpretation of pilot study data resulted in three, broad conclusions. First, participants set goals and chose actions that drew upon their metacognitive experiences and metacognitive knowledge (through person, task, and strategy variables). Yet their perceptions of these phenomena were not always explicit. Participants seemed not to routinely acknowledge (and in some instances, recognize) their own metacognition. This could be, perhaps, because they did not receive a careful explanation of the theory of metacognition or Flavell's theoretical model prior to the study. They simply knew the study entailed examination of teacher metacognition. Thus, they might not have had a robust or explicit pre-existing understanding of metacognition to frame their responses, despite the possibility of possessing a storehouse of relatable metacognitive perceptions and experiences which remain untapped.

Second, given the diverse personalities, teaching styles, and background experiences of the participants, what could be labeled as "metacognitive thought" was more varied in nature and form than had been anticipated. The research question opened the study to consider a rather large scope: "teachers' perceptions and utilizations of their own metacognition" with rather liberal identification of what constituted metacognitive knowledge, experiences, goals, or actions—or the result of the dynamic interplay between them. Metacognition is a "fuzzy" construct to define or quantify, and interpreting its manifestations through others' self-

perceptions poses a number of challenges. 1) Perception is always a form of interpretation. The participants shared what they recognized about their own thinking behaviors, which would have been limited to what they deemed pertinent or applicable—or even what they remembered. 2) The perceptions they shared may or may not represent a wealth of unshared metacognitive instances. 3.) Discussing actions and thoughts after-the-fact is also a constraint in that the participant is forced to retrieve from memory the factors that went into the deliberating process. This can result in fragmented or even quasi-fictionalized perceptions. 4) The four phenomena of Flavell’s model can become indistinguishable from one another, for the monitoring of cognitive activity comes through the “actions and interactions among metacognitive knowledge, metacognitive experiences, goals/tasks, and actions/strategies” (Flavell, 1979, p. 909). Though studying the phenomena separately can help a researcher see the expansiveness of metacognitive thought and behavior, researchers have found analyzing them as distinct entities to be counterproductive (Artzt & Armour-Thomas, 1998). Thus, the data provided rich descriptions of teachers’ thinking about teaching and writing and teaching writing in snapshots, but more evidence most likely lies beneath the surface.

Third, becoming metacognitively astute is an essential part of becoming a sophisticated teacher. Growing in metacognitive knowledge of person, task, and strategy variables can heighten one’s metacognitive experiences, which, in turn, initiates changes in setting personal and professional goals and choosing actions. Teachers benefit from knowing about their thinking and its relationship to their performance so that they can enhance their metacognitive capabilities and become even more proficient at designing and executing effective instruction. The doing moves beyond the knowing. Thus, researchers will want to consider knowledge—along with behavior and motivation and goal-setting and actions...and even self-efficacy, personal beliefs about competence, and motivation to achieve valued goals (Bandura, 1997)—and work to see the connectedness between them. Metacognition researchers would do well to illuminate the interplay between metacognitive phenomena in order to achieve a more holistic view.

In short, the pilot study influenced the methodology of the current study of secondary writing teachers’ thinking in following ways:

1. An exploratory, multi-case study research design befitted the study of teachers’ metacognition.

2. Flavell's theoretical model of metacognition served as a profitable framework for its research questions, data collection, data analysis and interpretation processes.
3. Data collection from the range-finding process, an event-in-action, gleaned on-line thought processes of teachers reading and responding to student essays, giving wider access to their cognition and metacognition.
4. The research questions were rephrased to align with specific mental activity of the teachers engaged in a range-finding process.
5. The data collection methods were expanded to include in-depth individual interviews and a focus interview per case, in addition to observations and field notes, digital audio recordings, annotated rubrics. The data was collected during and after the range-finding processes.
6. The data analysis process utilized analytic induction but was extended, spanning three phases (to be described in a later section).

The pilot study of post-secondary English instructors' metacognition broke ground, in a sense, for the current research of secondary writing teachers' thinking when reading and responding to student essays. Its design, limitations, and conclusions are reflected in the more focused and more rigorous study addressed here.

## **Setting**

The present study took place in a large school district in a midwestern state. Ranked within the top three districts for its size, it educates approximately 23,000 students and employs 1,745 teachers. Situated as a suburban area southwest of a major city, it is the home to four high schools, six middle schools, and twenty-five elementary schools. It holds a prestigious reputation in the state for academic excellence. Thirteen of the schools have earned the Blue Ribbon Award from the U.S. Department of Education, and the district's SAT and ACT scores are higher than metro, state, and national averages—an ACT composite score of 23.4, with the national composite at 21.1.

Paramount to this study were two district policies: Policy 6315.1 – Use of Assessment Data and Policy 6320 – Students' Graduation. The former policy addresses the district-wide assessment system, which provides a “fair and adequate measurement of each student's progress and achievement.” In addition to district's Essential Learner Outcomes (ELO), the assessment

system includes state and federal requirements. The ELOs in writing are assessed at grades 3, 5, 6, 7, and 10. Two district writing assessments, Analytic Writing Assessments (AWAs), are administered in the tenth grade, expository and persuasive writing, and in meeting the proficiency cut scores for the ELO district assessments, students acquire an essential criterion for graduation; that is, all students must pass the district assessments to graduate. The district had previously created four prompts for each of the two writing assessments, totaling eight prompts for expository and persuasive AWAs. In essence, the two range-finding processes (Goldberg, 2012) in this study were affiliated with the tenth grade assessments by determining anchor sets of essays for all of the eight prompts to substantiate the district's writing rubric, as well as train assessment scorers and fuel ongoing professional development efforts during the 2012-2013 academic school year.

## Participants

Qualitative research studies allow for a small number of individuals selectively chosen to assist the researcher in better understanding the phenomenon under investigation (Gay et al., 2009), as was the case in this study which utilized both *criterion sampling* and *convenience sampling* (Gay et al., 2009). Fourteen participants took part in each range-finding event (Goldberg, 2012). Participants were selected and hired by the district administrative team according to pre-determined criteria (Gay et al., 2009) of teaching excellence; their objective was to locate range-finding participants who excel at their craft and possess a wealth of content and pedagogy knowledge. So the fourteen participants for each event included the same three administrators who served as facilitators and note-takers; four retired English teachers, who regularly engage in contract work for the district, state, and the affiliated educational service unit—a political subdivision which provides educational programs and technology services to large span of the state; and a group of seven practicing secondary English teachers. Though the administrators and retired teachers remained the same for both range-finding events, the district administration hired two different groups of seven practicing teachers for each event, permitting a total of fourteen district teachers to experience range-finding. Thus, the participant selection resulted in convenience sampling, a type of purposeful sampling (Merriam, 1998), and the researcher deferred to the administrative team's sound judgment and professional discretion.

### *Participant Demographics*

A district administrator introduced the study in advance by contacting each of the range-finding participants a week before the respective event. She sent them the participant letter (See Appendix C.) and the Participant Informed Consent Form (See Appendix D.) and mentioned the district’s endorsement of the research (See Appendix E.) but explicitly stated that each person had free choice to participate or not. At the beginning of both range-finding events, the administrative team once again introduced me as researcher and allowed me to ask for their willing participation in the study. All participants agreed, and each signed the Participant Informed Consent Form. The table below outlines general demographical information for the 21 total participants from both cases, such as credentials, years taught, subjects taught, grade levels taught, and years in the district. The information reveals only the information each participant provided through the administrative liaison. In respecting the administration’s request, I did not personally interview any of the district’s practicing teachers, though I was able to interview the retired teachers outside of the range-finding timelines.

**Table 3: Participants’ Demographical Information**

Person	Participant’s Role	Credentials	Years Taught	Subjects/Levels Taught	Years in District
<i>*Participants with asterisks by their letters participated in both range-finding events (cases).</i>					
*A	Administrator	<ul style="list-style-type: none"> <li>• B.S. in Elementary and Middle School Education</li> <li>• minor in math</li> <li>• M.S. in Curriculum and Instruction</li> <li>• K-9 endorsement in language arts</li> <li>• K-9 endorsement in mathematics</li> </ul>	19	<ul style="list-style-type: none"> <li>• 7<sup>th</sup> grade reading and English</li> <li>• 7<sup>th</sup> grade math</li> <li>• 7<sup>th</sup>/8<sup>th</sup> grade science</li> <li>• 7<sup>th</sup> grade geography</li> </ul>	16
*B	Retired Teacher	<ul style="list-style-type: none"> <li>• B.A.</li> <li>• additional graduate hours</li> </ul>	15	<ul style="list-style-type: none"> <li>• 3<sup>rd</sup> grade</li> <li>• ELL</li> <li>• high school English sub</li> </ul>	15
C	Practicing Teacher	<ul style="list-style-type: none"> <li>• B.A. in Secondary English</li> <li>• ESL endorsement</li> </ul>	8	<ul style="list-style-type: none"> <li>• Honors English 10</li> <li>• English 11</li> <li>• AP Language</li> </ul>	8
D	Practicing Teacher	<ul style="list-style-type: none"> <li>• B.A. in education</li> <li>• M.A. in Curriculum and Instruction</li> </ul>	7	<ul style="list-style-type: none"> <li>• English 8, 9, 10, 11, 12</li> <li>• Reading Specialist</li> <li>• speech</li> </ul>	7
E	Practicing Teacher	<ul style="list-style-type: none"> <li>• B.A. in Library Science</li> <li>• M.S. Library Science</li> </ul>	22	<ul style="list-style-type: none"> <li>• English 9, 10, 11</li> <li>• creative writing</li> <li>• AP English</li> </ul>	22
*F	Retired Teacher	<ul style="list-style-type: none"> <li>• B.A. in education</li> </ul>	44	<ul style="list-style-type: none"> <li>• middle school reading</li> <li>• middle school English</li> <li>• high school English</li> </ul>	44

Person	Participant's Role	Credentials	Years Taught	Subjects/Levels Taught	Years in District
<i>*Participants with asterisks by their letters participated in both range-finding events (cases).</i>					
<b>G</b>	Practicing Teacher	<ul style="list-style-type: none"> <li>B.S. in Secondary Education and Language Arts</li> <li>M.A. in Secondary Education and Technology</li> <li>working on a M.A. in English</li> </ul>	17	<ul style="list-style-type: none"> <li>journalism</li> <li>English</li> </ul>	17
<b>H</b>	Practicing Teacher	<ul style="list-style-type: none"> <li>B.S. in education</li> </ul>	N/A	<ul style="list-style-type: none"> <li>yearbook</li> <li>speech/drama</li> <li>English 9, 10, 11</li> </ul>	N/A
<b>*I</b>	Administrator	<ul style="list-style-type: none"> <li>B.S. in Secondary Education</li> <li>M.A. in Educational Administration</li> <li>certificate in Secondary Administration</li> </ul>	12	<ul style="list-style-type: none"> <li>7<sup>th</sup> grade geography</li> <li>8<sup>th</sup> grade American history</li> </ul>	4
<b>*J</b>	Retired Teacher	<ul style="list-style-type: none"> <li>B.A.</li> <li>M.A.</li> </ul>	34	<ul style="list-style-type: none"> <li>high school English</li> </ul>	N/A
<b>*K</b>	Retired Teacher	<ul style="list-style-type: none"> <li>B.S. in education</li> <li>minor in special education</li> </ul>	3	<ul style="list-style-type: none"> <li>special education</li> <li>3<sup>rd</sup>/4<sup>th</sup> grade</li> <li>subbing for 12 years</li> </ul>	12
<b>L</b>	Practicing Teacher	<ul style="list-style-type: none"> <li>B.A. English</li> <li>M.S. in Secondary Education</li> <li>working on M.A. in English</li> </ul>	24	<ul style="list-style-type: none"> <li>Honors English 9</li> <li>English 9</li> <li>AP Language</li> <li>English 10</li> </ul>	24
<b>M</b>	Practicing Teacher	<ul style="list-style-type: none"> <li>B.A. Secondary Education in English and Biology</li> <li>M.S. Secondary Administration</li> </ul>	6	<ul style="list-style-type: none"> <li>English 9</li> <li>Honors English 9</li> <li>10<sup>th</sup> grade biology</li> </ul>	6
<b>*N</b>	Administrator	<ul style="list-style-type: none"> <li>B.S. secondary science education</li> <li>M.S. in Educational Administration, K-12</li> <li>Ed.D. in Educational Administration</li> <li>Superintendency Endorsement</li> </ul>			
<b>O</b>	Practicing Teacher	<ul style="list-style-type: none"> <li>B.A. in Secondary Education</li> <li>endorsements in English and history</li> </ul>	3	<ul style="list-style-type: none"> <li>Honors English 9</li> <li>research methods</li> </ul>	3
<b>P</b>	Practicing Teacher	<ul style="list-style-type: none"> <li>B.S. in Secondary Education</li> <li>endorsed in 7-12 English and speech</li> <li>M.A. in Speech Communications</li> </ul>	17	<ul style="list-style-type: none"> <li>English 9</li> <li>9-12 speech</li> </ul>	11
<b>Q</b>	Practicing Teacher	<ul style="list-style-type: none"> <li>B.A. in Global Business and Trade, specializing in export/import</li> <li>B.S. in Secondary Education</li> <li>endorsement in language arts and business</li> <li>M.S. in Curriculum Development and Technology Integration</li> </ul>	4	<ul style="list-style-type: none"> <li>English 9, 10, 11</li> <li>Literacy Enrichment 9</li> <li>Honors English 10</li> <li>IB English</li> </ul>	4
<b>R</b>	Practicing Teacher	<ul style="list-style-type: none"> <li>B.S. in education</li> <li>endorsement in language arts</li> </ul>	2	N/A	2



Person	Participant's Role	Credentials	Years Taught	Subjects/Levels Taught	Years in District
<i>*Participants with asterisks by their letters participated in both range-finding events (cases).</i>					
<b>S</b>	Practicing Teacher	<ul style="list-style-type: none"> <li>• B.S. in Secondary Education</li> <li>• endorsements in English and language arts</li> <li>• M.S. in Secondary Education</li> <li>• M.S. in Secondary Administration</li> </ul>	7	<ul style="list-style-type: none"> <li>• English 9</li> <li>• Honors English 9</li> <li>• speech</li> <li>• study skills</li> <li>• Basic English 11</li> </ul>	7
<b>T</b>	Practicing Teacher	<ul style="list-style-type: none"> <li>• B.S. in Secondary Education</li> <li>• endorsements in English and special education</li> </ul>	3	<ul style="list-style-type: none"> <li>• English 9</li> <li>• Literacy Enrichment 9</li> </ul>	3
<b>U</b>	Practicing Teacher	<ul style="list-style-type: none"> <li>• B.A. in Secondary Education and Language Arts</li> <li>• M.Ed. in Curriculum and Instruction</li> </ul>	3	<ul style="list-style-type: none"> <li>• English 10</li> <li>• English 11</li> </ul>	3

### **Range-finding Process**

Range-finding is a process used to establish exemplar samples of writing for respective grades at each performance level that will be used as models (Goldberg, 2012). During the process, a group of experienced teachers score student essays according to a rubric, discuss and justify their evaluations, and come to consensus as to the analytic ratings of each paper so as to determine anchor sets of essays—exemplar samples. The anchor set is then used to train future scorers of writing assessments and further professional development for writing teachers. Typically, range-finding events occur in large-scale or state-wide settings, but the district in which this study was conducted chose to host an in-house range-finding process to prepare for its own district writing assessment. Previous to 2012-2013 academic year, the district conducted an informal range-finding event, which kindled the efforts of this study's collective case for 10<sup>th</sup> grade expository and persuasive essay assessments. The district writing assessments are scheduled to be administered during the spring of 2013, when scorers will be trained using the anchor sets determined during the course of this study. This study concerned itself with two of the district's range-finding processes, both two days in length: one for 10<sup>th</sup> grade expository essays and one for 10<sup>th</sup> grade persuasive essays.

#### ***District's Range-finding Protocol***

At the beginning of each range-finding event, the administrative team clearly explained the ultimate purpose of the process to be movement in the direction of accuracy for scoring of high school writing assessments. The district had taken measures over the past five years to

increase accuracy, as well as grow the training and scoring expertise of those involved in Analytic Writing Assessments (AWAs). Therefore, the papers to be used for training of district scorers needed to be scored accurately—the proximate goal of each range-finding event. The district hoped to call upon the “think tanks” gathered before them, the “best of the best,” to score consistently and accurately, while providing meaningful narrative comments to support the overall assessment and evaluation system in the district in preparation for later “live writing.”

The administration set a precedent to connect back with previous scores as they launched into new, un-scored essays so as to maintain consistency. So to better prepare participants for the range-finding experience, one administrator clarified the different kinds of scoring inconsistencies, cautioning them to be alert to these tendencies and biases within themselves: *first impression, leniency, central tendency, halo effect, and similar-to-me*. The most critical form of scoring preparation was to come from their training with the rubric. The administrative team underscored the importance of participants “getting” the rubric. Consequently, participants formally began the range-finding event by reviewing and annotating the analytic scoring rubric. After giving participants silent time to study the rubric, a second facilitator walked through the categories and pointed out discriminatory differences between the levels within each category, drawing the teachers’ attention to key words and phrases of which they were to take note. This followed with time devoted to reviewing previously scored papers; all subsequent scoring from the range-finding events was to be grounded in the previous year’s scoring—in accordance with the district’s pre-determined cut scores (the determiners between low to medium and medium to high performance). Their opening training session segued into whole group scoring and then, later, small group scoring. A detailed agenda below enumerates the days’ proceedings.

**Table 4: Agenda for Range-finding Events**

Date	Time	Activity
<b>Range-finding One Day One:</b> September 10, 2012	8:00 – 8:15 A.M.	<ul style="list-style-type: none"> <li>• Welcome</li> <li>• Discuss housekeeping details</li> <li>• Share overview</li> </ul>
	8:15 – 8:30 A.M.	<ul style="list-style-type: none"> <li>• Discuss security and privacy</li> <li>• Explain rater error</li> </ul>
	8:30 – 9:00 A.M.	<ul style="list-style-type: none"> <li>• Highlight rubric</li> <li>• Look at training documents</li> <li>• Define tasks (scoring process)</li> <li>• Explain note-taking strategy</li> </ul>

Date	Time	Activity
	9:00 – 11:00 A.M.	<ul style="list-style-type: none"> <li>• Walk through already scored papers (inter-rater papers from fall 2011)</li> <li>• Practice note-taking strategy</li> </ul>
	11:00 – 11:30 A.M.	<ul style="list-style-type: none"> <li>• Score as a whole-group for practice (using rubric)</li> </ul>
	11:30 – 12:10 A.M.	<ul style="list-style-type: none"> <li>• Lunch</li> </ul>
	12:10 – 2:00 P.M.	<ul style="list-style-type: none"> <li>• Score three to five additional papers</li> </ul>
	2:00 – 4:00 P.M.	<ul style="list-style-type: none"> <li>• Split into three groups</li> <li>• Score and collate comments</li> </ul> <p><i>(All three groups were to score the same prompt with the goal of eight to ten papers per group.)</i></p>
<b>Range-finding One Day Two:</b> September 11, 2012	8:00 – 8:45 A.M.	<ul style="list-style-type: none"> <li>• Refresh</li> <li>• Walk through scored papers from previous day</li> </ul> <p><i>(Papers scored by all three groups were to serve as a check point.)</i></p>
	8:45 – 9:00 A.M.	<ul style="list-style-type: none"> <li>• Give directions: scoring, note-taking</li> <li>• Review process</li> </ul>
	9:00 – 12:00 A.M.	<ul style="list-style-type: none"> <li>• Score and collate comments in three small groups</li> </ul> <p><i>(Each group worked on a different prompt, striving for seven to ten papers.)</i></p>
	12:00 – 1:00 P.M.	<ul style="list-style-type: none"> <li>• Focus group interview and lunch</li> </ul>
	1:00 – 4:00 P.M.	<ul style="list-style-type: none"> <li>• Score and collate comments in three small groups</li> </ul>
<b>Range-finding Two Day One:</b> September 19, 2012	8:00 – 8:15 A.M.	<ul style="list-style-type: none"> <li>• Welcome</li> <li>• Discuss housekeeping details</li> <li>• Share overview</li> </ul>
	8:15 – 8:30 A.M.	<ul style="list-style-type: none"> <li>• Discuss security and privacy</li> <li>• Explain rater error</li> </ul>
	8:30 – 9:00 A.M.	<ul style="list-style-type: none"> <li>• Highlight rubric</li> <li>• Look at training documents</li> <li>• Define tasks (scoring process)</li> <li>• Explain note-taking strategy</li> </ul>
	9:00 – 11:00 A.M.	<ul style="list-style-type: none"> <li>• Walk through already scored papers</li> <li>• Practice note-taking strategy</li> </ul>

Date	Time	Activity
	11:00 – 11:30 A.M.	<ul style="list-style-type: none"> <li>• Score as a whole-group for practice (using rubric)</li> </ul>
	11:30 – 12:10 P.M.	<ul style="list-style-type: none"> <li>• Lunch</li> </ul>
	12:10 – 2:00 P.M.	<ul style="list-style-type: none"> <li>• Score three to five additional papers</li> </ul>
	2:00 – 4:00 P.M.	<ul style="list-style-type: none"> <li>• Split into three groups</li> <li>• Score and collate comments</li> <li>• (All three groups were to score the same prompt with the goal of eight to ten papers per group.)</li> </ul>
<b>Range-finding Two Day Two:</b> September 21, 2012	8:00 – 8:45 A.M.	<ul style="list-style-type: none"> <li>• Refresh</li> <li>• Walk through scored papers from previous day</li> </ul> <i>(Papers scored by all three groups were to serve as a check point.)</i>
	8:45 – 9:00 A.M.	<ul style="list-style-type: none"> <li>• Give directions: scoring, note-taking</li> <li>• Review process</li> </ul>
	9:00 – 12:00 A.M.	<ul style="list-style-type: none"> <li>• Score and collate comments in three small groups</li> </ul> <i>(Each group worked on a different prompt, striving for seven to ten papers.)</i>
	12:00 – 1:00 P.M.	<ul style="list-style-type: none"> <li>• Focus group interview and lunch</li> </ul>
	1:00 – 4:00 P.M.	<ul style="list-style-type: none"> <li>• Score and collate comments in three small groups</li> </ul>

## Data Collection

A good case study includes as many sources of evidence as possible (Yin, 2009). Creswell (2007) likened data collection to a “series of interrelated activities aimed at gathering good information to answer emerging questions” (p. 117). The data collection for this study included: observations and field notes, annotated rubrics, digital audio recordings, focus group interviews, and individual interviews. Each data source is described below.

### *Observations and Field Notes*

Because the district administration organized, managed, and facilitated the range-finding events in their entirety, I fully immersed myself in the role of nonparticipant observer. Gay et al. (2009) described this type of observer as one who does not become directly involved in the situation being observed; rather, the researcher records the events and behaviors in a nonintrusive

manner. As a result, I watched the entire proceedings of the four days of range-finding and supported my observations with the use of field notes, which are “qualitative materials...compiled on-site during the course of the study” (p. 367). In a notebook, I drew illustrations of the room, recorded conversations, instructions, and remarks, which filled the main spaces. Ideas and comments most pertinent to my research interests were starred or highlighted in yellow. Then along the sides, in the margins, I jotted my own opinions, insights, and ponderings. Bogdan and Biklen (2007) explained that field notes can reflect on analysis, method, dilemmas or conflicts, and the observer’s frame of mind. The first of the three examples below demonstrates a question unfolding as I watched the participants discuss different ways to interpret a component of the rubric.

*I wonder if the struggle with understanding transitions has to do with a missing criterion on the rubric: paragraph development. Or maybe “order” should consider sequencing of main ideas AND sub-points. Then off to the side, I had written as a further insight: My reflection. I want someone to catch this!*

The second example expresses an insight I had as a small group came to consensus after having worked through a misunderstanding of terminology:

*A benefit of this professional development is growing in content vocabulary...We gain more words to define and/or capture what we mean.*

The third example shows a conclusion I was drawing in my mind as I watched participants discuss:

*Some talk out loud...Some talk their way into their thoughts.*

Despite the enrichment the observations and field notes have brought to my analysis, one disadvantage remained: I was unable to be physically present at each of the small group sessions simultaneously. To allay this concern, I traveled to each small group frequently, taking copious notes and being attentive to the amount of time spent with each group. All small group sessions were recorded with digital audio recorders, however, and so through the transcription process, I had access to all whole and small group conversations.

### ***Annotated Rubrics***

Documents can serve as supplemental information in a case study. Each new essay scored during the course of the study was accompanied by an annotated rubric, i.e., a copy of the

district rubric with narrative comments justifying the score for each category. The primary administrative facilitator annotated the rubrics for the whole group scoring, and the three administrators shared the note-taking role when participants separated into small groups. At the close of the study, I received copies of each of the annotated rubrics, a type of data method classified as “official documents” (Bogdan & Biklen, 2007, p. 64). Though the annotated rubrics were intended to assist the future training of the district scorers, they provided me with narrative support when interpreting the digital audio recordings and concrete depictions of the participants’ assessment of student writing, in general. By compiling narrative comments across the rubrics of both cases, I could better determine participants’ conventional view—or more standardized interpretation—of each rubric category, which could, in turn, augment professional development for the English teachers.

### ***Digital Audio Recordings***

The primary source of data collection came from the four days’ worth of digital audio recordings. All group sessions (whole and small group) were audio-recorded with one of four hand-held digital recorders; many of the sessions were double-recorded so as to secure the data. These audio files were then transferred to a computer and converted into MP3 files. All files (approximately 64 hours total) were then transcribed onto Microsoft Word documents for coding. Because the expansive files spanned the entire length of the study, the transcription took an extensive amount of time: four months—a tough commitment for many researchers (Gay et al., 2009), yet it did permit me to, in a sense, *relive* the experience as many times as needed to capture the content and nuances of the discussions.

### ***Focus Group Interviews***

The district granted me access to the district participants through one focus group session per range-finding event. During lunch on the second day of each range-finding event, I gathered the seven practicing teachers from the district and conducted a whole-group interview with them. Creswell (2007) explained focus groups as being advantageous when the researcher can glean meaningful information through the interaction of the participants. Having already experienced one and a one-half days of range-finding, these small groups of participants were willing to share their active thoughts in new ways than what had been unveiled in the scoring sessions. I utilized

the focus group protocol (shown later in this chapter) as the foundation for the discussions but found the participants eager to discuss a vast array of topic-related concerns. The participants seemed comfortable placing their range-finding experiences within the larger scope of their teaching philosophies and practices.

### ***Individual Interviews***

Though I was not granted permission to interview practicing district teachers outside of the range-finding events, I was able to conduct brief individual interviews with the four retired English teachers who participated in both studies. Due to geographical and time constraints, we unanimously decided to conduct email interviews; thus, I emailed each participant a modified version of the individual interview protocol (shown later in this chapter) and asked each to complete the questions that applied. All four participants expressed willingness to correspond, though each vocalized some concern at providing valuable contributions due to their absence from the classroom. I assured them that I was interested in their thinking as readers of students' writing and encouraged them to reflect upon their current and past experiences to aid their responses. Three of the four returned the interview transcript with reflective remarks. The fourth participant responded to me with a brief statement via email after two attempts to correspond with her post-study. Collectively, the individual interviews broadened my perspective of English teachers' thinking so as to encompass the wholeness of "English-teacher-as-person."

### ***Phase One of Data Collection***

The data I collected occurred in three phases for each range-finding event: 10<sup>th</sup> grade expository essays and 10<sup>th</sup> grade persuasive essays. The first phase consisted of three types of data: field notes and observations, digital audio recordings, and annotated rubrics—all described above. The observations included training the participants received, whole group and collaborative reading of student essays, and all discussions and consensus-building in determining in scoring students' essays. Field notes accompanied the observations and contained both descriptive and reflective jottings (Bogdan & Biklen, 2007). The second method was the digital audio recordings—the largest data source—which were then transcribed, and the

third method of the first phase of data collection was the accumulation of teacher comments (after consensus), the annotated rubrics.

### ***Phase Two of Data Collection***

The second phase of data collection happened while in the middle of phase one. It was comprised of the focus group interviews during lunch on the second day of each range-finding event. Thus, two focus group interviews were conducted, one per case, and below is the protocol used.

#### **Focus Group Interview Protocol**

1. What thoughts are swirling in your mind now that you are in the midst of the range-finding process?
2. Describe what you are noticing about yourself as you are working.
3. Discuss what you are noticing about the students' work as you are reading and responding to their essays.
4. Describe the kinds of challenges writing teachers face when working with student essays.
5. What constitutes "effective feedback" in writing instruction?
6. How do teachers' perceptions of their thinking impact their reading of and responding to student essays?
7. In what ways can a teacher's understanding of a student's reading, writing, and thinking abilities influence instruction?
8. What changes would you like to see in the teaching of writing?

### ***Phase Three of Data Collection***

The final phase of data collection began in the midst of phase two but officially occurred post-study. During the days of range-finding, I made contact with the four retired English teachers and arranged follow-up interviews, which we agreed to conduct via email. The district asked that these interviews take place outside of its grounds and in accordance with the interviewees' preferences.

Jointly, the focus group interviews and individual interviews served as meaningful data sources outside of what transpired during the reading-responding-scoring activity. Case studies permit researchers access to descriptions and interpretations of others (Stake, 1995), and so these



two types of in-depth interviews harvested rich data concerning participants' reflections on their own thinking processes, a form of retrospective verbalization (Brown et al., 1982). Interviews give participants opportunities to symbolize their lived experiences through language (Seidman, 2006), and these purposeful, "guided conversations" (Yin, 2009) can lead to a wealth of descriptive data in the participants' own words. Despite the natural limitations in completely understanding others, which sometimes occurred in analyzing the transcribed files, Seidman (2006) suggested comprehending others by studying their actions and hearing their stories to be a researcher responsibility. Similarly, Stake (1995) celebrated the interview as the "road to multiple realities" and the way "to obtain the descriptions and interpretations of others" (p. 64). I found all of the above to be true. Below is the interview protocol for the in-depth individuals.

### **One-on-one Interview Protocol**

1. Please share with me how you became involved in teaching writing.
2. What events, experiences, people, or factors have influenced your work as a writing teacher?
3. Describe your philosophy of teaching writing.
4. How would you characterize your interactions with students about their writing?
5. Consider the knowledge you bring to your writing instruction.
  - a. What sets you apart from other writing teachers?
  - b. What makes you particularly effective when working with student writers?
  - c. What kinds of decisions do you find yourself making when working with student writers?
  - d. How do your students perceive you?
6. Think specifically about yourself when you are engaged in the act of reading and responding to student essays.
  - a. How would you describe this work to someone who is not an English teacher?
  - b. What kind of goals do you set while you are in the midst of this act?
  - c. What do you recognize about your strengths through their writing?
  - d. What do you recognize about yourself?
7. What affirmations and/or concerns do you have about your writing instruction?

## Data Analysis

Bogdan and Biklen (2007) explained data analysis as the systematic searching and arranging of data in order to obtain findings. “Analysis involves working with the data, organizing them, breaking them into manageable units, coding them, synthesizing them, and searching for patterns” (Bogdan & Biklen, 2007, p. 159). When analyzing, the researcher moves back and forth between specific pieces of data and abstract concepts, inductive and deductive reasoning, and description and interpretation (Merriam, 1998, p. 178). Flavell’s theoretical model of metacognition framed the analysis procedures, spanning three phases. The model is presented in outline form below, in addition to brief explanations of what occurred during each phase. More careful attention to analysis procedures occurs in Chapter Four. However, this caveat applies: the distinct data analysis phases depicted here are theoretical and overlapping rather than definitive. Data analysis actually began alongside data collection, continued during the months of transcription, and formally materialized once all data was available—a potential “right way” to conduct interpretive analysis (Merriam, 1998, p. 162). (In reference to the theoretical framework below, see also Dunlosky and Metcalfe, 2009; Livingston, 1997; Pintrich, 2002; Griffeth & Ruan, 2005; Fernandez-Duque, Baird, & Posner, 2000; and Hacker, 1998.)

1. *metacognitive knowledge*
  - d. person – knowledge about self (and others) as cognitive being(s)
    - i. intra-individual differences
    - ii. inter-individual differences
    - iii. universals of cognition
  - e. task – knowledge of specific cognitive task or content domain
  - f. strategy – knowledge of the how, why, when of effective strategy use
2. *metacognitive experiences* – cognitive or affective experiences that lead to monitoring and regulating
3. *goals* (tasks) – cognitive decisions (the establishing, abandoning, or revising of goals) resulting from metacognitive knowledge and experiences
4. *actions* (strategies) – activation of strategies aimed at cognitive or metacognitive goals

***Phase One of Data Analysis***

The primary data source analyzed in phases one and two were the digital audio recordings for the whole group and small group scoring sessions because of their sheer volume. So phase one included reading through the transcribed files and then coding each case’s pertinent utterances and noteworthy remarks according to Flavell’s theoretical model; each utterance or remark represented a data point. Thus, each case’s data points were coded using a rough version of the Table 5. A category of “other” constituted utterances and remarks that did not reflect evidence of metacognition but held semblance to the research topic. For example, “comprehension,” “opinion,” and “philosophical conflict” were three framework codes falling under the “other” category. Phase one was the most intensive part of the analysis process.

**Table 5: Within Case Analysis Phase One—Framework Codes**

Framework Code	Case #1	Case#2
Metacognitive Knowledge		
Metacognitive Experiences		
Goals/Tasks		
Actions/Strategies		
Other		

***Phase Two of Data Analysis***

In the second phase, the phase one framework codes obtained in phase one for each case were examined separately to determine what content codes emerged using categorical aggregation (Creswell, 2007). “Data categories are abstractions derived from the data, not the data themselves” (Merriam, 1998, p. 181). Thus, the data gave rise to categories. For example, I analyzed all the data points under *metacognitive knowledge* for the first case to determine what patterns emerged, respective of that code. The *emerging content code* column was expanded to incorporate the many categories that emerged in the original phase code. These content codes were not determined prior to the study; however, consistent patterns of content codes began to emerge during phase one of analysis and continued throughout phase two. Given this, I sought to “saturate” these codes in the second phase, which Creswell (2007) described as the looking and relooking for evidence in categories until the new information no longer provides insight (p. 160). The 28 content codes discussed in Chapter Four illustrate the results of this categorical aggregation process, and Table 6 below outlines the essential organization used for this phase.

**Table 6: Within Case Analysis Phase Two—Content Codes within Framework**

Case Number	Framework Code	Emerging Content Codes	Definition/Description of each Content Code
Case #1	Knowledge		
	Experience		
	Goals/Tasks		
	Actions/Strategies		
Case Number	Framework Code	Emerging Content Codes	Definition/Description of each Content Code
Case #2	Knowledge		
	Experience		
	Goals/Tasks		
	Actions/Strategies		

***Phase Three of Data Analysis***

Phase three of data analysis consisted of categorical aggregation of the focus group interview transcriptions, the individual interview transcriptions, the annotated rubrics, and the field notes across both cases. Through these data sources, I first looked for emerging content codes and then looked at what similar patterns were emerging in the cases. This phase used a cross-case synthesis technique Yin (2009) suggested for multiple cases. After examining these cross-case patterns within the context of all data sources and, further, analyzing and interpreting in light of the supporting theory and literature, I collapsed the patterns into themes (Creswell, 2007), indicated in the horizontal section of Table 7. Conclusions of these case themes in relation to my overarching and subsidiary research questions can be found in Chapter Five.

**Table 7: Cross-Case Analysis Phase Three—Patterns and Themes**

Framework Code	Shared Patterns from Cases #1 and #2	Derived Themes
Metacognitive Knowledge		
Metacognitive Experiences		
Goals/Tasks		
Actions/Strategies		
Emerging Patterns and Themes Across Cases:		

**Establishing Trustworthiness**

In qualitative research, validity is established to the extent that the “data accurately gauge what we are trying to measure” (Gay et al., 2009, p. 375). This section explains my attempts to

establish trustworthiness in the study. Guba (1981) discussed four aspects of trustworthiness a qualitative researcher should strive to effect: truth value identified as credibility, applicability identified as transferability, consistency identified as dependability, and neutrality identified as confirmability. These aspects align with the rationalistic paradigm's terminology, respectively: internal validity, external validity/generalizability, reliability, and objectivity. Listed below were my intentional efforts to establish trustworthiness in the instrumental, collective case study, per Guba's suggestions (1981; Gay et al., 2009).

### *Credibility*

The each range-finding process was two days, totaling only four days in the field, and the interviews I conducted occurred during and after the range-finding work days. Though the number of hours in the field was somewhat brief in comparison to many qualitative studies, they were intensely-packed data-collecting hours. In fact, the extensive amount of data and the prolonged time I spent transcribing, studying, compiling, sorting, and analyzing data attest to the rigor of this study. Additionally, a Director of Professional Development at an educational service unit in the same midwestern state of this study reviewed my data analysis and interpretations. She examined the data points I marked, their framework codes, the derived content codes, and the patterns and themes I concluded through the three phases of data analysis. This Director of Professional Development has expertise in the field and high interest in the subject matter, having completed a dissertation in 2009 at a major midwestern university, while studying writing instruction. Additionally, the administrative team at the district affiliated with this study conducted member checks (Merriam, 1998) and were offered full access to the data collected and analyzed. The prolonged time compiling data, the peer reviewer and member checks, and the triangulation of data (observations and field notes, transcribed audio recordings, interviews, and annotated rubrics) speak to my efforts in establishing credibility.

### *Transferability*

The multiple methods of data I collected from each range-finding event gave rise to the uniqueness of the teachers involved in both cases. Incorporating two range-finding cases within the study amplified the exploration and depiction of teachers' metacognition. From the three phases of data collection, I was able to present detailed and context-relevant descriptions of

teachers' thinking while engaged in the work of reading and responding to student essays, following in Chapters Four and Five. Developing rich, thick descriptions (Merriam, 1998) of participants, settings, patterns, and themes within and across the cases can make teachers' thinking processes visible to readers and permit comparisons with other studies.

### *Dependability*

The multiple forms of data collection—field notes and observations, digital audio recordings, interviews, and annotated rubrics—and the pre-established protocols for the individual and focus group interviews overlapped one another, which enabled me to obtain stable data. Additionally, the three-phase data analysis process described above came about by continually checking and tracking the data for contradictions or internal conflicts and seeking saturation (Creswell, 2007), and this completed report includes an audit trail (Merriam, 1998), through which I explain in detail how the data were collected, categories were derived, and decisions were made during the study (p. 207). The audit trail begins in this chapter and continues through Chapters Four and Five.

### *Confirmability*

The research design of this study called for triangulation of data to cross-check information. I further confirmed the data collected by practicing reflexivity, self-disclosing my stance as researcher; this includes the aforementioned assumptions supporting my research intent and candid personal interpretations in the findings and conclusion sections. According to Stake (1995):

Researchers are encouraged to include their personal perspectives in the interpretation. The way the case and the researcher interact is presumed unique and not necessarily reproducible for other cases and researchers. The quality and utility of the research is not based on its reproducibility but on whether or not the meanings generated, by the researcher or the reader, are valued. (p. 135)

As a researcher, I have made every attempt to be accurate when taking field notes during observations, when transcribing, when interviewing, when analyzing, when interpreting so as to present stable data and findings and arrive at deeper, clearer understanding. Of special note, the

IRB approval for this study and the district's endorsement of the research both attest to its acceptability. Please see Appendices B and E.

### **Role of Researcher**

The researcher is the primary instrument in qualitative research; the researcher should be able to tolerate ambiguity, exercise sensitivity to data and biases, build a foundation of empathy and rapport, and communicate well in speech and writing (Merriam, 1998). As well, Creswell (2007) stated that qualitative researchers can be reflexive in their research and can self-disclose their stance, and so, to be frank, I have a vested interest in this research. In the spring of 2012, I participated in a state-wide range-finding process (Goldberg, 2012) and experienced firsthand the advanced mental exercise that occurs when reading and responding to student essays in a professional setting. This experience, in addition to further work for that state's writing assessment, also put me in contact with a network of education professionals who permitted me selective access to their district as a research site. Further, I teach courses that routinely involved the intersection of reading, writing, and thinking. For the past ten years, I have taught a variety of college-level composition courses, development English courses, and reading education courses. Previous to work at the post-secondary level, I taught middle school and high school English and reading in a public school district for six years. And so, my entire professional career has been devoted to the study and teaching of reading and writing and thinking, with particular interest in the personal and professional development of the writing teacher; my researcher-self intertwined with my understanding of the object under investigation (Peshkin, 2000). Thinking about teaching and writing and teaching writing is an intimate part of my work each day.

### **Summary**

This chapter explained the methodology and research design for this study of writing teachers' thinking when reading and responding to student essays. It included the research methods, the previous pilot study that informed the current study, the setting, the participants, the range-finding processes involved, the data collection methods, the data analysis process, the establishment of trustworthiness, and the researcher's role. An instrumental, collective case

study design was well-suited to capture teachers' metacognition and expand the research base of this fairly tacit phenomenon very much at the heart of sophisticated writing instruction.



## CHAPTER FOUR – RESULTS: PHASES ONE AND TWO

As national expectations of students' literacy performance increase (CCSS, 2010) and writing rises as a curricular priority (Calkins, Ehrenworth, & Lehman, 2012; NWP & Nagin, 2006), we do well to focus attention on the writing teacher. If, indeed, the quality of classroom instruction and the potentiality of educational reform rest predominantly upon the teacher (Valerie, 2012), it seems logical to explore the thinking practices of writing teachers as they come to know their content and themselves better.

Thus, this instrumental, collective case study took place during two range-finding events (Goldberg, 2012) in a midwestern school district during the fall of 2012. It sought to explore and describe secondary writing teachers' metacognition when reading and responding to student essays. Each range-finding event constituted an individual case, yet both range-finding events had the same objective: *Demonstrate evaluation of student writing by scoring high school writing samples using the district's analytic scoring rubric*. The first case emphasized the use of expository essays and occurred on two consecutive days in early to mid-September. Fourteen participants engaged in the first event—three administrators who served as facilitators and note-takers, four seasoned and retired English teachers who regularly participate in state and district writing assessment activities, and seven practicing secondary English teachers from the district. Likewise, the second case emphasized the use of persuasive essays, spanning two days in mid to late September, with one day break separating the two days of range-finding. The second case also included fourteen participants—the same three administrators, the same four seasoned and retired English teachers, and seven different, practicing secondary English teachers from the district.

The study utilized a qualitative methodology, which is an interpretive form of research that assists a researcher in investigating an unquantifiable phenomenon (Creswell, 2007). Through analysis of the various methods of field notes, observation, annotated rubrics, digital audio recordings, focus group interviews, individual interviews, and student essays, I sought to understand the essence of metacognition in writing teachers through the “instrument” of the range-finding events. Flavell's theoretical model of metacognition served as the framework of my analysis and interpretation to answer the overarching and subsidiary research questions of this study.

## **Overarching Research Question**

How do secondary English teachers perceive and regulate their own thinking when reading and responding to student essays?

## **Subsidiary Research Questions**

1. What evidence of English teachers' metacognition emerges in response to student essays?
2. What strategies do English teachers use while reading and responding to student essays?
3. How do English teachers' perceptions of their thinking impact their reading of and response to student essays?

Due to the extensive amount of data which emerged through the transcription of the digital audio recordings, the data analysis results span two chapters, Chapter Four and Chapter Five. Chapter Four—which draws largely from the transcribed audio recordings, annotated rubrics, and field notes—begins by explaining phase one of the analysis process, i.e., assigning framework codes to all data points. It then explains phase two of the analysis process and presents the content codes which emerged through audio recording data in both table and narrative forms. It ends with an overview of Flavell's theoretical model of metacognition. Chapter Five completes the presentation of results by explaining phase three of the analysis process, the differences between the cases, and the cross-case themes which emerged.

## **Phase One - Within Case Analysis of Framework Codes**

Despite the relatively brief amount of time on-site (four working days), I accumulated a wealth of data to examine. In the first phase of analysis, I concentrated on the largest data source: the digital audio recordings of the four range-finding days. I began by transcribing the almost 64 hours of digital audio recordings; this data alone took approximately four months to prepare. I listened to all of the audio files in their entirety and transcribed all conversation related to scoring writing, except for certain remarks and utterances that had no bearing to the study (off-topic conversations, repeated directions, housekeeping details, or personal stories). I then spent extensive time reading the completed transcriptions and highlighting data points pertinent to the study. These marked data points were then assigned a number label from Flavell's theoretical model of metacognition: 1 stood for metacognitive knowledge of person,

task, or strategy; 2 stood for metacognitive experience; 3 stood metacognitive goals/tasks; 4 stood for metacognitive actions/strategies; or 5 stood for “other” categories. Some of the data points received multiple framework codes. At the end of the first phase of analysis, I had given framework codes to approximately 970 data points in case one and 1,100 data points in case two. The marking of the framework codes served as my third, full contact with the audio recordings of both range-finding events: first, my physical presence and observation during the events, second, my full transcription of the events, and third, my read-through in this first analysis phase.

### **Phase Two - Within Case Analysis of Content Codes**

While engaged in the first phase of analysis, content codes began to emerge, in actuality, by default. To stay aligned to Flavell’s theoretical model, I found myself crafting mental definitions of the frameworks as I read through the transcribed files. These additional parameters encouraged the accuracy and consistency of my coding, and I began jotting down descriptors for these definitions. What I discovered, however, was that the categorical “descriptions” supported and extended the descriptions Flavell had already provided. (See the outline of Flavell’s model on page five.) Thus, a list of rough sub-categories formed as I worked my way through the first phase.

Before beginning the second phase of within case analysis, I built a spreadsheet of Flavell’s model with the rough sub-categories subordinated to the main frameworks—a process similar to what Creswell (2007) defined as *categorical aggregation*. The original spreadsheet contained 40 sub-categories. I then used this spreadsheet to conduct the second round of analysis, which consisted of another reading of every highlighted data point. In other words, I read through all the transcribed files again, examining all labeled and non-labeled utterances to double-check the accuracy of my coding from the first phase of analysis. Each data point was then assigned to one of the sub-categories housed under the original framework codes: 1) metacognitive knowledge of person, task, or strategy; 2) metacognitive experience; 3) metacognitive goals/tasks; 4) metacognitive actions/strategies; or 5) other. Additional sub-categories emerged in this second round of analysis, totaling 61 content codes. After completing this second reading of the transcribed files, I condensed and streamlined the sub-categories into the 28 prominent content codes reflecting the participants’ perceptions and regulations of their own thinking while reading and responding to student essays. The codes are shown in their

entirety in Table 8 below and then discussed in extensive detail in the narrative that follows. Of special note, however, is the understanding that many data points revealed evidence of multiple content codes. In some cases, an utterance began as one code and morphed into a second or even a third content code. While analyzing, I took careful measures to classify each part of every data point that evidenced multiple codes, as certain aspects of many of the data points could illustrate different content codes. CAVEAT: in the narrative sections, I have clarified with **bold font** which part of each data point pertains to the respective code under which it falls, if it contains evidence of representing multiple codes.

**Table 8: Flavell's Model with Content Codes**

<b>FRAMEWORK</b>	<b>FLAVELL'S EXPLANATIONS</b>	<b>METACOGNITION CONTENT CODES</b>
<b>Metacognitive knowledge</b>		
<i>person</i>	knowledge about self (and others) as cognitive being(s)	
	<i>intra-individual</i>	
		<b>Preferences</b>
		<b>Tendencies</b>
		<b>Insufficiencies</b>
	<i>inter-individual</i>	
		<b>Comparisons</b>
		<b>Contrasts</b>
		<b>Presumptions</b>
	<i>universals of cognition</i>	
		<b>Elusiveness of thought</b>
<i>task</i>	knowledge of specific cognitive task or content domain	
		<b>Scoring and training</b>
		<b>Writing and writing instruction</b>
		<b>Rubric/components of rubric</b>
<i>strategy</i>	knowledge of the how, why, when of effective strategy use	
		<b>Scoring</b>
		<b>Reading comprehension</b>

FRAMEWORK	FLAVELL'S EXPLANATIONS	METACOGNITION CONTENT CODES
<b>Metacognitive experiences</b>	cognitive or affective experiences that lead to monitoring and regulating	
		<b>Epiphanies</b>
		<b>Recollections of past experiences</b>
		<b>Revelations</b>
		<b>Awareness</b>
		1. <i>Process of comprehending</i>
		2. <i>Lack of comprehension</i>
		<b>Reflections</b>
		1. <i>Related to self</i>
		2. <i>Related to ideas</i>
		<b>Verbalizations of indecision</b>
		<b>Questions</b>
		1. <i>Understanding</i>
		2. <i>Clarification</i>
		3. <i>Confirmation/validation</i>
<b>Goals/Tasks</b>	cognitive decisions (the establishing, abandoning, or revising of goals) resulting from metacognitive knowledge and experiences	
		<b>Pronouncements</b>
		<b>Resolutions</b>
		<b>Conclusions (derived)</b>
		<b>Modifications</b>
		<b>Justifications</b>
		<b>Recommendations</b>
<b>Actions/Strategies</b>	activation of strategies aimed at cognitive or metacognitive goals	
		<b>Steps</b>
		<b>Challenge questions</b>
		<b>Requests</b>

Developing the content codes was by no means the end of the second phase of analysis. With all the codes in place, I began the more detailed analysis of aligning the coded data points to the appropriate content codes, “winnowing the data” (Creswell, 2007, p. 152). This process required further pruning and shaping as I used Flavell’s theoretical model and explanations to guide my interpretation of what applied and what did not. Four more times, I read through every transcribed file—one time per corollary (metacognitive knowledge, metacognitive experience,

metacognitive goals, and metacognitive actions)—to identify applicable data points for the content codes respective to that corollary. Once all data points were identified within each corollary, I assigned them to their content codes and searched for patterns within, constructing the narratives that follow. These last rounds of analysis and interpretation moved me most deeply into what Creswell (2007) called the “data analysis spiral” (p. 151). The narratives below illustrate the patterns that appeared within the different content codes of each corollary.

### **Metacognitive Knowledge of Person**

Metacognition can be defined as knowledge and beliefs about one’s own thinking processes and the resulting attempts to regulate those processes to maximize learning (Ormrod, 2011). Though the phenomenon has been considered “fuzzy” (Baker & Brown, 1980; Paris & Winograd, 1990), Flavell’s theoretical model of metacognition included four distinctive yet interactive classes; metacognitive knowledge is the first class or corollary, which he subdivided into three major categories of *person*, *task*, and *strategy*. Knowledge of *person*, then—knowledge of self (and others) as cognitive being(s)—is the first subject of analysis, though it, too, was subdivided into further categories: intra-individual knowledge, inter-individual knowledge, and universals of cognition.

#### ***Intra-individual Knowledge of Person***

Data points showed evidence of three primary patterns in individual knowledge about self as a cognitive being: *preferences*, *tendencies*, and *insufficiencies*.

##### ***Preferences***

Originally titled “Capabilities and Affinities,” this content code became “Preferences” because the only data points classified under intra-individual knowledge of person addressed personal opinions of likes and dislikes. No data points revealed participants’ awareness or recognition of their capabilities or strengths as writers, teachers of writing, or assessors of writing, despite the fact that the participants had been chosen because of their teaching strengths. This content code, then, encompassed the evidence of their self-knowledge most commonly expressed—personal preferences. For example, Participant M stated, “**I like that word: *distinct***. Maybe that should be on the rubric.” This self-awareness stimulated by recognition of personal opinion occurred mostly with negative opinions—many of which manifested themselves as

confessions. In recognizing a personal reaction to a student's writing, Participant L expressed, "Okay, I hate 'to start off with,' so I guess that's my personal opinion bleeding in." Similarly, Participant J said, "Okay, I'm going to admit that I hated what the kid was saying..." A couple of data points extended into more elaborate perceptions of preferences. Participant C, for instance, revealed a personal opinion which transpired during a metacognitive experience: "**I hate transitions. Look at what they do to us!**" Participant R likewise shared, "**I hate these two categories. I hate commitment and tone. I don't think I score them accurately** because I'm not sure what they mean." Granted, some of these data points reflected additional types of metacognitive processing, as discussed in later content codes. For example, the final portion of this last data point showed evidence of *insufficiency*—the third category of intra-individual knowledge of person. Nonetheless, aspects within the data points reflected knowledge of self as cognitive being.

Distinct from personal likes and dislikes yet falling under the category of intra-individual knowledge were acknowledgements of sustaining personal growth. Participant K recognized the benefit of listening to others discuss. "What helps me is to hear your perspectives...on some of these things." Participant G shared an honest, overarching desire with a small group—a desire which not only expressed knowledge of self but also knowledge of self in relation to others (inter-individual knowledge):

*I think we're here to learn to use the rubric, and we have to use the materials we're provided. So I want to learn how to grade like everyone else because I want to be fair to my students...It's the understanding...and that's what we need to focus on rather than changing the wording [of the rubric], I think.*

Acknowledging personal preferences regarding writing indicates an awareness of one's knowledge of self as a cognitive being. Evidence for this sub-category of self-knowledge could have been limited by a number of factors: lack of comfort in revealing personal information, a lack of opportunity, or even a lack of realization of one's self-knowledge in relation to one's thinking and meta-thinking. Nonetheless, the content code depicted a strain of thought about thought.

### ***Tendencies***

A second pattern of intra-individual knowledge of person revealed participants' realized

tendencies, i.e., patterns of behavior or routine “ways of thinking.” Participant A reported, “I always worry about thesis not ever getting 3s, and I worry about main ideas”...and then later implied a tendency: “I’m not a big stickler on introductory phrases.” This same participant offered another more detailed realization of thinking behavior: “For sentence fluency, I’m always looking at sentence patterns, so I’m never looking for that (usage...when students leave out small words). It always bothers me grammatically.” Several other data points divulged participants’ ready knowledge of their behavior patterns. “This is going to get me every single time,” said Participant C in speaking about transitional devices, “because I would mark it a 1 because it doesn’t have that...tone of sophistication.” In referring to thesis statements, Participant H shared, “That’s one thing I go back and forth on...I say, “Two sentences = bad.” Earlier in the whole group scoring session, this same participant voiced concern about the prompts leading students in the way of writing persuasively, drawing heavily upon personal experience and then claiming, “**I think it’s just me being nit-picky.** I wanted to throw it out there because **it’s something I keep coming across in my head**, so I just wanted to voice it.” In the same manner, Participant G unveiled a realization (a content code to be discussed later)—as if an understanding of oneself had just come into being—of a possible tendency that simultaneously discloses self-knowledge in the form of a tendency: “I must be strict.”

Some participants were frank in their assessments of personal tendencies. Participant L said, “I think because I teach AP **I just have too high of an expectation for vocabulary.** Participant D stated, “The announcing immediately put it there for me, and that is one of...when I’m reading, that’s definitely one of my “Beep, beep!”....No. A big no-no for me....,” and Participant U shared, “I didn’t see enough jump out at me that it should be lower. It has to jump out at me.” Also acknowledging a pattern of thinking behavior, Participant R claimed, “See, when they get casual, that’s where I want to mark them down!” And in one data point in particular, Participant F demonstrated the possibility of a collective nature to intra-individual knowledge of person:

*Sometimes when people think of transitions, they think of words. They can be phrases. They can be clauses. Sometimes they can even be entire sentences. **We have a tendency to forget that. We’re looking for those words, and when we don’t see them, we ding ‘em.***



Recognizing thinking tendencies, then, can point to evidence of metacognitive knowledge of self as a cognitive being.

### ***Insufficiencies***

The largest pattern within the sub-category of intra-individual knowledge of person concerned itself with insufficiencies. Within this pattern, participants expressed personal weaknesses, specific needs, and lack of knowledge to support their comprehension of content. Some data points revealed participants' awareness of personal struggles in understanding, which in many ways overlapped with the later content code of *awareness* within the corollary of metacognitive experiences. What made this content code distinct, however, was the attribution of the insufficiency/lack/absence to self. Again, the bold phrases indicated aspects of insufficiency as a part of self-knowledge. Participant C said, "**I just find it very hard to distinguish between the transitions and then the 3 in sentence fluency.** [It's] like they [should be] crafted to guide the reader throughout the paper because transitions guide." In a similar vein, Participant A claimed, "**This is the one I'm struggling with:** spelling. I don't know what to do on spelling—I'll be real honest," and Participant J confessed, "Your attitude toward the writer makes you score... That's more like similar-to-me bias, and **I know I had it.**" And in the midst of a metacognitive experience, one participant noted sheer surprise at an insufficiency in content knowledge: "But then, if there's a list of prepositional phrases, it's after the last one, right? **Look at me!!**" "I don't know what I was thinking," said Participant Q. "I must be really bad at this," Participant B softly declared in a similar frame of mind.

Some participants saw obstacles that impeded their effectiveness and identified specific hurdles or needs. In a discussion about main ideas, Participant L shared, "I feel like...and I need to get over this, but a 3 is harder for me to give than a 2. That's my own personal bias." Participant G, too, admitted an area in need of attention, which then morphed into metacognitive goal: "I think it was because of that umbrella thesis. **I've got to get over that.** I'm biased there... It isn't how I teach, but I can change that." Participant A, too, mentioned a personal block. "I think I was not engaged. **That might be my fault, not his.**" Some participants, in more general ways, identified vague mental insufficiencies in need of attention:

*You know, maybe I had some sort of bias against this paper. I don't know.*

*I hope I'm not getting tired. I have a lot of the same scores on this one.*

*It's late in the day for me.*

*I had never heard the term until last week. It's too widely defined.*

*This is the one I have so much trouble on [commitment].*

*I don't know what I was thinking.*

But some participants acknowledged a need to know expressed as an acute desire to fill in a mental gap—to fill up an absence. Participant K uttered, “Why was that a 2 and not a 3? I had a 2. **I want to know why.**” While facilitating, Participant N stressed, “**I want to know why some people said 2.** That means you saw some evidence. What was some evidence you might have seen?” Less overt but just as pressing, through a series of comments, Participant R shared a need for clarification regarding terminology used in the rubric category of tone: “I wish we could better define those words in a less subjective way”...then later, “This category is hard for me. I think ‘consistent’ and ‘expressive’ are very subjective”...and even later, resulting in a metacognitive strategy: “I’m from now on going to go with commitment based on whether they are consistent and then get them on tone, if I really feel like I’m on the fence...**which I almost always am**...unless I have a real strong feeling.” In the same fashion, Participant K conveyed a recurring need:

*My problem...and I need to get it into my head is...when you have a paragraph like this that they just stick in there and not let you know it's coming at all...what do we do with that? [Later] Then I want to give main ideas a 1. I don't know what to call that. I need to know about that. [Later] I just need clarification. [Later] **Here's where I have a problem**...and I don't know where to put it.*

Yet the most poignant realization of insufficiency came from Participant G's repeated requests to *know more.*

(In response to another participant's admittance of not “being personal”): *Yeah, but we need to learn.... [Later] But that's what we're learning. That's what a 'I' is.... [Later] I need to know for consistency....I just want to know how to do it (supporting details) to begin with... [Later (in a private conversation with another participant)] I'm scared to put them all down. [Participant F assured Participant G that if you start doubting your instincts, you're going to drive yourself crazy.]*

Collectively, these patterns of preferences, tendencies, and insufficiencies shed light on shades of self-knowledge participants recognized while reading and responding to student essays.

### *Inter-individual Knowledge of Person*

In addition to metacognitive knowledge about one's self as a thinking being, Flavell (1979) also indicated a subdivision of knowledge regarding differences between people. The data in this study revealed evidence of participants' consideration of their own thinking and knowing in comparison and contrast with others and, further, similarities and differences between the thinking of other individuals besides themselves—whether actual or assumed. This subset of data can be compiled into three general thinking patterns: *comparisons*, *contrasts*, and *presumptions*.

#### *Comparisons*

Participants made reference to their thinking (or knowledge of thinking) in comparison with others who shared their same opinion or had drawn a similar conclusion, such as Participant U's "That's what I was saying" or Participant O's "I know what you mean" or Participant T's "I thought the same thing," or Participant R's "I've had that feeling before. I was commiserating." But some data points presented a more specific acknowledgement of "being on the same page" as another. Participant D agreed, "I can go with that. I had the same argument going on." Similarly, Participant M shared with another, "That was *my* question! I didn't notice anything unexpected." More common, however, were data points that emphasized a collective sense of unity in thought—almost like a "groupthink" mentality. Participant H pitched, "If we think this way, hopefully, everyone will think this way," and Participant N stated, "Conventions are usually easy for us." At one point, Participant M shared, "We are all over [the place in our scoring]," while later, Participant J, in the same small group, noted, "You know, everybody, I think we overcame our biases!" But the types of comparisons most removed from knowledge of self or person, however, were generalizations. To a small group, Participant F observed, "We're being generous with a 1," and Participant Q, commiserating with a fellow participant, said, "You don't like it. It's painful to every English teacher in the room" and, later in another conversation, "Order and commitment are the two things everybody dislikes." When embroiled in a small group disagreement Participants G and F claimed:

*That's the problem with umbrella thesis, which is why a lot of teachers don't like them because [they are] narrow. It doesn't A, B, C.*

Though still present, the individual person's understanding (or even recognition) of self-thought can seem indistinguishable or muted when presented in the form of a generalization. Yet, without generalizing, some points evidenced participants' recognition of potential similarity in thought or an attempt to see cognitive alignment though not yet actualized—perhaps a way of distinguishing self-thought from others' untapped or undisclosed mental conclusions. “Did anyone else give him a 1 in punctuation besides me?” asked Participant B. Comparatively, Participant L posed, “I couldn't figure out what to put. I just had to see what you guys were thinking,” and Participant A offered, “I don't know that we all agree they're evident, but I know we all agree they lack focus. We're between a 1 and a 2.” In other words, these various data points, these comparisons, spoke to the possibility that inter-individual knowledge of person contains within it the recognition of “what I know and think in relation to what you know and think.”

### ***Contrasts***

Together with comparisons, contrasts manifested themselves as a pattern of thinking behavior in participants. More common than comparisons, data points evidencing contrast depicted a participant's realization of a proximate or remote difference in viewpoint or conclusion. Some were as blatant as the following brief list:

Participant R: “*Now, see, that's my problem because I look at it as just the opposite.*”

Participant M: “*Well, I'm the odd man out.*”

Participant J: “*I'm outnumbered then.*”

Participant F: “*They saw more repetition than I did.*”

Participant D: “*I didn't read it like that.*”

Participant E: “*Everybody said 2 but me.*”

Participant B: “*Well, I can see right now I'm lower than you.*”

Participant R: “*I was off.*”

Participant A offered a more elaborate yet direct contrast:

***There were some raters who said conventions are their hot button, so not only do they score it first, but they don't ignore the boxes. But they always think, “Strong or developing? Strong or developing?” That's not my hot button, so I don't get tied up in that.***

While some data points emitted a certainty in the participants' awareness of contrasting with another's way of thinking, as those listed above, some were more elusive. Participant A also stated, "So some of us are stuck because some are saying 'ineffective,' and some are not." Participant N said, "Some of us are more lenient; some are more strict. When we share these conversations, we know who we are." Additionally, Participant J wondered:

*I had the same problem with the conclusion (comparison). I was fine except I thought they changed the meaning of their thesis in the conclusion. **Maybe that bothered me more than everybody else.***

In a similar vein of uncertainty, Participant F, when comparing scores with those of previous scorers, stated, "I don't see why six people gave it a..." These types of data points revealed the participant's perception that his or her thought, in some way, was not the same as another's. In some data points, this type of realization appeared collective in nature: "There's our journalist," said Participant L, "*She catches that stuff.*" Regarding tone, Participant E said, "Well, it has to be because *we* connected, and *you* guys didn't." Yet in other cases, the perception of difference seemed rather proximate. "But you are a more sophisticated writer than a 10<sup>th</sup> grader," noted Participant F when responding to a participant concerned with a student's writing quality. Participant J also pointed out an apparent difference in another participant's interpretation: "Could that be because you are a teacher?" And Participant E, frustrated at a lack of consensus, retorted, "No, I can't even argue about this anymore because it's too clear to me!"

Most general to this pattern were comments that reflected a sense that "other" people think differently on a particular notion. Some perceptions were directed to students, in general:

Participant L: "*I don't know that every kid is going to think like that.*"

Participant G: "*It's kind of like this is a format of an essay—A, B, C. Some kids need that.*"

Then others were directed to fellow participants, at large:

Participant A: "*I would not have been in the four-group of exceptional.*"

Participant N: "*I don't want to stop with a mere split thinking on this because that's not good for us.*"

Participant F: "*The only thing I found on transitions was a phrase. It's there, **but I don't know how many other people would find it.***"

Participant A: "*I think people are always off on tone.*"

Most noticeable of all data points in the comparison pattern was Participant J's tendency to recognize similar ways of thought and then counter with a contrast. "I see where you're at, but..." and "I totally appreciate the comments you guys are making, but..." and "I appreciate your point of view, but..." and "I know I may be too high on this, but..." and "I know maybe you think some of the details aren't where they fit, but..." Overall, the pattern of recognizing differences in one's thinking in contrast to another is indicative of what Flavell (1979) described as inter-individual knowledge of self to others or others to others—"what I know of my own thinking contrasted to what I perceive to be your thinking."

### ***Presumptions***

A third pattern of thinking descriptive of an inter-individual knowledge of person was forming presumptions of another's intentions or decisions. This pattern proved to be the most prominent of the three patterns in this sub-category (comparisons, contrasts, and presumptions), and it appeared to have multiple "hues," per say. Some data points reveals participants' presumptions of what students had been thinking when writing an essay. Participant N reasoned, "We have to think of why a student would do that. **I would suspect it's because they didn't read the prompt well,**" later saying in a difference context, "Maybe there was a contrast in his mind; he just didn't express it well." Other participants offered similar statements, like Participant S: "I don't think it's an error. I don't even think it's bad judgment. I think he's just emphasizing words to prove his point." Participant M stated, "I think he thought 'athlete' is a proper noun." Participant L made this presumption, "I think that's because he's always thinking of them as a group (in determining Marines' versus Marine's)," and Participant B claimed, "There are details. There definitely is no order, but **I think this person who wrote this thought he/she was supporting it with some details.**" Participant R shared this presumption: "Her thesis is, 'We already have enough...' She's not pondering what's too much. She's already decided," and Participant Q declared the following during a discussion about whether or not a student's tone was appropriate:

*It's not appropriate (tone) because it could be argued this person very much was considering the audience. "YOU will not do this to ME." They misconceived who the audience is.*

Other data points, however, were rather hypothetical in nature—as if the participants were placing themselves into the student’s position. To demonstrate, Participant D responded with the following illustration when asked how a student-athlete might address a particular prompt in a general manner:

*If I was general, I’d be like: ‘It’s great to be an athlete because you get to do all these things, this extra stuff, and have all these extra things, and have a cool group to hang out, and I would get a medal...He’s (the author) kind of focused on some deeper things for a fifteen year-old.*

Participant A also spoke from the mindset of a student, “I think a writer who would be at a 2 in this might say something like, ‘There is a lot to do at once. You feel like a chicken with your head cut off,’ all those generic kinds of...” These types of data points gave rise to the notion that participants perceived ways of thinking distinct from their own yet attributable to other minds that were processing ideas.

The greatest number of presumptions, however, was addressed to fellow participants and future scorers. Whether these were rooted in confidence, hesitation, concern, defensiveness, or wonder was unclear and beyond the scope of this study; nonetheless, these presumptions carried a certain boldness or, at least, a directness. For example, Participant E told a small group, “You know why I went to a 1, I’m sure.” In like manner, Participant H said, “You guys aren’t going to like me on one of these. I can already tell (sentence fluency). I better defend this one and then prepare to die.” Too, Participant A stated, “You’re probably going to laugh at me, but I put details higher than main ideas,” and Participant T assumed this of a fellow participant: “I think what you’re thinking is that the main ideas wasn’t discussed in the introduction, and so that would be a misplacement.”

Participants not only addressed fellow members of the range-finding event but also made contributions that evidenced their perceived assessment of how past or future scorers would interpret content. These often emerged during the reviews or discussions of previously scored papers. Some data points that referred to past scorers’ ratings were as follows:

Participant A: “*So I’m thinking that’s what brought some people down.*”

Participant C: “*That’s why I’m thinking since maybe that list is there, that’s why they gave them a 1 [in transitions].*”

Participant D: *“I think this was a situation where they might have been punished for their sentence writing.”*

Another clear example was Participant C’s more involved statement:

*I think a lot of people [past scorers] scored a 3 on tone because of that whole entire paragraph about “nursing can be a difficult job when you see people at their worst every day.” I think when people read, they thought, “Oh, yeah,” for some reason. “Oh! Emotion. 3.”*

Participant M, too, claimed, while reflecting upon ratings that had been pre-determined:

*I’ll bet you... It’s because we just had this conversation whether or not “there,” “their,” and” they’re” are usage or spelling. And since originally, it was counted as spelling, I’ll bet you they [past scorers] counted it as spelling. There’s an error for “a lot.” There’s an error for “their” ...for “then...” I’ll bet you that’s what it is!*

Conversely, certain data points revealed evidence of participants’ speculations of what conclusions others might derive. Participant B, for example, proposed, “I think if this is used in training, people are going to look at this and think it should be a 1.” Likewise, Participant K said, “We’ve talked about this. If you get more complicated on that, the raters aren’t going to pick that up.” In speaking about future scorers, Participant M anticipated, “They’re not going to notice these things. They’ll notice the apostrophes, and that’s it.” Participant L posed a similar assumption: “I think there are teachers who would automatically see the spelling and discount everything,” and Participant J’s more direct assumption considered both fellow participants and future scorers: “But if we think of this as a training paper, and you’re saying this is smooth and effective, raters are going to say, ‘Where are they?’” Participants’ verbalized considerations of others’ cognitive intentions or motives or conclusions—with those present and absent—indicated a certain level of inter-individual metacognitive knowledge, accurate or not.

### ***Universals of Cognition***

Flavell’s third sub-set of the category of metacognitive knowledge of person belonged to *universals of cognition*. Flavell (1979) defined this category as the recognition that there are various degrees and kinds of understanding, as in attending, remembering, and problem-solving, yet this category was marginally supported with evidence from this study of teachers’ perceptions and regulations of their thinking while reading and responding to student essays, yet



its data points were distinctive enough to constitute a content code of special interest to deepening our understanding of metacognition. One relatively general pattern emerged: *elusiveness of thought*.

### ***Elusiveness of Thought***

Three data points alluded to a recognized trait of thought: its elusiveness. In some respects, this tenet touched the core of this present study. Three participants demonstrated an awareness (a content code falling under metacognitive experiences) of the elusive nature of thought. First, Participant A, in response to another participant's frustration at determining a student's rationale, stated, "It's just that we can't read their minds." This comment pointed to the more transcendental reality of assessing written thoughts. Second, Participant B offered the following comment, almost directed to self, when justifying a dissenting rating: "It's probably not realistic to think we'll agree on all of these." This comment attested to the larger category of metacognitive knowledge of person; it would be akin to saying, "I recognize your thoughts might not be my thoughts." Then third, Participant Q, in much the same manner as Participant B, reassured another with the following: "We don't have to agree. That would be for your classroom." The last comment, though probably more indicative of a core understanding of the philosophical disposition for range-finding than a tenet of thinking, did hold a knowledge of evasiveness, i.e., thoughts— though sometimes untouchable or indistinguishable— can abide by principles which are recognizable, thus, assisting our growth in knowledge of person as thinking being.

### **Metacognitive Knowledge of Task**

The second major category of metacognitive knowledge, following knowledge of person, is knowledge of *task*. It can be defined as knowledge of specific cognitive task(s) or knowledge of tasks within a content domain. Flavell (1979) further subdivides it into 1) information available during a cognitive enterprise and 2) task demands, as in what a task might require of a learner. Notwithstanding, metacognitive task knowledge is **not** the expression of general content knowledge. A teacher can verbalize a wealth of knowledge regarding his content area without referring to the thought process(es) involved in a specific task or its execution. Therefore, data points in this study that evidenced metacognitive knowledge of a task addressed inherent

challenges with or demands of a task and/or acknowledged a best approach or path to take for execution (Nickerson et al., 1985). Of note, also, was that data points in this category did not convey action; they merely indicated the participants' awareness of *what steps would be needed and why*. Data points in this study of writing teachers' thinking illuminated metacognitive knowledge of tasks within three sub-categories—or, for simplicity's sake, three large groups of tasks: *scoring and training*; *writing and writing instruction*; and *rubric components*.

### ***Scoring and Training***

The participants who most clearly demonstrated metacognitive knowledge of scoring tasks were those who had been trainers themselves or who had participated in previous scoring events. They possessed not only a general knowledge base of scoring practices, but they could verbalize challenges and demands of scoring-related tasks. Participant D, for instance, shared advice as to how to rectify the clashing worlds of scoring and classroom instruction: "I think when you're doing this thing (scoring), you have to have a real separation between your own classroom, knowing you're more strict in your own classroom." Later in a side conversation, Participant D offered this point: "All these arguments can go either way...the thing about the rubric is that it doesn't matter... It would even out...in the end. It's about conforming the mentality of the scorers and making sure we're all on the same page one way or another." Participant N delivered this expectation to participants who were in the process of forming a scorer mentality:

*We're not going to see the same numbers of 1s and 2s and 3s. If we were to think "the bell curve," we're talking that whole middle curve, which represents the highest percentage of our kids. The 2 represents the broadest range of skill.*

And Participant F reassured another participant, hesitant to become a scorer, that the range-finding process is what takes time. "After you get through this and you quit thinking about every stinking, nit-picky little point, it [scoring] doesn't take you so long."

Then certain data points offered in the midst of discussion imparted participants' sense of scoring knowledge that could be utilized for reaching a conclusion; it was as if the participants' awareness of what was understood about scoring's challenges and demands came about because or prior "lived" experience. These data points served as pearls of wisdom in moments of disagreement or confusion.

Participant N: *“It should not be a matter of a tone of a 10<sup>th</sup> grader. It should be a tone for the audience you’re talking to.”*

Participant D: *“We don’t want to punish somebody at the high end, either.”*

Participant F: *“It’s only one error—no matter how many times, it’s only one error.”*

Participant L: *“This is how we learned about it in training. Even if they write about something completely unrelated, you still use the rubric to grade it.”*

Participant E: *“That (bias) would be one of those things up there (points to chart with scoring errors)...the pet peeve.”*

Participant F: *“So you’ve got to look for more consistency if you’re going to dock them.”*

Participant N: *“We really do have to differentiate between the main ideas and the details. And it’s tough because they play upon each other.”*

Other data points affirmed participants’ awareness of their own knowledge regarding the task of training. Participant N, with extensive training experience, taught, “We have to be very careful to keep this (scoring) black and white. It’s hard to train people that don’t know the more sophisticated transitions.” Illustrating much the same point about transitions, Participant J, in an attempt to bring awareness, stated, “I guess what I’m saying is that when you train people, they are not going to be combing for those things in order to put it in the strong category.” Other participants emitted a more technical type of training knowledge that communicated recognized knowledge, meta-knowledge. Participant A explained the following:

*Sometimes we’re training people who don’t have a technical English background. We’ve got to make it obvious that it’s a link from one idea to another. Your parallel thing is an amazing idea, but I don’t know how I would train people about that.*

The above points illustrated that metacognitive knowledge of scoring and training tasks held was limited. Granted, as time elapsed during the range-finding events, more participants drew upon the knowledge of scoring they were gaining; nonetheless, not all evidenced a metacognitive grasp of their new learning.

### ***Writing and Writing Instruction***

More so than with scoring and training knowledge, a vast number of data points communicated a sense of metacognitive knowledge of writing tasks—specifically, the elements

of writing and writing instruction. To begin, some participants evidenced a clear awareness of the mental demands involved in writing. Participant F offered this sentiment:

*The problem with writing is you can't say, "This is sentence structure. This is grammar." They are related. They're so interrelated that when you have to separate them, you got to bite your tongue and pick your battles.*

Participant R also vocalized a frustration about the nature of writing for assessment: "It's all a formula. The whole thing's a formula," and Participant Q responded with, "It's nothing *but* a formula, and once you learn the formula, it shouldn't be a problem." But many of the data points were technical in nature, speaking to a particular aspect of writing; these points emitted more than general knowledge about writing, for they presented a thoughtful awareness of concept in relation to a writer—one who would know. For example, Participant M said, "It doesn't have a thesis because it's in the form of a question...because I guess I always teach that a question is not a thesis." Likewise, Participant T reasoned through task knowledge, thinking through the known:

*I know order and transitions are two different things, but I think intentional sequencing would be when one paragraph flows smoothly into the next paragraphs ("because this happened, then this happened") as opposed to the way the [student] laid [it] out...*

Others drew from stores of content knowledge to maneuver through problems. Participant L claimed, "If you don't have a main idea, you can't have supporting details," and similarly shared later, "You can't have order if it [thesis] isn't present." With like confidence, Participant D noted, "Even though the writing is pretty basic, the fact that those details...she's got supporting details *for the details*...that's actually a higher sign of order." As well, in speaking about sentence fluency, Participant F explained that it is not so much the number as the "quality of the way it's crafted," that moves a reader.

A technical concept (task) that brought extensive discussion was the use of transitional devices. Participant H explained, "You don't have to use transition words if you can transition ideas." Participant D stated, "Transitions within, even in the first paragraph—even if that's the only spot—they still show a sign that they're able to do that within a paragraph," and later, the same participant offered a suggestion—a "path" for transitional expression:

*One thing I do to put them on the next level...is to teach adverb clauses, which a lot of them start with a basic thing like "if-then," but it also shows problem-solution...or if you*

*start with “because,” it shows cause-effect. And I either put those at the end of the paragraph, which lead into the next paragraph without that basic/mechanical word, and it shows a higher-order of thought.*

Continuing this thought of transitions, Participant F noted, “Sometimes when people think of transitions, they think of words. They can be phrases. They can be clauses. Sometimes they can even be entire sentences”; this idea was shared multiple times in unique ways.

Another technical concept which gave rise to several data points involving metacognitive task knowledge was the umbrella thesis. Some participants struggled with the concept of an umbrella thesis; others had more experience with it and, thus, were more comfortable and readily accepting of its use in student essays. In a teachable moment, Participant E gave this example:

*If it was a true umbrella, it would say, “Doctors are in charge of many things.” Period. And we teach our kids, when we do umbrella thesis, it’s a harder concept, and you have to be very specific in your body paragraphs about what your topics are because you’re not forecasting them.*

Participant D also explained its use in a student’s essay while also reflecting upon a similar hesitancy from the previous year’s scorers:

*Your main idea should back up your thesis, so even if your thesis, you see it as, “Well, to me, nursing would be a challenging job...” ...that can be a thesis. Your main points back it up. You don’t have to have it connected. So...but, I mean, there was a disconnect last year on that, and I think some students up to that point may have been missing out point-wise, but as long as your main points back up that thesis, the thesis doesn’t have to be a 1, 2, 3.*

A parallel conversation then occurred concerning expository prompts. Participant H presented a concern that the expository prompts were encouraging persuasive writing.

*Three main kinds of things we look at typically are narrative, expository, and persuasive, but these [prompts] are written in very narrative-oriented...not expository because students pull things out of their lives. What are your experiences? What is your opinion on this? And those things are directly asking for a narrative response, not the informative, first person, passive-tone expository.*

Participant L followed with this remark: “They [district] have to do that because you can access their [students’] prior knowledge. You don’t know that they’ll have the prior knowledge to explain a process or...,” and then Participant D contributed to the conversation:

*That revolves around, yeah, to try and eliminate bias, so...and getting back to the persuasive, if it’s a good paper, every paper’s persuasive, right? You’re trying to persuade us to read it. I mean, seriously, if it’s effective, it’s persuasive. If it has tone, it’s persuasive. I mean...so I think it’s getting a little technical.*

Their tangent conversation did little to advance the scoring at the range-finding event—as prompts were non-negotiable and were to not be part of the scoring discussion—but it did evidence some knowledge of the mental challenges and demands of certain writing tasks, namely, the deliberate use of prompts to tap into students’ prior knowledge and rhetorical strategy. In sum, data points manifesting metacognitive knowledge of writing tasks were heavily dependent upon participants’ lived experience coupled with content knowledge.

### ***Rubric Components***

The more cut-and-dry data points for metacognitive knowledge of tasks addressed components of the scoring rubric. The rubric served as the fulcrum of the range-finding events. Its very presence encouraged standardization of thought, and yet participants engaged in multiple disagreements on how to interpret its components, most likely due to varying degrees of experience with the rubric. Some of the participants had been a part of the rubric’s history—its seven previous versions. Others had only just used it in their own classrooms. Those with more experience were those who made remarks that communicated metacognitive task knowledge, as each component of the rubric could be viewed as an individual task. So the data points under this sub-category evidenced more than a general knowledge of the rubric; they pointed to seasoned understanding—the kind of knowledge that comes about by considering not only a task’s nature but the reason for its “what-ness,” its implications, its contextual factors, and all else to which it lays claim. One participant, for example, found three errors and questioned whether the student writer met the descriptor of “developing” or “strong.” Participant N responded, “It’s more than just the count. It’s the level of difficulty of those particular types of errors.” In other words, this participant knew the demands of assigning a score. Another

participant (D) offered this clarification, demonstrating more than a surface understanding of a rubric component:

*The problem is in that 2. The word “smooth” ... because they’re not necessarily put together in a smooth fashion, but they are effective. Whereas if you put...that number 1 box uses “merely” ...and added that there and took out the word “smooth” in the second box, then I’d be like, “Okay, Now we have it...for this one.”*

The data points for this pattern of task knowledge seemed to fall into one of two large camps: those *differentiating* the difference between levels of a rubric component (e.g., a 2 rather than a 3) and those more clearly *defining* the rubric components (e.g., tone is...). Both differentiation and definition assumed a certain depth of content knowledge; these comments displayed a meta-level of thought regarding rubric components (rubric tasks) supported and stabilized through personal experience. Table 9 contains both columns of data points.

**Table 9: Rubric Points of Differentiation and Definition**

<b>Participant</b>	<b>Differentiation</b>	<b>Participant</b>	<b>Definition</b>
<b>N</b>	The problem with 3 is whether or not this is a crafted paper.	<b>N</b>	This is where some wording [on the rubric] could be developed...the intention of developing versus the intention of strong.
<b>N</b>	There are high and low 2s within the 2s and high and low 3s within the 3s, but it’s a 2, or it’s a 3.	<b>N</b>	My understanding is that there are two pieces to the order. There’s the order of the paragraphs and the order within the paragraphs.
<b>N</b>	The deciding factor is engaging, so either you’re are or you are not (engaged).	<b>N</b>	When you read tone, it’s about two things: conveying an attitude toward the audience and an attitude toward the subject matter.
<b>E</b>	The difference between a 1 and 2 [on tone] is the <i>audience</i> .	<b>R</b>	(So you’re looking at consistent as...?) Consistent to their position...
<b>F</b>	If there’s even one transition, you have to give them a 1 and not a 0.	<b>F</b>	If you’re talking about missing words, you’re talking about vocabulary.
<b>A</b>	When I’m talking about a 3, I also use the word “naturally”—so it’s purposefully crafted and natural. (sentence fluency)	<b>A</b>	Tone is about the appropriateness for the audience and their interaction. So to give it a 3, they would have to really give us a sense that they are communicating with the reader.

<b>Participant</b>	<b>Differentiation</b>	<b>Participant</b>	<b>Definition</b>
<b>A</b>	And so it you're saying 2, you're saying they have strong punctuation skills.	<b>A</b>	To me, words that are ordinary would be like how they talk at lunch.
<b>A</b>	(They don't have to state their main points in an umbrella thesis.) Order has to be...you have to figure out their A, B, C are once you figure out what their main points are (in an umbrella thesis).	<b>A</b>	"Evident" means I can find it, and they stand out.
<b>L</b>	If it doesn't follow their thesis, that would be order.	<b>O</b>	But it doesn't say you have to write a five-paragraph essay.
<b>K</b>	No, we give them credit for what they are doing.	<b>K</b>	It (vocabulary) doesn't have to be perfect.
<b>T</b>	But it doesn't use ONLY fragments and run-ons. That's the key (differentiating it from a 0).	<b>A</b>	I think with order it has to be with the whole paper.
<b>B</b>	On the rubric, the difference says, "Uses smooth and effective transitions," and then 3 is between AND within. And so that's a differentiation point there.	<b>F</b>	Keep in mind that "strong" doesn't necessarily mean "STRONG." There are levels to it.
<b>Q</b>	To get a 0, commitment and involvement are not evident. He would have to write, "Go hang yourself" and nothing else.	<b>Q</b>	That's what commitment is: effort.
<b>J</b>	Just like sentence fluency, the only way you can give it a 0 is if every single sentence is a run-on.	<b>S</b>	If we look at expressive as "developing their side," it would be expressive and consistent. But, again, it's how we define the term.

The above data points demonstrating metacognitive knowledge of scoring, writing, and rubric tasks served as reference points for correction, direction, and instruction. In many cases, they brought consensus and clarification to the range-finding events where participants were working toward standardization of a scoring mindset.



## Metacognitive Knowledge of Strategy

The third major category of metacognitive knowledge is that of *strategy*. This is a knowledge Flavell (1979) explained as an understanding about which strategies will bring about certain goals and sub-goals in cognitive enterprises (thinking activities). It is knowledge of the *how*, *why*, and *when* of strategy use, a merging of what Schraw (1998) called *procedural* and *conditional* knowledge. Metacognitive knowledge of person and task could be equated with *declarative* knowledge, knowing “about” things, whereas procedural knowledge—knowing “how to do” things—and conditional knowledge—knowing “why and when”—jointly refer to what Flavell considered metacognitive knowledge of strategy. Once again, the data points in this category exhibited more than one pattern in which participants demonstrated procedural and conditional understanding of strategy use: *scoring* and *reading comprehension*. It is important to note, however, that these data points did not reflect task knowledge or general content knowledge but *meta*-knowledge of strategy use for the purpose of growing in declarative knowledge—task, general, and otherwise.

### *Scoring*

A strategy is a means of obtaining a goal; a cognitive strategy, then, is a plan or method employed to improve understanding (e.g., reading strategies and study strategies). The data points in this sub-category demonstrated levels of awareness and decisiveness in knowing what strategies (and *how* and *why* and *when*) to execute to improve scoring performance. They could be distinguished by their degree of resoluteness, ranging from “Here-is-something-I’ve-tried” to “This-works” to “It-is-essential-this-occur-to-achieve-that.”

***“Here-is-something-I’ve-tried.”*** These data points expressed comfort with the scoring process. In these utterances, participants identified, named, and shared strategies freely with others. For example, toward the beginning of the range-finding events with both cases of participants, Participant A shared a scoring strategy to assist others with keeping track of main ideas and supporting details:

*Something I do often to help me score, which makes me slower than others...I have a graphic organizer for three main ideas, and after writing down examples, I puts dots by the supporting details...Sometimes I literally have to do this in my head or get a sticky note.*

In a casual manner, Participant D stated that determining a score is “a matter of deciding how many different rules are broken.” Participant F cautioned, “As long as you don’t ding them twice...,” and Participant E followed with, “Yes, have in your mind the justification.” Toward the end of the second day of the second range-finding event, Participant P seemed comfortable enough to present a learned strategy for scoring thesis statements: “A key word I look at for it to be a 3 is ‘specific.’...a big part of 3 is clarify and specificity.”

But some participants gained clarity and confidence in their awareness through the course of the range-finding events. Participant M, after recognizing a strategy to implement, said, “So maybe that’s how we could differentiate commitment and tone. *Engaged* [is] more like sitting down and having a conversation with this person...” Participant P, too, verbalized a recognized strategic knowledge: “I guess for that I have to ask, ‘Are they persuasive throughout the whole thing?’ And I have to put aside... [my previous question...] Are they trying to convey, ‘Should we get laptops...?’” Like Participant P, Participant R determined an appropriate strategy for self-checking comprehension in the future, stated as a metacognitive goal (pronouncement). “In the future, I’m just going to ask myself if he was consistent or not, and then I’ll go with that.”

**“This works.”** Unlike the less imposing evidences of strategy knowledge above, some data points carried a stronger degree of resoluteness; participants discussed the strategies confidently, having already utilized them. Many of the utterances were delivered as rhetorical questions—a strategy intended to deepen understanding. In order to direct another’s thought process, Participant N, who had extensive experience facilitating scoring events, asked, “It’s a matter of a balancing game. Was the good that was done outweighing the lack of skill?” Participant N also orchestrated a group’s thinking through this series:

*Now, we’re playing back on our own experiences, which is an error thing. So in the writing of this paper, are those main ideas evident? Are they distinct (not overlapped)?*

*Then the question of original becomes really tough. That becomes kind of a personal...*

Others were expressed as weighted suggestions or imperative statements, as in, “This is really what a person should do,” and often worded in second person. Participant E suggested,

*This is where you have to be really careful about each box...That’s where you just have to think, “Okay. Am I talking about the main idea, or am I talking about the rest of the paragraph?”*

Another illustration of this type of strategic direction was Participant A’s advice:

*(If no main points are listed in the thesis or introduction...) For order, you need to just look at each paragraph then. Do the details fit within the paragraph they are placed? If so, are they clustered in the right order?*

Without using rhetorical questions, Participant F, coached a fellow participant with this strategic advice for scoring sentence fluency:

*If you can hit two of the three [rubric criteria] (structure, length, and beginnings)...That's one of the things about this rubric. You've got to look at every part of it because if you don't, you're going to double or triple ding them.*

As well, Participant N directed scorers' attention with this suggestion, which became a mainstay strategy for both range-finding cases. Here, it is presented in two forms; the first succinctly sums up the strategy's intent, and the second (in block form) reemphasized the aim of the former: "If you can't say 1 definitely, and you can't say 2 definitely, then you look at what is the intent of that point system: Is it developing or strong? And you decide."

*Here's where you can look at those headings of those points to whether this is strong or developing...because we don't have exceptional (in this paper). I think that's, in a way, what we have to train people to look at.*

The same participant also redirected and encouraged other participants' grasp of the rubric components with this strategic suggestion, repeated multiple times: "I hear comments, and I'm not agreeing or disagreeing with you, but I do know we have to stick with the wording on the rubric. So when we read the words of the placemat rubric, which words best describe?"

**"It-is-essential-this-occur-to-achieve-that."** A few data points revealed a strong degree of resoluteness—a firmness which seemed to come from extensive lived experience and careful pondering of the proposed sub-goals. For instance, Participant D consulted with another participant, fairly new to the profession, who was verbalizing frustration:

*You have to separate it (scoring and the general AWAs) from your classroom. You got to remember that, man. In your classroom...I mean, we're all real stringent. I mean, seriously. You know what I mean. You have to be. With these (range-finding essays), if it's there, go forward.*

In a similar fashion, Participant Q, in a sidebar conversation, highlighted a path toward decisiveness in scoring when facing overlapping errors.

*Decide which one you're going to do (which criterion you will select). Decide whether you're going to do spelling or grammar. You won't be wrong on either count. It's just...don't hit them twice! Okay, they have this amount of errors, so it's going to cost them a point; then that's what you need to look at.*

And two data points from two participants, in particular, stressed taking pains to be cautious in scoring. These points were offered as means for redirecting participants' efforts to score in sincerity to the district's mission: "Try not to use the words, 'Mark them down.' Try to find what they did well, and give them credit for it," said Participant A, and Participant N, in response to a participant's question about "Where to take off points," declared: "I think the issue is that we *don't take off for anything*. Is it more overall as a paper a 2 or a 1?" In a related manner, Participant N also instructed participants to achieve accuracy in scoring—individually and collectively—by focusing on the papers before them: "It's not this practice to think about other papers but just the wording on this rubric." Gathered together, these data points highlighted various strands of experiential wisdom for attuning oneself to one of the primary purposes of the range-finding events: mindful and fair assessment of students' work for the sake of effective training of future scorers.

### ***Reading Comprehension***

Participants read a tremendous amount of text during their days of range-finding. In fact, their mental processing and conversations proceeded from their reading of student essays; thus, it makes perfect sense that evidence of strategic reading would surface. A small body of data points revealed participants' mental awareness of three phases of comprehension: *strategies for approaching text*, *strategies for processing text*, and *strategies for evaluating text*.

***Strategies for approaching text.*** In some instances, these remarks were as simple as clarifying the point of reference before re-reading. Participant E directed a small group to dig back into a student essay in search of evidence, noting their purpose for reading: "So we're looking for the word "engaging." A collection of data points, contemplative in nature, were presented with proactive instruction in mind. Together, they functioned as a sensible plan for appropriate comprehension strategy when reading student essays.

Participant G: "*Sometimes we need to look at the whole sentence all the way through.*"

Participant E: "*You've got to look for more than what's at the beginning.*"

Participant D: *“I don’t look for big words. I look for a few words that [work].”*

Participant S: *“I look at the bigger picture. In the support to the main topic, is he consistent?”*

Participant N: *“I key more on the phrases. Either really good individual words or phrases...”*

Participant F: *“To me, you only have to find one (transition), and you start at a 1 and work your way up.”*

**Strategies for processing text.** Other data points emitted a sense of strategy knowledge while engaged in the act of reading. Typically, these occurred during re-reads, when small or whole groups would search through a text to clarify or substantiate a rating, such as Participant N’s advice: “You have to look through the paragraphs and see if you’re finding it in more than one place...again, thinking, ‘Is this *developing-looking* spelling or *strong-looking* spelling?’” Another strong but simple suggestion was: “Go paragraph by paragraph,” offered Participant N. This manageable strategy brought about more mindful reading, leading participants to a conclusion. In like manner, Participant T laid out steps for working through text to determine a rating for transitions.

*But mechanical, yes... It’s “first” and “next,” but then you have to look beyond. Are there more transitions than just that? If they were the only transitions, yes, you would do mechanical.*

In another situation, Participant Q walked a fellow participant through the process of deciphering between multiple rubric categories (thesis, main ideas, and supporting details). “So then you want to look at her main ideas. When you get to this point between these two things... [Now] do her main ideas directly relate to that thesis statement?” Later, the same participant shared a conversation in which Participant Q directed the fellow participants to more easily determine the internal structure in an essay dictated by an umbrella thesis: “Because he had an umbrella thesis, because it’s not A, B, C, which is okay, you then have to infer your own idea on whether or not his paragraphs fit the thesis he put there.”

**Strategies for evaluating text.** Participant N’s comment clearly illustrated this third phase of comprehension—a phase of strategic summation: “My thinking is this: If it’s not clear to everybody reading it, it’s probably no strong enough to call it a 3.” Though the analytic scoring rubric required participants to identify and assess individual elements of students’ writing, it also

occasionally necessitated a holistic read or a holistic bottom line, per say, especially in cases where participants struggled to reach consensus. These data points also carried a different aspect—that of how to better prepare for upcoming reading because of what had been learned through previous evaluations. Participant H, for example, suggested the following method for evaluating future texts' transitions:

*I think what we've come to with transitions as a group, as long as they have them at the beginning and internal, it's a 2. If we find them internal but not at the beginning, it's a 1. If we find them in the beginning and not internal, it's generally been a 2, if they're not simple. If they're simple, it's a 1. Those are the lines I've seen.*

Participant J offered this summative statement, which not only clarified the lines between rating categories in main ideas but served as a kernel for future strategic reading: “You shouldn't have to work that hard for it to be evident.” Likewise, Participant F shared this sound advice for scoring holistically after having scored analytically—advice which could be applied to a number of rubric categories: “I don't think it's a matter of right versus wrong. I think it's a matter of whether you were impressed by it or not. If you were, you gave it a 3. If you weren't, you gave it a 2.” Moreover, Participant A provided a specific note-taking strategy to assist in bringing about more effective comprehension in order to score properly; thus, while it discussed a means of processing, its intent was to serve evaluation:

*We (the small group) would go through and circle all the errors, but then we'd have to go back and decide, “Okay, was that grammar or punctuation?” And it was taking too much of my time in my head, so I started putting P for punctuation, G for grammar, and S for spelling. It's out in the margins. That might help you, if you're struggling.*

Looking in retrospect, Participant T explained a strategy that assisted comprehension of the essay's topic and main ideas: “I had to read the support in order to understand what the topic is.” This reflective point of strategy knowledge reaffirmed the importance of synching up the internal score of an essay in order to more accurately assess its development. Then in a comparable reflection, Participant T gave this strategic advice: “But you have to look at the rest of it. It doesn't incorporate a hook, and it doesn't give a call to action. So you can't give it a 2. I thought the same thing.” Not only was this participant able to see how to guide a fellow participant's rationalization, but Participant T did so through mindfulness of personal comprehension strategy—personal trial-and-error. Given these points regarding scoring and

reading comprehension, evidence of metacognitive knowledge of strategy emerged in the data of range-finding participants.

## **Metacognitive Experiences**

Flavell (1979) defined metacognitive experiences as cognitive or affective experiences that *lead to* monitoring and regulating. Because they can encompass both the mind and the heart and because they are experiential in nature, they can manifest themselves in a plethora of ways. Accordingly, this study divulged more data points in this second class of Flavell's theoretical model than the other three. Many of the other data points belonging to other classes also carried with them an experiential component. For example, metacognitive experiences gave rise to an increased knowledge of person, or metacognitive goals resulted from a metacognitive experience. The propensity of challenging others' thinking and critically evaluating one's own thoughts and judgments in a range-finding event could be what influenced the large number of metacognitive experiences captured in this study. It is a rare occasion that groups of content area teachers come together to intently discuss and debate their craft. Thus, because of the extensiveness of the data points falling into this class, the sections below display some of the more prominent pieces of evidence to illustrate the distinct patterns which emerged: *epiphanies, recollections, revelations, awareness, reflections, verbalizations of indecision, and questions*. Furthermore, *awareness, reflections, and questions* contain sub-categories, which will also be identified and illustrated.

### ***Epiphanies***

Though a small number of data points fall into this pattern (three), its prominence stands because of the substantial meaningfulness of its three points. If metacognition is thinking about one's thinking so as to monitor and regulate comprehension and learning, an *epiphany* would represent a quintessential metacognitive moment. An epiphany is defined as a sudden manifestation or perception of the essential nature or meaning of something; an intuitive grasp ("Epiphany," 2013). Four participants verbalized epiphanies in the midst of range-finding conversations, as shown below:

Participant H: "*You know, this all translates into our teaching because if we all get this kind of reaction when we're visiting about transitions, then how are our students...!*"

Participant M: [After determining what had “rubbed them wrong” about a student’s essay...] *“That’s what it is! The attitude...!”*

Participant G: *“Look at what we’re learning!”*

Participant S: *“This is the best professional development experience I’ve ever had!”*

Again, the sheer awakening visible in these points was what deemed the pattern worthy of a distinct content code. Based on the wealth of data points falling in the class of metacognitive experiences, it is logical to assume that many other participants experienced epiphanies during the range-finding events without expressing them.

### ***Recollections***

While the participants were encouraged to focus on the student essays before them without digging into past scoring or teaching experiences, many of them evidenced meta-thinking in the form of *recollections*—the calling to mind past thinking or learning experiences. It is important to draw attention to the fact that some of these data points began as recollections but then morphed into other types of meta-thinking represented in other content codes from one of the other classes, such as goals/tasks or actions/strategies. On these occasions, it seemed as if the participant experienced a reflection rooted in past events that stimulated current thinking behavior or decision-making. In other words, the recollections appeared to be purpose-driven.

***Past training events.*** Those participants who had trained or participated in training events prior to this study’s range-finding events occasionally referred to their experiences. For instance, in a conversation about transitions, Participant J called upon her extensive training to reinforce the need for a translatable explanation of transitions.

*I’m just thinking of training. I’ve done a lot, a lot of training. Unless it’s a new idea to teach students not to put transitions between paragraphs, I don’t know what you’re going to say in training...they’re going to be looking at this saying, “It isn’t there.”*

In a different small group, Participant E shared a related recollection regarding transitions, only referring to the degree of quality assigned:

*I just remember saying, when I was in training, “The basic ones we all know, but even if you have one that isn’t basic, you need to go up. Because if it has even one transition, you must give them a... if they have something else that’s beyond basic...”*



**Past scoring events.** Certain recollections alluded to district scoring events held during the past year. Participant C shared, “That’s what I was thinking. I was thinking back to scoring in February, and they were my guideline.” Likewise, Participant D considered a previous event in light of a vocabulary issue regarding which words “count”: “I think we had that conversation last year. It wasn’t just the use of big words, but it was also the words pertaining to whatever they were saying.” A few participants also reflected on *themselves* engaged in past scoring events. Participant C, for example, shared this memory of self-directed thoughts during the training session earlier that same day: “Stop talking. Stop participating. Stop sharing your thoughts,” I thought to myself.” Participant D, as well, recalled defending an idea at a previous scoring event and shared the internal conflict that ensued: “And then after I opened my mouth, I had to back it up. I was like, “No! Back to the cave. Shh...!”

**Recent scoring events.** Then some recollections cited past essays from the same range-finding event, like Participant H’s point: “I was seeing the same mistakes in this paper as the last one.” Participant A, too, connected to a recently scored essay: “I definitely think it needs work, but it doesn’t feel like that awkward [one] we had before.” At other times, participants justified judgments based on their recollections. Participant M explained, “I was thinking back to some of those we graded earlier, and we said if there isn’t a transition for each of those paragraphs at the beginning, then it’s basic,” and for one participant, recollection played a part in a personal conflict: “Seriously, I’m going to start crying if you give this a higher score than the other one.” Participants C and D, as well, addressed tension sparked from an earlier whole group discussion that morning; both data points also displayed reflection on self (another metacognitive experience content code) through the recollected memories:

Participant C: *“I honestly didn’t think it (scoring) was hard when we were grading them. It wasn’t until we had that conversation.”*

Participant D: *“I agreed with the score, but I was like, “Well, there’s an attempt; it just does not work well.” I just want people to understand it doesn’t have to be one word. I should have just shut up so we could move on.”*

Then Participant Q began a small group discussion on the second day of range-finding with this personal reflection rooted in a previous experience; it utilized reflective self-questioning to conjure up previous judgments and understandings.

*So I went back over my training notes when I trained this persuasive last year...I went over that yesterday, and I kind of looked at it. So I was thinking about what it was I was talking about. I have some ideas because I really felt like on Wednesday, I was like, "Why am I scoring it this way? What were we looking at? What were the words? So I refreshed myself little bit. So I have some insight as to what we were thinking with this rubric at some point.*

These recollection data points contained a merging of the cognitive and affective domains, invoking experiences which then led to further thought or regulatory measures for participants and those engaged in conversations with them.

### ***Revelations***

A third pattern of metacognitive experiences was *revelations*; these took two primary forms defined here as: *coming to agree* and *coming to see*. Revelations are similar to epiphanies in that they involve a recognized perception, but they differ regarding time and person. An epiphany is a sudden recognition, as if a conclusion has been (seemly) reached immediately, and it only involves one person: the thinker. A revelation, however, is a slower unveiling of a recognition through which a person comes to agree or comes to see in the same manner as another; it draws upon ideas other than its own. This section begins, however, with two general revelations participants' made so as to demonstrate their distinctness from epiphanies.

Participant K: *"It seems like we have to analyze why they're doing it sometimes in order to justify the score."*

Participant G: *"I think we're here to learn to use the rubric, and we have to use the materials we're provided. So I want to learn how to grade like everyone else because I want to be fair to my students."*

Both of the examples above captured a sense of process understanding revealed through the course of conversation with others.

***Coming to agree.*** Because the range-finding events were intensely collaborative, participants often formed their conclusions based on others' contributions. Participant A reached a conclusion after coming to agree with Participant H: "It could be the placement of detail (which would be order again). So maybe it is the placement so that order should be knocked

down, like Participant H said.” Further, Participant M shared this detailed revelation that began with a recollection and ended in a metacognitive goal/task:

*So if we go back to your comment, though, I think...would that maybe fit more with supporting details because they do take this simple thing and write an entire paragraph about it...and it's not repetitive? So maybe supporting details are higher ... But now that I look at it, I would go with a 3 for supporting details because you're right.*

In a simpler, yet equally powerful way, Participant E remarked to a different participant in a different small group, “I’m leaning towards what you’re saying because I don’t see much to pull the reader in.” Interestingly enough, though participants verbalized disagreements and contrary views from other participants (as addressed in the *contrasts* content code of inter-individual metacognitive knowledge of person section), no data points emerged unveiling a revelation of *coming to disagree*.

**Coming to see.** More common than *coming to agree* were *coming to see* data points. This could be attributed to the primary purpose of a range-finding event: aligning participants’ mindsets to a central scoring rubric. As participants discussed, debated, and reached consensus (or not), they assimilated and accommodated their views to one another. Succinctly, Participant L laid claim to the means of rendering a more accurate judgment: “I guess it’s how we define ‘expressive’ because I don’t feel it’s engaging.” In a rather humble manner, Participant B explained coming to see a wrong choice:

*I was probably too hard on this. I didn't know where to take it. I gave it a 1. I must be really hard on this guy. I'll tell you why I did that. No, I think I goofed on that. I don't know why I had a 1 now, to tell you the truth. Just a second here...I screwed up there, definitely.*

Likewise, Participant M shared a revelation for coming to see a different answer from what had been determined previously.

*Okay. So then, that's the one. The reason why I said limited was because when I had first read it, I didn't know where they were going. I was like, "What?" I thought it was completely off-topic.*

In conversation with other participants about main ideas, Participant D determined the reason for a previous choice: “I probably punished him because of supporting details. The repetition got me disengaged.” Participant G, as well, verbalized a realization of “the now seen”:

*I had a 1, too, but here's what I'm seeing now. First of all, "pro-athletes" is specific. He chose a job, and "it's a challenging job" does direct what will happen. I was looking at it as general, too, but that is specific and does direct.*

In a sincere way, Participant L, too, came to see the answer to a self-initiated question: Was that...? Okay. Never mind." And later, Participant M spoke retrospectively about coming to see the reasons for a particular decision:

*Well, I thought 3 at first for tone, but then when I read the details in the rubric. I think it was because I did feel engaged throughout the paper. I don't necessarily think I felt an interaction, though.*

Participant H recognized the moment of clarity: "That was the part when I started looking at the contents of demands and stress, and I kind of thought, 'You could replace the words in one, and either one works.'" Overall, the data points of those participants who *came to agree* and *came to see* illustrated the unique pattern of metacognitive experiences through which one's cognitive and affective realities become revealed.

### ***Awareness***

Another distinct pattern of metacognitive experiences which emerged through the data was *awareness* in relation to comprehension or understanding of ideas read and discussed. These data points were similar to revelations in that participants were able to see but, rather than the process-oriented unveiling of enlightenment or deriving a conclusion, the awareness data points depicted an acute clarity and distinctiveness—a mindfulness of knowing or not knowing. One data point, for example, described a precise moment when clarity in comprehension occurred, i.e., an awareness of "getting it":

*I was reading this as the conclusion initially, but then I went back through. When I read it according to what was listed in the intro, what I deemed as the intro...I looked at this as, "There is no conclusion," said Participant D.*

Another articulate data point explicitly revealed the participant's awareness of a difference in understanding went as follows: "I just have to be honest. With a paper like this, I'm not even conflicted. They absolutely do not use transitions to connect their main ideas. So you can't say they do, if they absolutely do not." Then two data points illustrated the participants' awareness of working themselves through text so as to comprehend. Participant M said, using self-talk,

“I’m thinking here. Hmm... Are they evident? Well, let’s see. They have pressure, in control of people’s lives, and hard to deliver bad news.” And Participant Q, aware of having come to see correctly, stated, “Why didn’t I catch this? I think you’re absolutely right. Paragraphs two and three...it’s money.” Very much like a revelation of coming to see, Participant Q’s remark would be more accurately classified as a point of *awareness* because understanding had already been reached prior to its verbalization. Its emphasize lay in awareness of the now known. In a slightly similar manner, Participant D’s observation clarified a general awareness of a collective lack of comprehension. “But the fact that we’re confused is what makes it weak in the first place.” It was as if the awareness of not knowing improved the overall state of understanding.

A myriad of data points reflected this hue of awareness—keenly identifying the unknown. Participant K announced the following. Notice its emphasis on “this/it.” This participant was able to lay a finger on the missing piece of understanding:

*I couldn’t get it straight in my mind **because of this**. **This** didn’t follow anything for me... Where should **it** fit? It’s a main idea, but **it** doesn’t go back to anything.*

Participant E also shared being aware of an unknown—a lack of a discriminatory knowledge that would have led to fuller understanding: “I don’t see a difference between this one and the other one (which was a 1).” Participant A, too, pinpointed being aware of a specific unknown that, once clarified, could lead to greater awareness:

*The part, **the going places part**, they lost me with “the use of cars going overboard.” They lost me. I assume the gas goes with going places...but then parents need time away...is that supposed to be another paragraph?*

Even more clearly, Participant Q identified an awareness of not seeing as another saw; thus the awareness came about after having drawn a contrast: “Someone gave spelling a 1. Why? What did I miss? What did I not see?” The same participant later vocalized what was acutely known and still unknown:

*Once I saw that there isn’t a conclusion, I now see there is some order. But how is it a 2? I see 1. I don’t see 2.*

Participant D, too, expressed a similar awareness that led to a decision, a metacognitive action: “There’s an ‘also’? I missed that. I was looking, and I couldn’t find it. That would bump it up to a 1 for me.” Accompanying Participant E’s willingness to change a rating was an awareness of being surprised at a lack of awareness:

*I see that. I didn't before, and I'm kind of surprised. I wouldn't have a problem going down on that. It wasn't distracting for me. I didn't even notice, but it's not right*

But then some participants confessed an awareness of not comprehending at all. Participant L, for instance, admitted, “I couldn’t figure it out. I just had to see what you guys were thinking,” and Participant U also claimed, “I didn’t get a main idea out of the *lot of people through the economy* section. I couldn’t find a main idea, like one, specific main idea.” Participant E even stated at one point, “I don’t know what to say.” These awareness data points played a special role in the realm of metacognitive experiences, for so much of mastery learning and development in competence in any content area or process depends upon the awareness and recognition of what is known and what remains unknown so as to make adjustments accordingly.

### ***Reflections***

One of the more data-saturated patterns of metacognitive experiences was reflections. The word “reflection” is sometimes used synonymously with metacognition, but in truth, reflection is an integral part, a subset, of metacognition (Risko et al., 2005)—a subset vital to thinkers’ monitoring and regulating of thoughts. This pattern, then, included a broad spectrum of reflections affirming participants’ metacognitive experiences falling into three general forms: *reflections related to self*, *reflections related to ideas*, and *reflections of self and ideas*.

***Reflections related to self.*** Reflections related to self were identified as ideas or opinions verbalized after personal consideration. They seemed to be addressed back to the self; at times, the others participants were included in the address, and at other times, the other participants merely listened in to audible self-talk. Participant A’s self-reflection, for example, was directed to both the self and the small group: “I put a 2. Let’s see why. I know I had a reason. I just need to reread it.” In another example, Participant R reflected on a previous reflection while reading in which self-questioning occurred.

*By the third one, I had to pause: Is that too many? Some papers, they do that more than they should. Now, where would we mark the error?*

Whereas Participant R reflected on a past reflection, Participant H verbalized an immediate reflection concerning the group at large that morphed into a question seeking clarification:

*I kind of feel like with the transitions, we keep reaching for things...like, "If we really look hard, we should be able to find..." And shouldn't it just be like it's either so evident and easy that there it is, or that it's so smooth and crafted...?*

That data point contrasted with the candor of Participant Q's reflection primarily targeting self: "Why did I give this a 1?" With equal vigor, Participant O addressed a small group with this reflection: "I think we need to get realistic here." Participant H's later reflection, though, revealed an internal struggle directed to a small group yet ending with distinctive sense of self:

*Where do we draw the line? I would say, strong or developing. Because the strong skills [are] what I would expect from students in my classroom... Developing is where I still feel like they have...I don't think this is where I want my students to say this is what I'd be happy with.*

This next data point, which doubled as a recollection, showed Participant T's multi-phased reflection. On the second day of range-finding, this participant brought a document from a previous scoring event to support personal scoring. The data point indicated reflection from the first day of range-finding (which, perhaps, prompted bringing the personal aid) and reflection as to the aid's specific benefits (in bold):

*When it comes to doing the grading, I have this (document) that I got to keep...where we highlighted key words. And we went through and highlighted key words. And that helps a lot. Like I use that for my own grading because it's...**what separates this from this.** And I talk about it in my classroom.*

In a frank assessment of self, Participant B shared this remark: "I must have been tough on this kid." Equally honest, Participant E vocalized awareness and then shared the reflection that led to understanding:

*I still don't... I'm adamant about this. He's debriefing on what his four points are here. It's very clear. That's why I was able to decipher it. I didn't know what he was doing.*

Participant D's statement, as well, pointed to a certain degree of personal reflection: "Wow. I gave him credit on that one—probably more credit than I should have." In conversation with another participant, Participant H expressed tension regarding differences in ratings on rubric categories than others had mentioned. "[It is] making me feel like a bad guy... I leaned toward the low end on this..." Also reflecting aloud, Participant A contrasted a personal decision to another's then mentioned a consideration which occurred while reading, "You gave it a 2. I

wondered, but then I went back to that little outline in my head.” Contrarily, through a reflection on the reading experience, Participant A came to see a disconnect between the rating given by self and others. The reflection component of this data point is bolded: “Commitment. Oh my, I have a 3. Did I mean that? **It irritated me, so I stayed with it.** It’s passionate. It’s ridiculous.” Another example of a data point vocalizing reflection while reading is Participant H’s remark, which trailed off due to overriding conversation:

*When it’s one of those paragraphs that when I’m reading I’m stopping to try to figure out what it’s saying because one of those sentences is so choppy, it seems like sentence fluency is...*

Participant R, however, reflecting on a recent decision justified by an understanding of what transpired during the reading experience, said, “So I was giving him credit he hadn’t earned yet because I knew that he was trying to say, but he never said it.”

Other reflection data points came across as revealing a sense of uncertainty or incompleteness. Regarding the conclusion, Participant R mused:

*I feel this is a flaw in the rubric, and I like the rubric a lot. Those two words (“ineffective” and “awkward”)... It should be random, or it should be...if they’re bringing in information...I feel like that might be... a weakness in the rubric.*

Regarding word choice and usage, Participant H’s reflection clearly articulated a sense of ambiguity while reading. “I kept coming to those (words), and that was really distracting to me. I kept saying, ‘No, no, no...’ Maybe I’m thinking too much,” and Participant P aptly stated while reflecting on an essay just scored, “I felt like none of these boxes got to the root of the problem.” Participant A, too, implied a sense of uncertainty with this reflective remark: “I don’t know that I would want my students in my class saying this is what we learned.” And in a different manner, Participant T, reflected on uncertainty in decision-making. This data point seemed to contain a reflection within a reflection; the bold portion represented the more transcendental level, also overlapping as intra-individual knowledge of person.

*I was on the fence between a 2 and a 1 because the comma errors can totally change the lengths of the sentences. **That’s the deal breaker for me,** and there [are] a lot of comma errors.*

Both range-finding cases contained data points, in addition to these mentioned, that evidenced reflection of self in some capacity.



**Reflections related to ideas.** Another cluster of data points revealed reflection on ideas. These data points might appear at first glance to be expressions of comprehension, but upon further inspection, one can detect a sense of reflection mingled with the cognition. In other words, the participant not only revealed what he or she understood but accompanying thoughts about the ideas, as well, in a rather personalized fashion. Some of the more straightforward reflections are listed here.

Participant C: *“If that guy truly thinks he is amazing and that is all you can put down? To me, that is a commitment issue. I mean, convince me!”*

Participant N: *“I don’t know if that’s really an error so much as a misperception.”*

Participant F: *“I think the one that carried it over is that third paragraph; that is not a list.”*

Participant S: *“Just a personal thing, their last sentence for the body paragraph, I thought that was deep. They won one point for me there.”*

Participant N: *“I’m curious what’s **not** going to be mechanical (transitions).”*

In a more elaborate fashion, Participant J shared this reflection during a small group discussion of an essay’s main ideas and details:

*You know what I wrote up here? That it was philosophical, which rendered it kind of general. As far as picking out specific details...it would have been hard to make one of those graphic organizers. That was true with a couple of these. It was expressive but more like...philosophical than detailed.*

Participant D delivered a reflection that also considered the meaning behind the ideas of a student’s essay; this participant thought and spoke in context of the reader-writer connection.

*Even talking about injury first, I mean... Normally, when you talk about athleticism, if you’re going to go on a general concept, you’re not thinking about that...that’s kind of a mental thing. He kind of gets into it, and then he flows into the next idea of the extra training that would come after that... And that showed me a process, if you will, and I was impressed by that.*

In a reflection that zeroed in a particular element of an essay, Participant M verbalized the effectiveness of phrases and sentences as transitional devices. The reflection then considered the function of transitional devices as a whole in light of the many debates they sparked during the range-finding days:

*I think those introductory phrases...I think those are more crafted sentences as opposed to an actual transition, but that's not their function (not those key words). **Why is this always a sticky one?***

Also with a broadened perspective, Participant A, in a “real-time” reflection, thought about specific ideas in a student’s essay and traced the influence these ideas could have had on past scorers:

I’m wondering if it had to do with the very middle body paragraph about seeing people at their worst...because they really only had...*you see them struggle*...It did talk about *keeping their emotions back*. So I’m thinking that’s what brought some people down.

Participant D, as well, moved beyond the literal lines of text by considering, aloud, their lack of effectiveness for the reader:

*It’s the same thing just over and over again. There’s not a hook, and the only background is actually the thesis. The first and last lines are variations of themselves, I guess...along with the middle. It definitely lacks control because of that.*

Again, these data points expressed more than a comprehensive understanding of text; they incorporated a reflective component indicative of this pattern of metacognitive experiences.

**Reflections related to self and ideas.** Almost a merging of the two, a number of data points showed equal weight of reflection on essay content and self-experiences. They made visible the interactivity of the reader-writer connection, similar to what Tierney and Pearson (1983) explained as readers and writers “adapt[ing] perceptions” about one another as they “negotiate what a text means” (p. 1). To illustrate, Participant M stated, when considering the effectiveness of an essay’s tone, “I think it’s almost like the writer is trying to have a conversation with you. So while I may not find it engaging, they are trying to pull me in.” Participant O, likewise, reflected on the writing from the perspective of a reader; this reflection also included a question seeking clarification:

*I think the details...if they have that umbrella thesis, that’s where it gets confusing. Are we grading on details, or are we grading on order? Because if he had his three points listed out, we could easily grade on order...if it matched...but when they don’t, then it’s like we’re going back to details.*

In justifying a rating, Participant H reflected on a reading experience in this manner: “I see it as just not using anything out-of-the ordinary. This is just plain ‘I-can-communicate-with-my-

friends' kind of talk, and I feel that's what I was seeing here." On the same hand, Participant R provided a more complex reflection, merging thoughts about content with thoughts about a personal reading experience. It depicted for other members of the small group a thoughtful and viable engagement with text:

*I see what you are saying about starting with that "using too much technology" because if she would have worded that differently so that the idea was more clearly a part of her thesis, that totally would have gone beyond. But in my head, it was background information, which I was impressed with. And so when I read it, my first instinct was, "Excellent on background information! ...Totally great intro!" But the thesis was good... but not beyond obvious.*

In the same group, Participant Q then presented this reflection, which, like Participant M's, unveiled the cognitive and metacognitive activity occurring in the participant's mind while reading and while reflecting upon the same text afterward:

*Okay. (Reads from rubric.) "Commitment to topic is expressive and consistent but may not be engaging." I did not find this overly engaging. I wasn't going, "Ooooo, what's next?!" I had to go back and read several times, so I knew I wasn't engaged that way. However, commitment...it took some thought. This wasn't a kid who just slapped it down. They actually had to think about some things here. "The amazing prom" ... "The most memorable experience" ... That stuck out for me. He put "this, then that." He showed forethought of cause/effect. That took some thought.*

Participant O, in a contrary point, addressed the writer's ineffectiveness at translating her humanness to the reader.

*I didn't think she was aware of the reader. I thought she was aware of herself and the diving team. I didn't think she really communicated. I can see her, but I didn't think she was aware of the reader.*

Another participant vocalized this reflection, coupling a strong sense of text with a personal reading experience:

*You didn't feel...? I know he's rephrasing his thesis. "This is why we should not let parents choose their child's traits." I would say that's his call to action. And this is what I was thinking about as I read this, "How else would he do this?" It's like he combines that wrap-up with his call to action.*

The many reflective data points—involving self, ideas, and a marriage of the two—actualize the otherwise nebulous metacognitive experiences that engaged readers and writers frequently enjoy.

### ***Verbalizations of Indecision***

Another prominent facet of metacognitive experiences that manifested itself in these range-finding cases was *verbalizations of indecision*. As participants struggled to come to consensus on essay ratings and, further, reach a like-minded mentality for scoring with the district rubric, they occasionally found themselves uncertain and indecisive. Thus, data points emerged in which participants pronounced an inability to make a firm decision. Some of these data points contained overlapping content codes, and so in those examples, the pertinent aspects (those reflecting indecision) are bolded.

In this first example, Participant P reflected, questioned, acknowledged a decision, and verbalized a core sense of uncertainty in a decision already made:

*He was consistently having that persuasive commitment. Yes, not super-engaging... Am I getting ahead of myself? I gave tone a 2. This is a good example of the 1 box. I was torn. I did give it a 2. I thought he conveyed the attitude. Maybe the 1 could also say "might not be engaging"? **I don't know if that's what separates commitment from tone.***

In fewer words, Participant J expressed a similar doubt: "Exactly. My judgment says yes to one of these sub-sets but no to the other, so I didn't know what to do." Participant M, as well, professed not knowing what to do and even proposed assistance: "I didn't think vocabulary was necessarily vivid. I thought it was active. But I don't know. Maybe you can help me out." Then Participant E's point showed hesitancy in decision-making because of uncertainty in knowing the root of the problem area:

*It might be. I had an arrow drawn to order, too. But I think at some place we have to address that because I do not think it's evident. It's not clear up front. Maybe it's not thesis. I mean, she has a clear thesis. (Then later... "Okay, let's go with 2 for thesis.")*

Like Participant E, Participant C, in a reflection on self and ideas, revealed a moderately firm stand on a rating for grammar that contained a hint of indecision—as if talking a person (or self) out of needing further discussion:

*I still think that's a 2. I mean, can we debate that? **I don't know.** I just kind of feel like...if you had a 3 there, that maybe a person that would have been a 3 in terms of grammar would have caught that prepositional error. But this is just a 2. It's still strong. He just misused it once.*

Paradoxically, some data points were more deliberate and clear in their indecisiveness. "Well, I don't know," said Participant M. "I went back and forth. I'm so confused on all of these papers." Other lucid examples of indecisiveness follow:

Participant L: *"I don't know. They need to be defined, perhaps."*

Participant B: *"Well, I gave it a 2, but I debated about that. I thought it was kind of weak. I could see it in 2."*

Participant M: *"So I guess, when I look at it, **I had a hard time deciding:** Is this usage? They leave 'a' out, and they leave 'the' out. Is that grammar?"*

These brief utterances were far from simple; they touched upon sources of confusion and uncertainty, made clearer through metacognitive awareness.

But most data points evidencing indecision took longer to explain. Participant R, for instance, in great detail recounted two related moments of indecision:

***I almost scored them down,** I think, because the first body paragraph asks, "Why should we get the laptops over the school activities?" And the other two main ideas are really answering that question. Then I also saw...she could have put all the environmental factors into one...**so I didn't know how to score this one because of that.** They're evident, but they're not well-delineated or grouped or something like that.*

Participant P also explained a keen sense of not knowing how to proceed in arriving at a conclusion:

*Okay. I'm torn. I have a question mark. When I look at this, I think I'm being too hard. I had a 1. The only reason I say that...a lot of her words...she did have...as far as words of different sentence beginnings, but I saw a lot of the same rhythm.*

Then Participant A responded by validating the uncertainty, indicating a past struggle, as well, though resolved:

*Repetitive rhythm...I had a 1, and I felt badly about it, too. But it fits. It makes you want to go back and look at the last couple we did. They played it safe, so it's hard.*

In another example, Participant M deliberated the appropriate rating for the essay's commitment. This example identified the source of confusion through a question then proceeded to talk through the question and seek an answer.

*I'm just stuck on the words. What's more important: "expressive" or "consistent"? Because #2 doesn't necessarily say it has to be consistent. I'm assuming it has to be consistent, but the key word there is expressive.*

With less precision than the previous data point, Participant C's remark clearly articulated indecision; this participant was waffling between two rating options on the category of punctuation:

*Cause to me, if I look at this... Okay, 0 is "frequent errors that impairs readability," and that's not this person. And then if I look at a developing skill, "inconsistently used" ...uh, maybe, but I don't know. If I read that, it doesn't detract from the overall message. I don't know. I think it's a 2. I think it's as strong. It could be better.*

Very much like Participant C's vocalization was Participant P's utterance regarding sentence structure. Through this reflection, the participant demonstrated personal awareness of the reading experience, noted the use of a reading strategy, and then narrowed down to the reason for indecision:

*I think where it's confusing...is I look at the rating of "uses varied sentence structures," but when I look up, I would not say it's a strong skill. So even though I feel like I agree with language in the box, **I'm torn about saying it's a strong skill.** I would say it's developing. I think she uses more than limited or repetitious structures, **but I don't know that it's a strong skill.** I rated it a 2, **but I'm not...***

While talking through a moment of indecision, Participant E also pinpointed the source of confusion in determining the appropriate rating category for transitions. The participant associated the indecision with a question—an awareness of an unknown:

*Here's what I'm thinking. We have a "first," "last but not least," and "to conclude." To me, those are mechanical, which would be at a 1. But when I see "Not only do doctors have life-saving jobs, but it's a stressful one at that," I think that's a little above. So that's my question.*

Participant L also verbalized indecision, though claimed to have already decided a position of 2 (as opposed to 3) for the essay's tone. During this metacognitive experience, the participant double-checked the basis for the decision but stayed with the original decision:

*I'm still going to say a 2 because you don't know if her... I can't tell if she's just saying "This is how I feel about." She's not really... Well, let me look. She's committed...She's... I don't see an attitude toward the audience. I just see her attitude.*

Further, Participant D demonstrated indecision in this data point. Like the previous points, this participant walked through the thinking process, debating back and forth between rating transitions a 1 or 2. By going "back to the text," the participant sought clarity and confirmation for a rating decision:

*On this one, yeah, if I was just glancing back at it and looking for those words. It's bad, but then when you look at the effort, I guess, or maybe just the bleeding that's going on in the writing, and it does transition. So I would give it...It's right in between. But then, there's that effort at using the writing to transition rather than saying, "Last, next...."*

These detailed data points elucidate a distinct pattern of metacognitive experiences: verbalizations of indecision. All participants indicated uncertainty or confusion or indecisiveness when rating to some extent or another, but those above most clearly showed that the recognition of indecision has a meta-level experiential quality to it.

### ***Questions***

Even though many of the data points addressed in other content codes contained questions within them, it seemed necessary to establish a distinct content code for particular patterns of questions that emerged in the data. Questions by their nature generally indicate some sort of cognitive processing, but certain types of questions in this present study attested to participants' metacognitive experiences: questions seeking *understanding*, *clarification*, and *confirmation* or validation. Questions seeking understanding intimated recognition of what was already known and a desire to gain further information to further understanding. Questions seeking clarification, however, implied a good sense of the known yet recognition of the need to differentiate between characteristics or aspects of additional information so as to substantiate or advance the known. And questions seeking confirmation or validation insinuated understanding

but without certainty; these questions were attempts to affirm the participants' thinking. The three question patterns and respective data points are shown here in Table 10.

**Table 10: Question Patterns in Metacognitive Experiences**

<b>UNDERSTANDING</b>	
<b>R</b>	What would you have done?
	Where is the thesis? What sentence did you underline?
	Something is wrong. What do we call it when they do this? What do we...? How do we...? Do we not penalize them for this organizational faux pas?
	Is it compelling because they feel strongly then?
	How do you get dinged for that?
<b>A</b>	So are we being too nice?
	Are we ever going to have a 3? What would it take to get a 3 in thesis?
	What should we do? Should there be those gangly sentences?
<b>T</b>	So like we talked about the thesis, where we gave it a 2 because the position is obvious—it's not good, but it's obvious. Wouldn't you have to do the same with the conclusion? It's not good, but it's there.
<b>G</b>	Can I ask a question, then? Because we didn't address any of this in sentence fluency, should we go back and take a look at that?
<b>Q</b>	My question would be...when you say "awkward," is that more of a fluency issue or vocabulary? Did it impede your reading as you went through?
	So here's my question. When we train this and we're on a 2.5, which is clearly where we're at, do we want to tell people: "If in doubt, bump them up" or "If in doubt, take the lower score?"
<b>E</b>	What makes this different than the other one?
	Why do so many people say a 3, though?
	What do you have to do to give this a 3 in vocabulary?
	Would we go up to a 2 just because of one paragraph?
<b>J</b>	So how do you deal with (supporting details) if you didn't get what the main ideas were?
	How do you wrap your head around the phrase "stand out"?
	What are the main ideas? If someone could tell me, I could maybe change my mind.
<b>H</b>	What do you see that's above the ordinary?
<b>F</b>	Why'd you give it a 1?
<b>K</b>	What is your definition of "controlled"?
	What is "active"? What does that mean?
<b>D</b>	Okay. This may be a stupid question. On something like this, where the main idea...there are no main ideas in the intro. It just goes into listing, in that section. What do you do? Do you give credit to a 1?
<b>S</b>	What are we really saying when we say something is "engaging"?
<b>L</b>	I have a question. So should I not teach my students to restate the thesis in different words? I always have them restate it in different words with the... because, you know...summarize the reasons that you have covered in the body paragraph. Should I not be doing that now, or should I?



**CLARIFICATION**

<b>M</b>	So are we trumped on thesis, or are we trumped on main ideas?
	Would it still be considered evident because there are at least 2 (main ideas)...doesn't have to be 3?
<b>G</b>	Are you sure it's not order?
	Are you saying those words need to be changed on the rubric? Is that what you're arguing?
<b>C</b>	But that doesn't make it engaging. It makes it expressive, right?
	I don't know if that's right, but used, used well, and used effectively. But now we're talking about... We're having a conversation about the word smooth. Should that be in both categories or just one?
<b>H</b>	But is between the paragraphs a high end?
<b>E</b>	So if you see one thing that's repetitive, do you give it a 1?
<b>F</b>	(In referring to the placement of ideas...) But where does it say it can't be done?
<b>Q</b>	The question is: What constitutes inconsistent usage?
<b>P</b>	Is it wrong to look at the way it works in this case as a whole? Is there a point where you get to the "Okay, I've graded enough papers to know that the way this all works together, it's exceptional?"
	(directed to self) Why did I give him a 2?
<b>S</b>	How are you defining "expressive"?
<b>R</b>	But do you count that as grammar problems then? Because I definitely want to put them somewhere when they do something like that...

**CONFIRMATION**

<b>P</b>	Am I wrong in thinking that a call to action is asking them to do something?
<b>N</b>	And they don't have to be at the beginning of the paragraph, right?
	It's grammar choice. They're spelling the words correctly; they're just grammatically wrong. Right? That's what I was taught
<b>J</b>	But it does direct the rest of their paper, right?
	Wow. I thought this paper was 2is. Did anybody else think that?
<b>S</b>	Am I wrong in interpreting that using "our" and "we" is not acknowledging the audience? I think it is.
<b>M</b>	So "a lot" would be a spelling error, whereas "their" in place of "there"...that would be usage, correct?
<b>B</b>	I was on the fence. Was I the only one with a 2?

## Metacognitive Goals (Tasks)

The first two classes of Flavell's theoretical model of metacognition—knowledge and experiences—tend more to the monitoring of cognition, whereas the third and four classes of the model—goals (tasks) and actions (strategies)—tend more to the regulation and control of cognition. In other words, metacognitive knowledge and experiences can give rise to one another, leading to monitoring and regulation of unique cognitive goals (tasks) and actions (actions). Flavell (1979) described metacognitive goals (tasks) as *cognitive decisions*—establishing, abandoning, revising goals because of metacognitive knowledge and/or experiences. This section, then, examines six patterns of metacognitive goals (tasks) that emerged in the study's data: *pronouncements, resolutions, conclusions, modifications, justifications, and recommendations.*

### *Pronouncements*

Often as a result of increased metacognitive knowledge or the influence of a metacognitive experience, participants pronounced a cognitive decision. The decision had typically already been made; the pronouncements, then, clearly and confidently declared the goal or task to group members, directly addressing self or others. What set a pronouncement apart from other data point sub-categories was its definitiveness.

*Self-directed pronouncements.* Resulting from an essay's lack of paragraphing and the comprehension confusion that ensued, Participant A declared, "I need to figure out paragraphs here." Participant D pronounced the following cognitive decision given a particular set of circumstances; this data point also begins knowledge of task:

*Transitions within, even in the first paragraph—even if that's the only spot—they still show a sign that they're able to do that within a paragraph. **And so, I reward them for that skill, basically.***

At a different moment, Participant D simply declared this decision: "I gave him credit for the attempt." Participant C also announced a cognitive decision after having justified (metacognitive experience) a previous decision:

*I gave it a 3 because of the first main idea—willing to take a chance—and I thought that was kind of interesting...but then again, **I should probably look at all three (of the points).***

The individually-directed pronouncements, supported with metacognitive knowledge or experiences, advanced participants' mental activity in particular directions.

***Other-directed pronouncements.*** The majority of pronouncements, however, were directed to others or the group, at large. For example, Participant H said to a small group, after some reflection, "As far as sentence fluency, this is the first time this has come up to this extent so that we're actually talking about it. **We have to decide where our lines [are].**" Participant N, as well, said, "We have to focus on the wording in the rubric." Participant C's pronouncement began with indecision but resulted in the establishment of a cognitive decision directed to the whole group:

*So used, used well, and used effectively. Maybe that's the difference. It's used. I don't know though, But then is used just it at a higher skill? **That's what we need to decide first.***

Participant Q also addressed the whole group with this remark following by some reflection:

*But we've hit a defining point on this. Clearly, we're at a 2.5. We know they reached the bar on the internal transitions; they don't reach the bar on external. So there are no sub-categories here. **So we have to decide. We can't have a 2.5.***

In addressing a small group, Participant G also indirectly addressed student writers: "I think if you're going to use preview points, **you need to use them correctly.** And at a later session, Participant G, after having reflected on the small group's method and its struggles, declared: "It's the understanding...and **that's what we need to focus on rather than changing the wording of the rubric,** I think (used before)."

In other examples, the pronouncements came across almost as mandates. When discussing the body of an essay only having two paragraphs, Participant Q declared, "You can't punish them for that." As well, Participant J firmly declared in a small group discussion, "You absolutely cannot put a 0." Further, Participant E, at two distinct occasions, pronounced: "We'll move sentence fluency to a 1," and "Well, if it's that simple, it's going to be mechanical." Though firm in decisiveness, the pronouncements directed to self and others tended to be well-received—as if recognized as the thoughtful establishment of what needed to be done for the benefit of fair scoring.

## **Resolutions**

Similar to a pronouncement, a resolution, too, declared a cognitive decision but not as if it has already been determined, like a pronouncement. Rather, a resolution expressed intent to act in some way in the future—occasionally stated as a proposal, and most often in this study, it was directed to a group of participants. Though a relatively limited amount of data points illustrated this pattern, its distinctiveness contributed to illuminating the manifold dimensions of metacognitive goals (tasks) ensuing from metacognitive knowledge and experiences.

Participant A, with extensive scoring and training experience, contributed three distinctive remarks in small settings that were classified as resolutions:

Participant A: *“So let’s make sure and differentiate commitment and tone.”*

Participant A: *“I always worry about thesis not ever getting 3s, and I worry about main ideas. **I just want to make sure we’re paying attention to those two.**”*

Participant A: *“So we need to figure out main ideas.”*

Participant A: *Let’s go through it (the essay) line by line.*

The above data points did not pronounce the state of affairs or indicate what would be done; these resolutions advanced participants’ mental efforts through their forward-thinking direction and earnestness.

Other participants made similar contributions. Participant J, for example, in response to a fellow participant’s suggestion of considering a rating 1 for transitions to be qualified as “uses basic/mechanical OR weak,” proposed this resolution: “Let’s keep that in our head. That will be our agreement.” Participant N, when encouraging a small group to delineate rubric categories, advised: “But we really do have to differentiate between main ideas and the details.” Moreover, Participant K talked through the criteria of punctuation and then proposed this cognitive goal for a small group: *“Demonstrates a consistent, accurate use or “demonstrates an inconsistent use? We have to go by what the rubric says.”* And a final example showed Participant H’s self-directed resolution:

*And just so I can be cautious here...I want to be sure I am not double-dinging for **grammar** because the grammar I am definitely attacking...whereas, sentence fluency, if it had good grammar, wouldn’t feel so choppy.*

Based on the large number of cognitive decisions participants made during this study, it is reasonable to assume they formed personal resolutions without vocalizing them. And though not

often verbalized for others, resolutions in this study evidenced the recognition and establishment of cognitive goals for the sake of achieving fuller understanding—a form of metacognitive regulation.

### ***Conclusions (derived)***

Just as *pronouncements* and *resolutions* illustrated particular aspects of metacognitive goals (tasks), so did derived *conclusions*. Often fueled by metacognitive experiences, these data points revealed the participants' arrival at a cognitive decision after having considered others' contributions or revising essay content. What was distinctive about the data points that fell into this pattern was their conclusiveness. Participants, even when uncertain at the beginning of the data point, reached a clear cognitive decision. Because participants tended to derive conclusions after reflection or discussion, some of the data points include a mixture of conclusion along with other metacognitive patterns, like *justification*, *comparison*, *clarifying questions*, or *indecision*. In these cases, the component of the data point referring to a derived conclusion was bolded.

Because of their likeness in form, the data points illustrating derived conclusions are shown below with bullets. Summary comments follow the listing:

- Participant S: *I gave a 2 because of their beginning listing transitions, and I thought her body paragraphs were smooth from example to brief explanation. Now, they didn't use transition words in between their...Then again...**I change mind to a 1, please. I just talked myself out of a score!***
- Participant O: *I did put a 3. **That's going to change.** I don't know what I was thinking. She does have a lot of detail, but they're not exceptional. She gives so many little details. I can see the pool and the rust and... She gave good, specific support, but they were all over the place.*
- Participant E: *It might be. I had an arrow drawn to order, too. But I think at some places we have to address that because I do not think it's evident. It's not clear up front. Maybe it's not thesis. I mean, she has a clear thesis. **Okay, let's go with a 2 for thesis.***
- Participant E: *And I totally agree. It's right in the middle—right in between. I can probably go either way, but I think using even though is a little bit higher. And that's the only one, but again, she's using it. She uses it twice, which just reinforces that she knows that skill, so **I guess I would probably tend to go with a 2.***

- Participant J: *But it does direct the rest of their paper, right? (clarification) And it is a sentence, so... **To me, the appropriate thing to do is to mark it a 2 for thesis and 0 for introduction.***
- Participant A: *The reason we can't give it a 0 is because it's not only the fragments and run-ons. But a lot of people (previous scorers) gave it a 2. I don't know that I would want my students in my class saying this is what we learned, so **I can't say that this is strong.***
- Participant B: *All right, this goes back to my original...the way I was looking at it, **but I have succumbed to it** (and moved to a 1).*
- Participant M: *I went 1 because I said they were random (justification), but then, if I look back to their thesis...this is me thinking there was no thesis (reflection), so **I guess if that was the thesis, I would change [main ideas] to evident.***
- Participant M: *A 2 doesn't have to be engaging. A 2 says "may not be engaging." So if I look at "commitment to topic" versus "inconsistent," **I have to go with commitment.***
- Participant Q: *I actually think the internal transitions are exceptional. I really wish she had not used mechanical, but she is capable of exceptional; **thus, I would give her exceptional.***
- Participant F: (regarding transitions) *Look. In the paragraphs. **And I came to the conclusion: Every time I see that, I want to give the kid a 0.***

Though not exhaustive, the above list of data points supported the pattern of derived conclusions—a specific type of cognitive goal (task) resulting from metacognitive knowledge and experiences as was evidenced in this study.

### ***Modifications***

Not every cognitive decision participants made stayed in effect. Some needed to be changed, redirected, or even abandoned; these data points were clustered together under the content code of *modifications*. In some aspects, these modifications resembled both *pronouncements* and derived *conclusions*; they seemed to have already come determined a course of action prior to declaring it, and the cognitive decisions appeared to be conclusive. Nonetheless, the actual decisions themselves involved modification of an existing cognitive goal or sub-goal, marking them as a distinct category of metacognitive goals (tasks), and most of

them tended to use the conditional words “might” or “should”—indicating an intent for change. Participant D’s brief comment regarding a rating score for commitment provided a simple example of a modification: “I should have given him a 2.” Participant B stated something quite the same: “I really think I should have given it a 3 on main ideas.” And again, the same participant stated, “Well, I thought I saw some others, but now I should have marked them.” And later, when all other participants scored an essay’s introduction a 3, Participant B said, “You know, I should have given it a 3, but I gave it a 2. Participant U’s data point, however, showed a clear change in decision:

*You convinced me because I said that was my only argument for a 2. As soon as you said a 1 can have that (a call to action), then I’m a 1. I didn’t know a 1 could still have one because it doesn’t say that.*

Participant U, interestingly enough, offered a hypothetical modification—a “with this, then this” scenario: “It’s almost as if they should have made the environment the main idea because then I would not have scored them lower in main ideas.” Though also not declaring specific change, Participant R’s data point indicated a possible intent to modify an existing decision: “Then again, I might have been giving them credit they didn’t earn—again.” Such considerations of what could be or should be changed pointed to a distinctive pattern of metacognitive goals (tasks), and though a small number of these data points emerged, their unifying characteristic supported the idea of their presence in the monitoring and regulating of thought during the range-finding events.

### ***Justifications***

Justifications were those data points that verbalized participants’ reasons for their decisions. Though many of them incorporated metacognitive knowledge, along with reflection on self and ideas, the points presented here illustrated a distinct category of metacognitive goal (tasks) because of the clear link between awareness and monitoring/regulating: the verbalizations justified the need for a cognitive decision. Typically, they were characterized by a phrase such as: “That’s why I gave it a...” Below is an enumeration of data points that succinctly justify a cognitive decision:

Participant D: *“What I see is there’s an effort on the upper end, but it’s not quite there. That’s why I gave it a 2.”*

Participant B: *“I have no idea what this kid thinks, so **that’s why I did that** (gave him a 0 for commitment).”*

Participant M: *“But **I can’t put a 1 because** it doesn’t announce. It doesn’t say, “In this paper I will...”*

Participant L: *“See, **I can’t give it a 2 because** she has the “after first,” she has the main idea, and that’s transitioning into the specific ideas. So I can’t say it’s weak.”*

Participant C: *“**I gave this a 1 because** of what happened to the other paper (recollection).”*

Participant D: *“I bumped it up because of “so” and “also.” I was being generous. **That’s the only reason.**”*

Participant E: *“**The only reason I say a 3 is** because of that intentional sequencing.”*

Participant J: *“**I couldn’t give it a 3 in tone because** I didn’t feel this person was even intending an interaction with the audience. This is more like a report.”*

Participant A: *“**I put a 1 because** they said, “I’m going to talk about.” It announces.”*

Other data points included more detailed justifications. Participant K, for instance, shared this justification for a rating on supporting details:

*No, I gave it a 1 because it’s talking about the third paragraph, and then they’re talking about... Do they consider uniforms equipment? And travel money...that’s not equipment. See? They’re putting in extra details that don’t support... **That’s why I gave it a 1.***

In a similar manner, Participant U stated, “Yeah, I was looking at it as the introduction was present; they just didn’t know how to structure it. **That’s the reason I gave it a 1.**” And though other members of a small group gave a student the score of 2 for main ideas, Participant O verbalized a reason for this same decision: “**The reason I gave them a 2 is** because I thought the first two are very evident, but you get to this (paragraph)... and you think it should be one paragraph.” Also supporting a decision, Participant P explained to a small group:

*What I thought was the call to action, “We should reward the students”...**that was the reason I gave it a 2**...wasn’t specific, like...I thought it was slight evidence but nothing that compelled me.*

Some participants drew from their reflections on ideas (a metacognitive experience content code) to sustain a cognitive decision, like Participant G:



*With this long paragraph, with those negative subjects, when you get down to “For many people, losing their phones is a terrible” ...I thought that was a new point. **That’s why I dinged him in order.***

Participant O also reflected on ideas and rhetorical strategy to defend a cognitive decision: “She does consider the audience, so **that’s why I didn’t give it a 1**...It’s obvious she’s talking to an adult...like these are the reasons that would appeal to an adult.” As well, Participant M mentioned using the reading strategy of re-reading to further reflect on ideas and then justified a decision: “I guess when I re-looked at it, or reread, **that phrase ‘walking a big game’ kind of does it for me** because they don’t mention a particular sport, so it can almost reach any reader.” Participant F relied upon content knowledge to support and justify this cognitive decision:

***The reason I went with a 3 is** because if you look at the structure in there, you have more complex and compound sentences than you do short, choppy subject-verb [sentences].  
Punctuation even guides you through it. **That’s higher-order thinking.***

Participant U, in a similar manner, based a justification in content knowledge:

***The reason I’m still at a 2 is** because I penalized them for punctuation and usage. I figured if they knew how to punctuate correctly, the fluency would have been there. I think it’s an issue that it’s not the fluency; it’s their punctuation and usage.*

Other participants were not as certain about a decision but still felt the need to justify it. Participant S shared the following, which begins with a verbalization of indecision and end with a justification for a final decision:

*I’m torn. Yeah, his main ideas were evident, but when it came to his commitment in actually developing them, I thought they were horrible. **So I gave him a 1 because I didn’t feel he was expressive or engaging in the content.***

Participant A also expressed some indecision as a tag-a-long following the justification: “I thought they had really good main ideas, but I thought for the thesis, they were stating A, B, C, **which is why I gave it a 2.** But that doesn’t mean I’m right.” At a later time, the same participant, revealing evidence of a comparison (inter-individual metacognitive knowledge of person), shared this justification: “I started with a 1 for the same reason, and then I told myself, ‘Don’t look at the details yet.’ **So I had to go to a 2.**” Participant C shared this justification, with hesitation as to the certainty of the decision: “**I gave her a 1 because** she wasn’t consistent. She’d capitalize it and then not capitalize it. But I didn’t know if that was enough to give her a

1.” Yet Participant E, when asked if arguing whether or not the thesis was present, recognized another’s contrasting viewpoint (inter-individual knowledge of person) and firmly supported the justification with information from a rubric aid:

*I am! **That’s why I gave him a thesis statement.** I’m not dinging him twice. He has a good thesis statement... I see what you’re saying, too, but I don’t see there’s an attention-getter or any background information. Here it is (on handout): No introduction is written where there is only a thesis statement.*

Participant F was also firm in justifying a decision on transitions, even ending the explanation with a pronouncement:

***The reason I gave it a 2 is because I want to know how they got from paragraph 1 to paragraph 2. But I’m not going to give a 3 to a paper that has no transition between the intro and the first body paragraph.***

But some participants reversed their cognitive choices. For example, Participant D discussed a modification and then justified the *old* decision:

*I would go with a 1 on that (spelling). One of the reasons I didn’t, **why I went with a 2,** was because at a certain point, my mind...she was saying words and vocab that I didn’t even know. And so I instantly, “Okay. She’s got it.”*

Like Participant D, Participant Q indicated some indecision but justified a cognitive decision because of the rubric’s implications: “I did give this a 1. I wanted to give it a 2 because of that one, good transition, but it was really the only one there. **So I had to give it a 1.** I even had the little marks.” And Participant M defended a small group’s decision when working through an essay as a whole group: “Our group...we did go with a 1, as developing, because we felt there was a hook and a thesis but no connection in between...so no background. **That’s why we rationalized a 1.**” Participant P, furthermore, utilized wording from the rubric to support a justification.

*I just look at whether they are continually going back into their vocabulary to contribute to the intended message. **That’s why I lean towards a 2.** “Contributing to the intended message” was key to me.*

Yet others justified a cognitive decision and then sought additional clarification. Participant R said, “Commitment is really hard for me to grade. **I gave her a 2 because** I didn’t see how it went above. So what’s the difference?”

Participant E also alluded to a modification but then justified the new decision:

*I can go to a 2 (from a 1 on thesis). I have my little arrow drawn there. **My only reason was...well, it has to do with the thesis statement. It's like there [are] six different things up there in my mind, so then when he goes into the paragraphs, he kind of mixes them.***

Many other similar data points emerged in the study, most of them echoing the various sentiments above, thus, implying saturation of this data pattern of metacognitive goal (tasks). The high presence of justifications seems logical, given the frequent discussions to reach consensus and align individual scoring to the scoring mindset of the district.

### ***Recommendations***

A final pattern of metacognitive goals (tasks) came forth in the data: *recommendations*. These were classified as a type of cognitive decision because of their objective to advance a group's scoring efficacy. Most like resolutions, recommendations stemmed from consideration and reflection and advocated future action, yet they were delivered as knowledgeable suggestions rather than firm or resolved intentions; they awaited acknowledgement and acceptance. Some recommendations were straightforward, like Participant N's: "I think [we need some] direction on the 1s and 2s in transitions." Participant J stated, "I think the grammar issues are separate. Now, I think we're going to have to adjust our expectations here," and Participant M, as well, said, "I like that word: distinct. **Maybe that should be on the rubric.**" This participant, in a later discussion, suggested, after skimming through an essay again, "Well, he says 'think about' a lot, 'imagine,' so I guess we need to decide if those are engaging words or interaction words." Regarding sentence fluency, Participant D recommended a simple way of differentiating between a 1 and a 2: "Look at the big words at the top (strong, developing, etc.)." And when determining whether an essay used mechanical transitions, deeming it "developing," Participant F strongly suggested to another participant, "But look within!"

Other recommendations, though, were conditional upon further decisions. Participant D suggested, "If we're not going to use the participial phrases as transitions, then we should use them for sentence fluency—in which case—that is complex." Similarly, Participant E stated, "And if we're seeing a lot of run-ons (which I didn't catch), then maybe we need to revisit sentence fluency and get it in the right place." Participant T also put forth this recommendation to encourage careful reading of text:

*So that would be something to definitely talk about. The introduction is definitely a 3, but the thesis statement...Make sure you're not focusing on the introduction but just the thesis statement.*

Some recommendations referred to the scoring process. Participant I, for example, offered this suggestion to a small group:

*So when you're following the rubric word-for-word (when you're teaching), you're going to need to go back to the rubric. If they have two out of the three, I'd give them the benefit of the doubt and give them a 3.*

And Participant J also directed a small group's with this recommendation, though with resolve: "Let's try not second-guessing ourselves. We'll pretend we're in a rating situation here...and we're trying to score like ten papers here." The same participant, as well, offered this recommendation regarding the overall tendency scorers to view the rubric category of transitions in a particular manner: "I think we need to be careful with what we expect for transitions to be smooth and effective." When a small group questioned the use of a question as a thesis statement, Participant N recommended they "go back to the blue sheet" (the rubric aid). But Participant H gave this more cautionary recommendation during a whole group discussion to bring about a more systematic way of perceiving the transition category on the rubric:

*But if we're going to do it this way, this same conversation is going to come up next year, so maybe something needs to be added to the rubric in that area—just to define it more clearly so the same conversation does not occur again.*

Also concerned with future scoring habits, Participant Q posed this recommendation to encourage more dialogue about scorers' comprehension of the rating category of tone: "I think if we do training on this, or if we use this for training, we need to talk about it. It's inappropriate." Collectively, the recommendations attested to participants' consideration of appropriate cognitive decisions because of awareness and the need to establish clear or helpful goals (tasks) for future decision-making when scoring student essays, i.e., the monitoring and regulating of thought.

### **Metacognitive Actions (Strategies)**

The fourth class of Flavell's theoretical model of metacognition refers to actions (strategies) which, like goals (tasks) comprise the monitoring and regulating of thought. Flavell

(1979) described this corollary as the activation of strategies aimed at cognitive or metacognitive goals; hence, it implied motion—self-directed movement or advancement toward keener understanding. Because all four classes of Flavell’s theoretical model can play upon one another, this class was distinguished by the implementation of a specific cognitive action or strategy; the participants actually took strategic action to enhance their comprehension. Data points in which participants discussed possible steps or proposed action pertain to this third class, metacognitive goal-setting or decision-making, not metacognitive actions (strategies). Thus, this category includes only concrete cognitive actions or strategies employed for the sake of improving participants’ understanding of reading or scoring, specifically: *steps*, *challenge questions*, and *requests*.

### *Steps*

A good many of steps taken to achieve a cognitive or metacognitive goal utilized reading strategies, strategies skilled readers regularly use. Pressley (2006) explained that skilled readers are sensitive to text structure; they are particularly attentive to portions of text which they anticipate will be valuable to them by adjusting reading speeds, rereading, and pausing to reflect. The data points presented here captured participants’ reflection of reading strategies that assisted their comprehension. Because they scored individually and silently, most data points indicating metacognitive actions (strategies) occurred in post-reading reflective statements. Participant O described having reread: “When you read it out loud, and I read it to myself, it impaired the readability.” Participant A also shared a reading experience that incorporated rereading in order to determine a score for supporting details. “I put a 1 and then thought I was being too harsh. **But then I looked**, and some of them are just like questions or fillers. It’s limited.” In a different small group setting, Participant A implemented rereading out loud so as to evaluate the connection between sentence fluency and punctuation: “So if we pause (for a comma) (reads with pauses)... So they did pause there.” Participant C, however, used re-reading as a means of double-checking writing quality to determine a score for grammar: “**If I read that**, it doesn’t detract from the overall message.” Likewise, Participant B went back to the text to reread, as well as “integrate ideas encountered in different parts of text” (Pressley, 2006, p. 58): “Now that I look back, he does talk about the text down here...” Participant G also considered full texture structure to determine a rating: “I also looked overall. Is this developing, or is it strong?”

Participant F focused in on a specific aspect of text during rereading to determine a rating and then looked at its use throughout: “I did, too, until I looked at the “also” in the first paragraph, and I’ll grant you it’s the same word, but he’s got one in each paragraph.” Participant M vocalized a rereading experience, which helped the group determine an essay’s main points:

*I referred back to the thesis statement, and specifically in the thesis statement, they mentioned “being on call,” “working all the time,” and “physically and emotionally scarred.”*

And the same participant expressed feeling through a re-read, accepting its overall style (Pressley, 2006): “I guess when I re-look at it, or reread, that phrase ‘walking a big game’ kind of does it for me....”

But rereading was not the only strategy utilized. Participants alluded to using fix-up strategies to support their comprehension. Manzo, Manzo, and Thomas (2009) described fix-up strategies as actions taken during study reading to “regain the thread of comprehension” (p. 30). Examples could include “pausing to reflect and refocus, rereading, reading aloud, identifying problematic terms and using context to predict or confirm possible meanings, paraphrasing difficult sections, forming mental images, or even asking for help” (p. 30). Some participants were careful to refer to the rubric in differentiating between category ratings. Participant J drew others’ attention to the rubric for clarification: “It says here ‘awkward’ fits under sentence fluency,” and, later, stated, “I think some of it is (repetitive), but if you go to the one descriptor, it says ‘limited or repetitive details.’” Participant H first asked a clarifying question and then directed participants’ attention to the rubric: “Isn’t ‘directing the topic’ the definition between a 1 and 2? In looking at the wording of the rubric, the difference is ‘directs’ and ‘not directs.’” Other participants used the rubric supplement which they had received in training; it provided additional information concerning interpretation of the rubric, including pre-determined distinctions and clarification and examples. (See Appendix F.) When a conflict arose as to whether or not to give a student points for an introduction when the essay only included a thesis statement, Participant E, while looking at the rubric supplement, determined the answer and exclaimed, “Here it is: *No introduction is written where there is only a thesis statement.*” Participant C also directed others’ attention to the rubric supplement, saying, “So that’s why if we go back to the blue sheet (which they did), that’s why those things were listed there as transitions versus effective sentence fluency that guides.” Participants used additional reading

strategies to support their comprehension, falling into three types: *enumerating/marking*, *forming mental images/reflecting*, and *annotating*. Table 11 below categorizes some examples. The participant’s letter is in parentheses following each data point.

**Table 11: Metacognitive Fix-up Strategies**

<b>Enumerating/Marking</b>	<b>Imaging/Reflecting</b>	<b>Annotating</b>
I tried to put the main idea and then to number the details. (A)	You gave it a 2. I wondered, but then I went back to that little outline in my head. (A)	I highlighted unhealthy, spending more, not all students like the same thing, and choices. There are four! (A)
If he was telling me something in the main idea, I tried to count, and if it didn’t match up, I tried to count, “Okay, how many examples is he really giving me?” (P)	So I went back over my training notes when I trained this persuasive last year...I went over that, and I kind of looked at it. (Q)	I gave myself a question mark because I couldn’t decide. (L)
I actually circled. I went back and circled... “drastically” and “to distinguish cheaters.” (P)	I wanted to give it a 1, but then I read this (rubric supplement), and I said, “Okay, well, it’s not first, and it’s not second...” (K)	In my notes, I put that last sentence as the umbrella thesis, and then I highlighted the above and put, “These are the three points.” (M)
I drew a little line because I wasn’t sure and wanted to go back. (G)	I was just looking at that number two on the [rubric supplement], and that’s what I was basing it on. (C)	And it was taking too much time in my head, so I started putting P for punctuation, G for grammar, and S for spelling. (A)
I marked words that went with technology. (O)	I did use my little sticky note, so when we talk about main ideas and supporting details, we can look up there (at the note) and see what we have going. (A)	
I took the liberty of putting in a period so I could say this is the thesis. (O)	Now, I’m looking at sentence fluency: <i>crafted and varied sentence structures that guide the reader through the paper.</i> It almost seems like [it is] alluding to transitional statements that start the sentences. But see...that’s how I’m viewing it. (C)	

Because the bulk of the reading occurred individually and silently, other examples of participants’ utilization of metacognitive actions (strategies) to improve comprehension might

have occurred without emerging in the data. Yet those data which did reveal evidence of steps toward metacognitive goals reflected the patterns of behavior used by skilled readers.

### ***Challenge Questions***

As discussed in the section on metacognitive experiences, three patterns of questions emerged as indicative of participants' cognitive or affective awareness, leading to the monitoring and regulating of thought. Distinct from these questions, however, was a type of question that functioned as a metacognitive action or strategy, designed to not seek understanding, clarification, or confirmation, but to *challenge* another participant—to delve more deeply into an idea. These questions were characterized by their focus: on another person's understanding. Unlike the three question types coded under metacognitive experiences, the challenge questions did not reference back to the question-asker but, instead, aimed the question's intent at someone other than self. Challenge questions, then, belong to the category of metacognitive actions (strategies) because they serve as deployable, meta-level means to shape, clarify, redirect, support, or extend one's own cognition. The quasi-rhetorical nature of these questions shed light upon the participants' thought processes and the cognitive target where the participants were aiming to gain clearer understanding. And here is something worth noting: All participants (with the exception of Participant G) who evidenced using a challenge question below had prior training and scoring experience.

- Participant J: *So how can you say it's disconnected and irrelevant when there are no main ideas?*
- Participant J: *Didn't we say strong is what we expect of our students? Is this what we expect?*
- Participant H: *When you think of the main ideas, what would you have added? If you can't answer that question, is it any more original?*
- Participant F: *But don't you think in doing so he's demonstrating to the audience he recognizes it's inappropriate?*
- Participant F: *If you buy the idea of an umbrella thesis, how can you say they don't fit?*
- Participant F: *See, the problem is...when you can't figure out what the thesis is, how do you know what it did or didn't do?*
- Participant N: *But you don't believe it's a 2, do you?*



- Participant A: *If it says “controlled,” does that make a difference?*
- Participant K: *What words would you have liked to see in there to feel a sense of interaction?*
- Participant D: *But was it enough to enhance the story?*
- Participant Q: *So my question would be, 2s, why did you give them a 2 (on commitment and tone)? That might help you, Participant R.*

In addition to the individual challenge questions, two data points unveiled a series of questions designed to extend others’ knowledge. Participant G asked these related challenge questions while walking through the rubric and essay text simultaneously with fellow participants:

*Does it misplace some details within? For #2, does it parallel the thesis? And do the paragraphs present supporting details where they fit?*

Participant N also utilized a series of questions to extend participants’ processing of a text’s introduction: “Is it exceptional? Strong? Developing? Do those words help us make a decision?” Distinct in their intent, these challenge questions appeared to be a second pattern of metacognitive actions (strategies) to assist participants’ cognitive goals.

### ***Requests***

The third pattern of metacognitive actions (strategies) was the *request*. These data points distinguished themselves as a unique sub-set of comprehension strategies. Though Manzo, Manzo, and Thomas (2009) cited “asking for help” as a fix-up strategy (p. 30), such help can often be explained as the seeking of an outside resource, like the rubric, the rubric supplement—or in more general circumstances, the dictionary, reference aids, or the internet. The contexts of these data points and the explicitness of the utterances deemed them a distinct pattern of metacognitive actions (strategies). Two data points spoke generally of needing help: “Maybe you can help me out,” said Participant M. The same participant later stated, “Okay, I need your help because I’m second-guessing myself.” But the other data points were more definitive, directing attention back to the text and asking fellow participants to *talk* or *show* them some aspect so as to clarify and strengthen their understanding. “Okay. So *talk* to me about tone,” said Participant R. Participant J also requested hearing reasons to support understanding: Could someone *talk* to be about order? I was stymied here.” The other requests solicited *visual* illumination:

Participant G: *But he doesn't have those main...show me, sorry.*

Participant J: *Show me.*

Participant F: *Show me where it isn't accurate.*

Participant F: *She's all over the place. Show me where the thesis is.*

Participant S: *Show me examples. That would be great.*

With each point, participants had acknowledged a gap or lack in understanding and took a measure to support the deficiency and improve comprehension, thus, constituting this type of request as evidence of metacognitive actions (strategies).

All in all, this chapter has explained the first two phases of this study's analysis in regards to the largest data source—the transcribed digital audio recordings. Phase one included the highlighting of pertinent data points and the coding of each data point to one of Flavell's four corollaries in his theoretical model of metacognition: metacognitive knowledge, metacognitive experiences, metacognitive goals (tasks), and metacognitive actions (strategies). Further, it explained the second phase of analysis—the emergence and coding of content codes within each corollary; 28 content codes emerged, as shown in table and narrative form. Chapter Five continues the data analysis process by discussing phase three, which utilized all the data sources to determine case differences and case similarities in regards to cross-case themes.

## **CHAPTER FIVE – RESULTS: PHASE THREE**

Chapter Four explained the first two phases of analysis, the assignment of framework codes and content codes, using primarily the transcribed audio recordings, annotated rubrics, and field notes. Chapter Five, then, completes the analysis discussion by highlighting the uniqueness of each range-finding case and exploring cross-case themes. It draws from the focus group interviews, individual interviews, in addition to the transcribed audio recordings, annotated rubrics, and field notes. A modified form of categorical aggregation was used in this third phase of analysis, which will be explained later, after some discussion of the individual cases.

### **Case Differences**

The first difference in the two cases was training time. Both range-finding cases followed the same agenda; each had four whole group sessions, including the opening training session, in addition to several small group breakout sessions. Yet participants in the first range-finding case spent more time working through the rubric during the opening training session than the participants in the second case. This training also included an introduction to the rubric supplement, which was worked into the subsequent whole group session where participants reviewed previously-scored essays. Participants in the second case, however, received a slightly shorter opening training session, which did not include the rubric supplement; it was brought into the small group sessions later on the second day of the event. The incorporation of the rubric supplement during the training session of the second case could possibly have assuaged some of the tension mentioned later.

The second difference between cases was essay genre and its scoring implications. The first range-finding case read and scored expository essays; it is a genre of writing, typically informational writing, in which the writer identifies a big idea and then expounds or delivers the idea, developed through a body structure consisting of main points. The district expectation was that an expository essay should contain an introduction, body, and conclusion with a clear thesis statement, evident main points, various supporting details to substantiate the points, and transitional devices to connect ideas between and within paragraphs. In contrast, the second range-finding case read and scored read persuasive essays. Though like the expository essay in regard to basic essay structure—introduction, body, conclusion, thesis, main points, supporting

details—this genre is a more elaborate and challenging rhetorical structure to both write and evaluate. It can generally contain elements of exposition, but its purpose and method demand of the writer be more deliberate in planning and thoughtful in constructing. The district’s structural expectation for the persuasive essay, however, was the same as that of the expository essay; both assessments even shared the same rubric. Only two of the rubric categories noted item characteristics exclusive to persuasive writing: thesis statement, “position is obvious,” and conclusion, “call to action.” Each case then differed in response to and interpretation of the rubric for its respective genre.

The third difference between the cases was group temperament. Though this study did not identify or examine any individual participant’s temperament, it is worth noting that the first range-finding case, as a collective whole, seemed more congenial and acquiescent than the second case. Of course, many possible factors could have played into this observation: participant personalities, personality conflicts, moods, personal interests, health, social influences, external circumstances, and so forth. Nonetheless, a clear difference in groupthink ensued between the two cases. Approximately four instances of conflict or tension emerged during whole and small group discussions in the first case, whereas almost six times as many moments of conflict or tension occurred in the second case. Though these tense moments flared in both whole and small group settings of the second case, the majority of them happened within two of the small groups. The conflicts arose not in direct relation of one participant to another but, rather, in response to the process occurring within the range-finding event—the synergistic assimilation of multiple minds reaching a shared scoring mentality of a challenging rhetorical structure...to be discussed further later.

### **Case Similarities**

To determine cross-case themes, I used categorical aggregation (Stake, 1995) on the focus group interview transcripts and the individual interview transcripts. I began by highlighting utterances pertinent to Flavell’s theoretical model of metacognition and the research questions. 38 topics emerged in relation to teachers’ metacognition. I then reviewed the data points under each topic and collapsed them into related pairs: subjectivity and standardized objectivity, holistic and analytic scoring, affirmation and frustration, product and process, and standardized scoring and classroom assessment. From these related pairs, three prominent,

dichotomous themes emerged in relation to the participants’ thinking and meta-thinking that reflected transformational distinctions in participants’ thinking: *teaching and scoring, confusion and clarity, frustrations and fruits*. Table 12 below displays the 38 topics associated with the final three dichotomous themes. The dichotomous themes are listed across the topic, and grouped underneath each theme are the respective topics of the 38 which initially emerged.

**Table 12: Initial Topics Categorized in Cross-Case Themes**

<b>Teaching and Scoring</b>	<b>Confusion and Clarity</b>	<b>Frustrations and Fruits</b>
feedback	two-world collision	benefits
engagement	rubric	frustrations
objectivity	terminology	defensiveness
subjectivity	clarity	distrust
holistic scoring	differentiation	confidence
analytic scoring	perception	personal change
feedback response	awareness	personal goals
process of writing	self-knowledge	maturity
writing product	comprehension	passion/will
personal style	diagnosis	humility
feedback delivery	rationale	presumption
personalization	reflection	questioning
	mental preparation	affirmation

The remainder of Chapter Five narrates the three dichotomous themes which emerged through this cross-case analysis process.

### ***Teaching and Scoring***

At some point, in some fashion, in both range-finding events, most participants acknowledged differences between teaching writing and scoring writing assessments. Those participants who were new to the range-finding process were more vocal about the distinction, whereas those with previous training and scoring experience alluded to having come to terms with this reality. But clearly, the difference materialized as a philosophical conflict, of sorts.

The district’s administration and facilitators were clear and upfront about the range-finding events’ objective and tasks; they were also careful to frame the range-finding events as a step to “grow the training process” by gathering a group of people to “think the same way about scoring.” So from the start, the administration and event facilitators made explicit that fact that

they had called “the best of the best” together to support the district’s training regimen by scoring essays and providing narrative comments on the annotated rubrics to fuel training efforts for future scorers of live writing—and all in the hopes of improving the district writing assessments so as to be fair as possible to students. Yet despite these attempts to establish purpose, it seemed as if participants had to work through a meta-level process in order to acclimate themselves to the task of scoring writing rather than teaching writing, and thus, a dichotomy emerged as to the participants’ thinking about teaching writing and their thinking about scoring writing, as they grappled with what teaching and scoring require of teachers.

### ***What Teaching Writing Requires***

Participants spoke fondly of their work as writing teachers. They frequently interjected personal comments about their students and their classes into whole group and small group discusses while scoring. They engaged in sidebar conversations with one another—some colleagues, some new acquaintances—swapping ideas, confiding concerns, and seeking counsel. They chuckled at humorous incidents and errors in students’ writing and occasionally told language-related jokes only an English teacher could appreciate. They spent break time grading papers, returning emails, checking on subs, and preparing instructional materials. They drug along backpacks and affectionately lamented the stacks of essays waiting for them to grade after the days of range-finding, and they were at home in their skin as teachers of English. They seemed in touch with what being a teacher of writing implies. More than anything, they equated a good English teacher with someone who makes accessible and is relatable, one with “the passion for writing but an eye for detail” (Participant R), one who “knows how to reach each individual student, how to make suggestions, how to encourage [others] to keep on working when they are struggling” (Participant F). A good writing teacher can “teach a student to express himself in writing,” claimed Participant Q, “in [the student’s] own way,” continued Participant S; always respectful of learner differences, they agreed that “each [piece of] writing is different, so we can’t grade them all the same.” A retired English teacher, Participant J further explained teaching writing as “careful instruction of individual phases; guidance through thesis-writing, organization, and rough draft preparation; and expectation of individual effort to complete the polished product.” It involves knowledge of the writing process and writing product but, even more, a sense of being human. “English teachers are more willing to look at things from a

different perspective; [they] don't have much option [to do otherwise]," stated Participant F, because "There's not just one right answer. Our course is about perspective," continued Participant M. Teaching, modeling, and promoting perspective presuppose *humanness* in teaching, an idea emanating through their comments.

Indeed, participants articulated a sense of humanness in their teaching, primarily through the use of feedback as a relational exercise. For them, feedback represents more than just the teacher's connection to the student; it holds within it a desire for acknowledgement. "Somehow, some way, I want to know they have looked at my notes well enough to ask me questions about them...or just to note the notes," shared Participant G. The participant then continued:

*I think they take comments personally and sometimes think they are negative, and so I don't spend fifteen minutes a paper to put [them] down. I do this to help them, but if they don't look at the comments, they are not getting my advice—let alone taking it. I'm not perfect, but I have quite a bit of knowledge they can use. But they have to make use of that.*

Participant C indicated seeking more than acknowledgement: reciprocation.

*I love to give comments. It's not an act of mutilation but an **act of love**. I have them repeat [those words] back to me. I want to give them an example of my thought process as I edit a piece of work. For their first paper, I used the doc cam. "Any brave people want to give me their draft? [I asked.] We're going to **love** it together." I went through my thought process, and then they went through their thought processes. They got great feedback. "Is this helpful to you?" [I asked.]*

Good feedback stems from knowledge of students. "It's important to walk a mile in the student's shoes," remarked Participant L, to know "**why** they [made] those mistakes"... "to think about why they would make mistakes rather than just **what** mistakes." The participants attested to the far-reaching effects of personalized feedback. "As a teacher," said Participant I, "you are providing comments to build that student up or tear that student down." Participant E asserted this desire to connect with students at the heart level.

*I will comment on, if they write something...I [will] write, "I wish my kids were this nice"...just so they can see I am interacting not only academically, but I am also enjoying their writing...and that I actually read it.*

Providing purposeful comments, “reader-based feedback” (Beach & Friedrich, 2006, p. 226) to express connection is a means of engaging oneself with students. “Those kinds of comments they actually remember,” said Participant B. “[They] strengthen the relationship between teacher and student.” But sustaining engaged attention through personal feedback is not easy. Participants spoke of it being time-consuming and even frustrating when students ignored the remarks. Nevertheless, personal feedback matters to the larger goal of teaching writing—to encourage students’ confidence with their thought processes and their own reflective thinking, acknowledged Participant C:

*A writer has to be a reflective thinker. If you’re not a reflective thinker, you can’t write an analysis that’s effect and good and insightful. How they can become more reflective, I think, are [through] more effective comments.*

More indirect reader-based feedback that facilitates dialogue (though still containing a healthy dose of specificity) can lead to more positive teacher-student interactions (Beach & Friedrich, 2006). Students’ most preferred comments are those which specifically explain *why* aspects of writing are effective or not while simultaneously indicating the teacher’s active involvement while reading (Beach & Friedrich, 2006). And doing so requires an involved, attentive teacher.

But responsive writing instruction develops over time with experience, training, trial and error, and extensive reflection. In fact, previously cited research indicated (e.g., Grisham & Wolsey, 2011; Morgan, 2010), teacher candidates typically receive too little training for writing instruction. Many enter the field with a passion for literature and language and end up teaching writing by default, only to find their understanding of writing instruction to be largely influenced by the assessment and accountability culture, not necessarily the responsive attentiveness participants recognized as germane to a good English teacher. Brimi (2012) even argued that new English teachers could hinder their students’ overall writing performance and progress because of this testing mindset which dominates writing instruction. Yet it seems that through a rigorous process of “failure and mistakes” (Participant F)—“personal and student failure” where “the only one I can look at is myself” (Participant M)—writing teachers accrue the pedagogical knowledge and relational insight to know how to teach writing while “in the trenches” (Participant H). Participant F described the whole process as “time-consuming, frustrating, discouraging, and the most rewarding experience one can have.” With trial and error, reading,



observing, and attending conferences (Brimi, 2012) and other professionally-supportive activities, teachers are more likely to grow closer to identifying and defining good writing.

### ***What Scoring Writing Requires***

But being an English teacher does not automatically make one a knowledgeable scorer of writing assessments. Teaching writing and scoring writing require different professional approaches. While the teaching of writing asks teachers to be attentive, flexible, subjective, and responsive, the scoring of writing is an objective process that aims to standardize the assessment of writing; the teacher-turned-scorer is expected to acquiesce to the scoring mindset of the group through an assessment process that sidesteps the relational component—the humanness of the reader-writer interaction. Training, then, precedes scoring so that raters can prepare themselves and develop a *common mental rubric* (Bejar, 2012). Bejar (2012) explained this scoring process as a “loop” when, after training, raters read and analyze so as to “conceptualize a mental response representation” (p. 5). Further reading and scoring hones the mental representation—a process outlined in this scoring model:

1. Rater reads a work product and forms a **mental response representation**.
2. Rater compares the similarity of resulting representation with mental scoring rubric.
3. Based on that comparison, the rater tentatively assigns the response to a score category.
4. The score they assign to a specific response depends upon the following:
  - a. The true quality of the response.
  - b. The quality of their **mental scoring rubric**.
  - c. The quality of the representation they formed for this response.
  - d. The prior information they have accumulated during the scoring.
  - e. The state of the rater (e.g., fatigue).
  - f. The environmental factors.
  - g. The nature of the responses previously scored. (Bejar, 2012, p. 5)

Moreover, scoring efficacy concerns itself with the raters’ thought processes at the cognitive and metacognitive levels. Participants in this study first found themselves transforming their mindset from teacher to scorer and then scorer to a scorer attuned to the collective mental scoring rubric

of the district. Participants acknowledged this mental stretch. One participant in particular expressed the following internal conflict:

*I struggle with...are we scoring with what we think this should be...? Philosophically, I struggle with...For a 9<sup>th</sup> grader, this is wonderful, or we think it should be here, and it's not.*

Later, the same participant continued with the concern of reconciling students' performance with the expectations dictated by the common mental rubric.

*We're grading on the ideal of the pinnacle of what the writing should be. But when you look at a fantastic paper....This is beyond. When you talk about things they're saying should be a 3, when you're talking about ½ percent that's going to be achieving that, are we knocking that person down because they're not where we think they should be? Or are we looking at what's in front of us...?*

This data point illustrated that the participant had blurred the approaches of a teacher of writing with a scorer of writing, for the scoring of writing assessments demands a fixed understanding of the scoring criteria so that any essay read is aligned to the pre-determined qualifiers, like a bottom-up approach. This was emphasized repeatedly by facilitators who reminded participants to “look for evidence” of the rubric categories—to grade “what was there.” The scoring of writing assessments cannot permit the reverse approach, the top-down application of rubric-to-essay, as if the rubric components approximate themselves to whatever lies present in the essay. For then, then the common mental rubric becomes relative to the opinions of the scorer, and standardization is lost.

Though mentally arduous, transposing the mindset of teacher of writing to scorer of writing strengthens one's overall understanding of the profession by putting the teacher-scorer in more intimate contact with what constitutes good writing. Participant Q recognized that without the rubric, the participants' scores would be vastly different, and Participant T admitted sensing a difference in seeing a piece of writing because of the emphasis on analytic scoring:

*I do find myself reading something and saying, “Wow. This was painful to get through”...and then breaking it down and scoring it piece by piece and thinking, “You know, overall, this was actually scored pretty high. There were some good components to it.” It changes the overall feel of the paper.*

Participating in the range-finding events gave these teachers of writing a unique opportunity to grow in their craft. Evidence emerged showing transformational distinctions in their thinking about teaching writing and scoring writing. By attuning to and abiding by a common mental rubric—a rigorous mental exercise—they will be more likely to have increased their “repertoire of feedback” (Bejar, 2012) once they head back to their classrooms, which, in turn, could enhance their responsive, attentive encounters with students.

### ***Confusion and Clarity***

The second theme which emerged across the cases was the dichotomy of confusion and clarity. While the first theme of teaching and scoring involved an awakening in regards to the mental and philosophical divide of teaching and scoring writing, this dichotomy appeared as a continuum of mental clarity participants traversed in regards to various conceptualizations during the range-finding events—namely, the essence of *what was scored* through the rubric. During the course of the range-finding events, confusion gave way to clarity as many participants seemed to have made mental strides in moving from that they considered confusing to that which became clearer. Hence, scoring became more automatic and synchronized.

### ***Conceptualizing Rubric Content***

Prior to these range-finding events, the district had undergone at least seven revisions of the district rubric shown in Appendix A. Practicing teachers from across the district had spent hours upon hours crafting the language of the rubric. Some of the participants in the study had been part of the rubric’s evolution, and all practicing teachers had begun incorporating the rubric into their writing instruction during the academic year. Confusion arose, however, for those participants with classroom-use experience only; they had not come to see the fine distinctions between point values of each criterion. Participant Q, who had been part of the rubric evolution process, commented on another participant’s question as to whether or not the group had been scoring what it should have been scoring:

*This is my fourth year of doing this. I’ve seen it go from a five-point rubric to this [See Appendix A for most current version.]. Every time we talk about a point or we’re trying to figure it out, I think of the hours and days of arguing that went into this rubric.*

Participant S then responded with appreciation for the work the teachers had done, noting: “But we don’t know the clarification you do.” Yet despite the extensive past experiences, Participant Q then admitted, “Even now, I’m looking at this (the rubric)... Someone will bring up a point, and I’m looking at this going, ‘Okay. You’re right.’” This conversation exemplified the type of mental push and pull that occurred during the range-finding events as participants struggled to find clarity in their understanding of the rubric and its process. And such a mental struggle makes sense, given the complexity of the composing process, the even more stringent mental demands required of those assessing written products, and the often subjective criteria writer teachers use when evaluating classroom writing without having had the benefit of professional development experiences such as these range-finding events. The teaching of academic writing is not a simple process that can be relegated to a formula.

In fact, Wolsey (2010) found that immersing students in complex writing tasks that draw upon multiple sources and promote higher-order thought could encourage a more precise understanding of the words, leading to a more academic vocabulary. Wolsey’s study was viewed from the lens of the cognitive flexibility theory, which states that certain complicated domains or areas of knowledge are ill-defined and do not lend themselves to simple explanation (reductionist thinking). Wolsey (2010) explained that academic writing is one such domain; because it contains several conceptual structures overlapping one another—reading, composing, thinking, generating, revising, evaluating, etc., it is best learned through activities and tasks that emphasize its complexity. Wolsey, Lapp, and Fisher (2012, p. 715) said that academic writing (as in the case of expository and persuasive essays) can be conceived as having *global moves*—attending to others’ ideas, summarizing others’ contributions, anticipating objections, situating one’s point-of-view within work of others—and *local operations*—knowledge of conventions, use of discipline-related terminology, use of passive voice, use of pronouns, knowledge of sentence structure. It is the orchestration of both global moves and local operations that makes academic writing so challenging to compose, teach, and evaluate. A similar comparison can be drawn with a range-finding event. It, too, is a complicated process involving multiple, intersecting types of conceptual structures—components of the writing process, aspects of essay structure, writing strategies, reading strategies, recognition of rubric domains, grasp of the different shades of meaning in each rubric domain, cognizance of the shared mental rubric, and so forth. A scorer does not just come to understand “how to score a piece of writing”; rather, a scorer must come to

see and mentally dwell within these multiple structures at play. It is as if the participants had to learn how to live within the tension of competing mental structures in order to gain clarity. Participant H, however, attested to the benefit of honing one's personal conceptualization of the content via the rubric:

*...more precise distinctions between points...the rubric—they're made to be general. When we make a rubric for ourselves, we know in our own mind what we're going to count for and where, but when you use somebody else's rubric...unless those distinctions are made very clear to you and we have these times (range-finding events) to figure out what the expectations are, it's just a piece of paper with some general stuff on it.*

Clarity in this study seemed to grow in proportion to the precision participants gained in distinguishing, defining, and differentiating meaning in the terminology and intricate, complex tasks involved.

### ***Seeking Clarity***

In many ways, clarity can be equated with sight. That which is clear is translucent, pure, and distinguishable to the mind. In fact, as mentioned in Chapter Two, one factor of acquiring competence in a field is an "increased ability to segment the perceptual field (learning to see)" (Ross & Gibson, 2010, p. 36). Expert noticing is akin to detecting meaningful patterns, which is a characteristic of expertise. Thus, as participants' understanding of the dimensions of the rubric components grew, so did their conceptualization of its criteria and ability to differentiate between perceptible hues when scoring, clearing away the confusion. "I want to get better at really grasping the fine shades in between a 2 and a 3," professed Participant G. The range-finding process, said Participant C, "helps me to notice something I was completely missing before." Participant L said,

*I understand this rubric so much better—the nuances—we can agree to disagree. "Okay, I understand this little nuance, so I'll move my score up." I just feel more comfortable using it, and it also makes me realize what I need to go over this year with my students.*

Participant O also reflected upon the long-range value of the learning experience and determined to recreate a similar clarifying experience for the classroom:

*I've thought about this over the last couple of days...how we break into small groups and go over the rubric. I'm going to give [students] a rubric and have them do it with their*

*own papers. It will help them immensely. If I was a high school student and had been doing this for a couple of days and then had to go home and write a paper, I would see exactly what I needed to do.*

Again, “seeing” spoke of acquiring keener insight into the *why* and *how*. One participant even offered this astute reflection (a *revelation*, a metacognitive experience) indicating an improved clarity in regards to comprehension or, rather, misunderstood comprehension of text: students’ papers, which might happen more often than one thinks:

*Comprehending what they’ve written... Yeah, I make assumptions. I think I read and decide what that child is saying, and I’m not sure that’s always right, you know. And then, if...I be more willing to say, “I’m not done grading your paper. Would you please explain to me...? [PAUSE] I’ve never thought about it. ‘Cause in my head, I’d go, “Oh, that’s an error on their part for not making it clear to me.”... You know, that’s not always the way it is!*

Granted, it was beyond the scope of this study to determine if participants’ comprehension of text improved, per se, but this participant’s frank admission pointed to an area of growth that can foster mental clarity, namely, teachers’ awareness of what they understand and what they do not, which can lead to more insightful and accurate interactions with students.

The increase of teachers’ clarity in the multiple cognitive tasks of assessment writing can have a farther-reaching impact than on just the proximate scoring situation. Goldberg (2012) referred to the expanding body of research that points to a positive view of judgment-based scoring (like the range-finding event) as a beneficial form of professional development.

Teachers who worked together collaboratively to study students’ essays benefited:

From the perspective of the teacher-participants, the benefits of scoring experience most often cited are the clarification of standards, identification of desirable instructional practices based on examination of student work, increased assessment literacy that can inform classroom assessment practice, and deeper appreciation of the manifold ways that students might successfully demonstrate what they understand and can do. (Goldberg, 2012, p. 39)

But having a keen understanding of the content they teach is more than just beneficial to teachers. Wolsey et al. (2012) found that through teachers’ explicit instruction of global moves and local operations, i.e., all elements of sound writing from most global to most specific, led

students to “develop robust notations of academic writing” (p. 721). Such explicit instruction demands teachers have a clear sense of the instructional components and awareness as to how to best articulate them in an accessible and comprehensible way. In essence, a clear sense of content in a teacher’s mind makes a difference in what is taught—and why and how.

### *Frustrations and Fruits*

The third dichotomous theme to emerge across the cases was frustrations and fruits of the range-finding process. Participants recognized the mental demands of the scoring and the questions and concerns it raised in their minds; nonetheless, they spoke of the fruits they had gained through the taxing mental labor. The more overt data emphasized the frustrations in the forms of *defensiveness* and *guardedness* and fruits in the forms of *confidence* and *maturation*.

#### *Defensiveness*

A range-finding event has the potential to give rise to tense and negative feelings, for participants encounter their content area in new and challenging ways spurred by others’ perspectives and judgments and their own uncertainties and misgivings. They question, rationalize, and defend decisions—others’ and their own. Forthwith, a thematic undercurrent of defensiveness ran through both cases of this study, though vocalizations were more strikingly apparent in the second range-finding event scoring persuasive essays—in particular with two small groups. The data points below illustrate the most overt instances of defensiveness.

Participant Q pegged a possible source of frustration by defending the essence of an English teacher’s craft:

*There are two worlds colliding here. We know our field of study is language arts. Let’s emphasize the last word. They are trying to put a science to art. It comes down to the observation of, “We know good writing when we see it.” And that’s not always measurable, and so what we’ve done is try to put these confines of what good art is...This is where our frustration comes because everyone at this table is passionate about wanting our kids to do well and do good writing. Sometimes we see good writing that scores low...because it doesn’t meet this qualifier.*

It seemed as if (intentionally or unintentionally) the participant defended those who teach language arts from “they”—an antagonistic force working against the teachers, seeking to

quantify acceptable performances in the domain. Participant U, however, opened a focus group interview with this bold confession of sheer frustration at being put on the defensive:

*I'll be honest. I'm feeling a lot of frustration. It could be because I'm an English teacher, and I work with this rubric all the time with everything my students do. And I keep getting questioned on this. It's frustrating to me. Shouldn't I be leading this? Shouldn't I be saying...? It's frustrating to be put in a place where I am...*

Participant R answered for Participant U: “On the defensive?” Then Participant U responded, “Oh, absolutely. So it’s very stressful to me.” Participant S then opened another door of frustration regarding the nature of the range-finding process: “I’m really frustrated with the repetitiveness...the same thing over and over again. Yeah, I know we’re trying to generate being consistent among our peers, but then what?” While this data point could have segued into an entirely different type of frustration, the conversation steered back to the notion of defensiveness. Participant T, who shared like concerns with Participant U (as they were in the same small group), redirected the notion of consistency to the idea of coercion: “But consistency doesn’t mean persuading someone to change their mind that your answer’s correct. That’s what I’m getting frustrated with.” Participants U and T had been working in a small group particularly prone to disagreement. The transcribed conversation below—about whether or not a student had a call to action in his essay’s conclusion—typifies the kind of tension and defensiveness that transpired multiple times in that small group:

Participant J: *“Most of the conclusion is just a repeat.”*

Participant K: *“Most of it?”*

Participants T and U: *“There’s a call to action.”*

Participant K: *“You can’t give it a 1. ‘Please call your Senator’ [is a call to action].”*

Participant J: *“That’s not a call to action! It doesn’t make a statement.”* (Others disagree.)

Participant U: *“I think the problem is they’re calling YOU to action. THEY are not doing it. If you want something done about it...”*

Participant J: *“I know [that]! That’s not what you do in a persuasive paper. Oh my gosh! You’ll never be able to train the scorers. You have to take a stand. That doesn’t take a stand at all.”*



Participant T: *“You take a stand in the thesis, but a call to action is getting other people to do something.”*

Participant J: *“Oh, no! Not just **do** something... Look it up! To do your proposal, which they don't have one...”*

Indeed, all parties in this small group found themselves in vulnerable positions; all in some way defended a professional judgment—some more vehemently than others.

Other data points defended the process of writing, such as Participant P's comment: “The hard part about here (range-finding) is that we're not grading the process of writing.” Participant T cited the inconsistency in philosophy behind the process expected in the classroom and the process encouraged in a writing assessment situation: “When you're grading these, you forget they had 45 minutes to plan and write this paper... How much time do you spend in class working on a paper? Days.” However, two brief conversations betrayed an indecisiveness regarding the expected product's structure, in conjunction with the ensuing process—the concern to embrace or reject formulaic writing. Participant R mentioned this debate early on in day one of the second range-finding event when defending the conclusion of a student's essay and its contribution to the overall effect of the paper: “But [the essay] follows the structure they have been told to use.” Then later, the same participant engaged in a brief discussion about the same concern of formulaic writing.

Participant R: *“It's all a formula. The whole thing's a formula.”*

Participant Q: *“It's nothing but a formula, and once you learn the formula, it shouldn't be a problem.”*

While the brief conversation stopped short of revealing the participants' professional judgment as to the appropriateness of formulaic writing in the high school classroom, it did set up a platform for the subsequent conversation below, ignited with remarks about an umbrella thesis—a concept which led to much debate in both cases.

Participant Q: *“When we have a thesis that does not...that's an umbrella, you then have to find your main ideas. This is the one time when you do make an assumption. You go, 'I have to assume that the student planned it this way.' Then once you do that...”*

Participant R: *“So as long as their supporting details are supporting their topic sentence, their order is okay? (yes) Again, this kid only wrote two paragraphs. He did less work and gets the strong skill because of it.”*

Participant Q: *“Less is better in that case.”*

Participant R: *“So as a teacher, I’m highly tempted to tell my kids that...”*

Participant Q: *“Get two very strong paragraphs...”*

Participant R: *“And we won’t call it a five-paragraph essay anymore. You know what I’m saying? Cause three’s harder for [some] kids.”*

Participant Q: *“It absolutely is, but that 3...having those 3 bodies (body paragraphs)? It makes no difference anymore. It’s going away”*

Participant R: *“It’s too structured.”*

Participant Q: *“The five-paragraph essay is on its deathbed when it comes to high school.”*

Participant R: *“I think it’s great for getting them the concept: ‘Here’s how your paper holds together.’”*

Participant Q: *“Well, it’s a structure; it’s a framework. You have to have it.”*

Neither Participant R or Participant Q expressed a definitive stand on whether or not to support formulaic writing in their classrooms given this scoring experience, but their conversation embodied a deep-seated source of frustration and tension—whether directly acknowledged or not—that routinely affects teachers of writing who prepare students for standardized writing assessments. Hillocks (2005) cautioned teachers to avoid the assumption that writing be taught with an overreliance upon form and structure to the exclusion of content—the necessity and development of an idea and its hierarchy. This caution is certainly valid, especially given Applebee’s (1981) finding: teachers’ comments on students’ papers predominantly emphasized mechanics and structure rather than ideas and idea development. In other words, too much attention on formulaic structure to the exclusion of idea development puts student writers at a disadvantage.

A third body of data points revealed the personal frustration of defending one’s own decision on a rating. For example, Participant S, though willing to change a rating on commitment, defended the judgment: “If we have to be cohesive, then I’ll change it. But I disagree...I personally don’t feel it was expressive or engaging in any manner.” This kind of personal defensiveness manifested itself in other participants’ utterances, particularly as they grappled with what they determined a correct rating to be and the rating they felt compelled to assign, given the parameters of the rubric. Participant A, for instance, agreed good writers

effectively use dependent clauses and phrases as transitional devices but, nonetheless, hesitated to recognize such devices when rating a student's paper, saying, "I do [agree] *personally*, but in training... I don't know how to make that easy." As well, Participant F admitted to rating a student's thesis as a 2 even though it was weak because "I couldn't justify the 1"; it did not announce the topic and purpose—the lone qualifier for a 1 rating on the rubric. Sensing a similar kind of cognitive disparity, Participant N confronted a small group debating about an essay's rating:

*Does anybody really believe 2? We're getting too trapped with a certain set of words (rubric supplement).... We can't do things that way. I've heard too many people say, "I'm staying thing because I'm tied down to saying it," and that's not okay.*

Then a brief conversation unfolded in regards to the group's frustration at knowing how to reconcile what they had seen in a student's paper and how they perceived they were to assess its thesis in accordance with the rubric's qualifiers:

Participant J: *"Because I'm a disciple of ..., I said 2. I had to! It doesn't do what she said about announcing."*

Participant N: *"But you don't believe it's a 2, do you?"*

Participant J: *"No! So then I put the introduction is not present. When the thesis is the first line..."*

Participant U: *"I put a 0 because we were told when the thesis is present, there is no introduction."*

Participant N later offered this counsel to alleviate some of the noticeable frustration:

*Here's the reality. I don't want your attitudes to get negative. The trainers are going to verify every single one (essay) consistently over all the prompts. So I'm not worried if we don't agree 100%.*

This comment seemed to assuage the tension and recollect the participants with the objective of the range-finding event. But in sum, participants in both cases alluded to frustrating circumstances, resulting in different forms of defensiveness.

### ***Guardedness***

Another strain of frustration apparent in both cases was distrust of self in the form of guardedness. In several quiet sidebar conversations, participants in the first range-finding case

(scoring expository essays) talked about second-guessing their decisions, laughed about being uncertain, and commiserated with each other's indecisiveness. These emerged as relatively calm and common reactions to the cognitively challenging task of scoring in consensus with others. But in the focus group of the second-ranging finding case (scoring persuasive essays), participants candidly admitted a sense of distrust in themselves and their professional abilities. The following conversation transpired:

Participant T: *"I'm starting to question whether I'm a good grader....Like the way I initially react to a paper, and then we discuss and dissect a little more and my reasoning is questioned. Or it's like I'm trying to be persuaded that it needs to be changed. I question, 'Wow. Am I too easy or too hard?'"*

Participant T: *"We're starting to dissect it too much. You can talk about, 'Yes, that obviously drops them down.'"*

Participant S: *"With dissecting, I start questioning my own..."*

Participant Q: *"You begin to wonder if you're qualified to do this. Here's the thing that helps me with that... Seeing all these people who grade...everybody...you're always going to look at something differently. I don't think it's... (Trust me. The past three years, I've felt exactly like you were talking about.)"*

Together, the defensiveness and guardedness comprised the sources of frustration manifested through this study of writing teachers' thinking. But they, coupled with the more contrary patterns of confidence and maturation, make up the dichotomy of frustrations *and* fruits found in the range-finding events, perhaps indicating transformational distinctions in their thinking.

### ***Confidence***

A dichotomy is completed by its contrarities. Thus, fruits emerged in relation to the frustrations as illustrated in defensiveness and guardedness. Confidence was one fruit gained through the range-finding experience. The same mentally rigorous activity which sparked frustration in participants seemed to cultivate a new-found professional confidence. Participants scored more quickly as time passed, and small groups came to consensus more easily, with less points of contention, as they neared the close of the second day of range-finding. The rubric seemed less abstract and the scoring process, more familiar. But sprinkled throughout the four days of range-finding—in both cases—were data points that attested to participants' fresh sense

of certainty or resoluteness in their professional mission. Most all of the comments attributed credit to the range-finding process. Participant R, for example, shared:

*I have found [range-finding] very helpful. For being only a second-year teacher...to be getting all this discussion about how to use the rubric and how to analyze...! That's just something I have always felt some fear of—grading objectively when you're grading...Especially [helpful was] the discussion component of, "Why is this one a 2"?*

Participant S extended the notion of growing in objectivity as a grader because of the range-finding process: "It's a confidence thing, too. If you trust in yourself and the skills you teach your kids, that develops more. You find stability in that, and you go with it," and Participant P acknowledged that value of affirmation through collaborative sharing: "[It is] good to hear others' opinions about writing... Comments that I've heard... [it seems] we're not that far off from one another." Other participants offered simple, validating statements randomly during the range-finding events that spoke of an increase in confidence. The list below shows those articulated in a clear and succinct fashion.

Participant Q: *"It's (range-finding) really reaffirming."*

Participant S: *"[Reinforces] what you need to do..."*

Participant D: *"In my own classroom, I don't have to track down another teacher to ask them what we're looking for. I already know, and so I feel confident teaching in my own classroom."*

Participant L: *"I feel more confident in grading, too."*

Participant K: *"I like hearing the perspective from the classroom teachers."*

Participant C: *"I like hearing everybody's perspective because it helps me so I know what to take back to my classroom to help my students move from that 2 to a 3."*

Participant B: *"99% of the time, hearing other perspectives verifies my own."*

Participant C: *"Or helps me notice something I was completely missing before."*

The most striking feature of these data points was the connection between clarity and confidence. Grasping the fine lines or distinct shades of the rubric components and differentiating between them boosted many participants' comprehension of the criteria's demands. As they verified their own interpretations alongside what was becoming clearer, they appeared to develop a fuller awareness of what constitutes good writing. Participant L acknowledged, "After 24 years in, I feel really confident in my grading...I feel like I understand the rubric well enough that I'm

following it to a T, rather than letting my biases into it.” But Participant M’s statement poignantly illustrated the value of clarification:

*Experience. You start to see the end product. You have a more direct route here. That’s what today is. I’m getting my head around the end product we’re after, and that will help me keep that in sight, regardless of what we’re doing. I’ll have a better idea of the examples I’ll need to show or the comments that I do need to make. It’ll help shape my teaching.*

Participant F, a retired English teacher with forty-four years of experience, claimed that an English teacher’s core responsibility—when assessing students’ writing—is to evaluate a product based on clear and transparent criteria. Clarity in mission leading to confidence in its execution, then, was surely a worthwhile fruit of undergoing a taxing mental experience, like range-finding.

### **Maturation**

Stemming from confidence was a fruit with far-reaching implications: a sense of professional maturation. Granted, objective growth must be measured from a baseline, but in a more interpretive manner, one could discern maturation from that which has been changed for the better—that which leans toward development or self-initiated improvement. Hence, a corpus of data points signaled authentic professional growth because of the range-finding process. The personally frustrating and destabilizing experiences during the range-finding events seemed to bring clarity and confidence, yes, and also more mature and refined outlooks on teaching writing. Some participants, for example, reflected honestly about the value of what they had learned—connecting old learning to new knowledge: “I think this (rubric) helps you think through the grading, whereas the old six-trait...it was difficult to grade papers,” said Participant U.

Participant C considered the benefits gained from reading, annotating, and reflecting the student essays:

*And when you get to the end of that paper, you can go back and see what your original thoughts were, [your] first reactions. If I were to go back without writing, I don’t think I would remember everything that crossed my mind.*

Participant E also noted the value of annotating, saying it “forces us to engage.” As specifically, Participant R pinpointed the source of the value gained through the range-finding process:

“That’s where I think this (range-finding) helps. Because I’ll be reading and think, “Man, this is

a good paper...” In a later conversation about the frustrating differences of opinions that transpired during the range-finding events, the same participant recognized a more transcendent goal of the range-finding process—recognizing the commonalities within the differences, i.e., the synchronization of disparate ideas to form a whole: “This is where it (range-finding) helps us to unify the differences between... We teach English because we’re passionate about it, and it’s the passion that makes us have a difference of opinion.” Participant B also noticed the benefit of multiple perspectives: “It’s neat to hear someone else express their rationale for why they made a decision.” And even more, Participant R, among several others, came to the conclusion that agreeing to disagree could be an acceptable and respectable stance for a group of professionals teaching a subjective content area: “I think the discussion is valuable, but it’s not necessary to come to 100% agreement, especially when you’re apart by 1, 2, 3.” And some, like Participant G, recognized their own tendencies to address: “My biases in grading, [range-finding] helps me be aware of it.”

Some participants even mentioned specific changes they had implemented or were planning to implement because of the range-finding experience. Participant T explained:

*After Wednesday, I went home and made a six-page peer editing checklist, and we’re going to go over it (in class) on Monday. We’re working on rough drafts now. It includes pretty much everything we’ve done (here at range-finding). Then they’ll revise the rough drafts.*

And Participant O shared this immediate goal:

*I’m just going to be way more specific...just exactly what we’ve been doing (range-finding). I know that if we had had this process when I was a student, it would’ve have helped me so much.*

But most telling to the fruit of maturation were the direct statements participants made about the benefits received and their recommendations to other practicing and new teachers in the district. They are enumerated below so as to highlight their frankness and simplicity.

Participant R: *“Everybody in the district should go through something like this (range-finding).”*

Participant E: *“All English teachers need to do something like this. If you don’t go through this, you don’t understand the rubric.”*

Participant M: *“I think [new teachers] should have an experience like this.”*

Participant H: “*[This is a] nice way of aligning a large district with a particular mindset.*”

Participant S: “*This is the best professional experience I’ve ever had.*”

Evidence in this study alluded to the dichotomous theme of frustrations and fruits. The polar ends appeared in relation to one another: that which frustrated participants and ignited defensiveness and guardedness in themselves elicited greater confidence in their scoring and mature insights into the professional work of writing teachers.

As a whole, this chapter addressed the third phase of data analysis—cross-case analysis. It began by examining the distinctiveness of the two cases and then identified and illustrated three dichotomous themes which emerged across both cases: teaching and scoring, confusion and clarity, and frustrations and fruits. Chapters Four and Five, together, complete the results of this study of writing teachers’ thinking. Chapter Six, then, reevaluates the overarching and subsidiary research questions of the study given these results, discusses implications, poses recommendations, and shares a final conclusion.



## CHAPTER SIX – DISCUSSION

This study examined writing teachers' metacognition as retired and practicing English teachers read and responded to student essays during two range-finding events. The study consisted of two cases—one pertaining to 10<sup>th</sup> grade expository essays and one pertaining to 10<sup>th</sup> grade persuasive essays. Both cases of fourteen participants each scored previous district writing assessment essays and provided narrative comments on annotated rubrics to fuel the district's training efforts for future scorers of live writing. This chapter briefly summarizes the study; discusses the study's findings in relation to the subsidiary and overarching research questions; addresses implications for teacher educators, district administrators, and practicing teachers; poses recommendations for future research in metacognition; and offers closing thoughts.

### Summary of Study

Too little is known about writing teachers' metacognition. Despite the recognized importance of teacher effectiveness to educational reform (Sawchuck, 2010; Bean, 2009; Darling-Hammond, 2000), scant research is available that examines the thinking processes of teachers (Zohar, 1999; Wilson & Bai, 2010), particularly teachers of writing, so as to provide insight into sophisticated writing instruction that cultivates students' higher-order engagement with text. But why study metacognition? Plainly, the most effective teachers are described in metacognitive terms (Duffy et al., 2009; Pressley, 2005; Paul, 1990). They are thinking practitioners who routinely attend to their students, their content, and themselves. In the writing classroom, then, this thoughtful reception and responsiveness stems from text, read and written, situating the teacher uniquely within the student's reading-writing connection. Therefore, this study sought to explore and describe writing teachers' metacognition as they read and responded to student essays during two range-finding events (Goldberg, 2012) in the hopes of gaining deeper insight into the practices and behaviors of thinking teachers who could make a difference in their students' thinking.

The instrumental, collective case study took place during two successive range-finding events in a midwestern school district during the fall of 2012. It was "instrumental" in the sense that it used the structure of two range-finding events to examine the phenomenon of teachers' metacognition, and it was collective because the two range-finding events each constituted an

individual case of participants, making a two-case study. The participants were not examined as individual members of a respective case; rather, they served as part of a whole body of members—a case. Fourteen participants, then, participated in each case—three administrators who served as facilitators and note-takers, four seasoned and retired English teachers who regularly participate in state and district writing assessment activities, and seven practicing secondary English teachers from the district. The same administrators and retired teachers participated in both cases, though seven different, practicing secondary English teachers from the district participated in each case; thus, fourteen of the district’s practicing teachers participated in the study overall. All participants trained to use the district’s rubric; experienced four whole-group discussion sessions to review previously scored essays and practice scoring essays together; and engaged in a series of small group discussions, where they scored stacks of essays with the district rubric for one of four district essay prompts affiliated with that rhetorical structure, i.e., expository or persuasive. As well, each case included a focus group interview, and off-campus follow-up interviews with the retired teachers were scheduled.

The study utilized a qualitative methodology, which is an interpretive form of research that assists a researcher in investigating an unquantifiable phenomenon (Creswell, 2007). The results of the analysis of the field notes, observation, annotated rubrics, digital audio recordings, focus group interviews, and individual interviews, spanned Chapters Four and Five. Chapter Four identified and illustrated 28 content codes that emerged under the four corollaries of Flavell’s (1979) theoretical model of metacognition in both cases. Chapter Five identified and illustrated three dichotomous themes across both cases that transcended the 28 content codes. What follows, then, are key pieces to the interpretation of the study’s results. First, the findings summarize the results from Chapters Four and Five in accordance with the three subsidiary research questions and overarching research question that directed the study. Implications of the study’s findings to various audiences (teacher educators, practicing teachers, and school district administrators) are discussed next, and these implications are succeeded by recommendations for future research in teachers’ metacognition and closing thoughts.

## **Findings**

Data were gathered during three phases of the range-finding events: *during* (field notes, observation, digital audio recordings, and annotated rubrics), *within* (the focus group interviews),

and *after* (individual interviews). As well, data were analyzed over three phases: one (framework codes using Flavell's (1979) theoretical model of metacognition), two (content codes within each framework code), and three (cross-case patterns and themes). The data resulted in 28 content codes under Flavell's four corollaries and three dichotomous themes across both cases. But three subsidiary research questions and one overarching research question framed the data collection and data analysis processes of this study. The findings for each research question are discussed below.

### ***Subsidiary Research Question #1***

#### **What evidence of English teachers' metacognition emerges in response to student essays?**

Metacognition possesses a knowledge component and a regulation component—both of which can be tacit in nature because of the primary substance: thought. Therefore, this study remained open to all manifestations and perceptions of metacognition in order to gain a fuller understanding of the phenomenon in the context of writing teachers' reading and responding to student essays. It included only verbalized evidences of metacognition, none from the highly likely store of non-spoken meta-level thoughts. With the four corollaries of Flavell's theoretical model of metacognition as the lens, this study found a wealth of data indicating evidence of teachers' metacognition: 28 distinct content codes, as identified in Table 8 and narrated in Chapter Four. Researchers have found studying the metacognitive phenomena separately to be counterproductive (Artzt & Armour-Thomas, 1998) because of the interactivity of the four classes or corollaries. In contrast, this study found the methodical examination of each of Flavell's corollaries to be beneficial, that, indeed, the corollaries are distinct yet interrelated (Efklides, 2008). The data revealing purist glimpses of corollaries alongside those data revealing interrelatedness permitted a hearty description of metacognition and its complexity in this particular context.

The wealth of data gives rise to the question *why*. Participants in this study experienced (many for the first time) an opportunity to philosophically consider and debate aspects of their field—a rare experience, as intense forms of professional development are lacking in many school districts (Darling-Hammond, Wei, Andree, Richardson, & Orphanos, 2009). Their conversations brought thinking to the surface, and though the participants' discussions proceeded from the district rubric, an established common ground, each brought to the range-finding

experience his own perspective of and justification for the central question: *What constitutes good writing?* The perspectives were as unique as the individual participants, yet they were tasked with developing a shared mental rubric to come to consensus when scoring papers to be used for training of future scorers. The “think tanks” were expected to set professional standards for teachers and academic standards for students—a type of philosophical opportunity Paul (1990) encouraged. Thus, this highly challenging mental activity became a catalyst of deeper, more reflective thinking about content, craft, and self.

### ***Flavell’s Corollaries***

The evidence of the teachers’ metacognition can be most aptly summed up by reflecting upon the rich meaning emanating from the 28 content codes identified and explained in Chapter Four. These prominent content codes emerged in relation to Flavell’s (1979) four corollaries: metacognitive knowledge, metacognitive experiences, metacognitive goals (tasks), and metacognitive actions (strategies). Metacognitive knowledge included the teachers’ knowledge of person, task, and strategy. Knowledge of person alone contained seven content codes: three pertaining to individual knowledge, three pertaining to interpersonal knowledge, and one pertaining to a universal understanding of cognition. As a whole, participants were more vocal about their personal insufficiencies and even behavior tendencies than revealing personal likes and dislikes. Part of this could have been because the nature of the discussions centered on ideas and text. However, the discussions did provide opportunities for participants to form interpersonal connections. Thus, data emerged highlighting a good deal of self-knowledge *in connection with or in relation to* others’ ideas. Participants compared their thoughts to others’ thoughts, contrasted their thoughts to others’ thoughts, and formed presumptions as to what could have been or could be concluded by student writers and future scorers. The seventh content code of metacognitive knowledge of person referred to a shared awareness of the elusiveness of thought—a reality thinkers, in general, experience. These types of interactive thinking about “person” attest to the self-awareness aspect of metacognition.

As well, data emerged detailing participants’ knowledge of task, verbalized in utterances that spoke of distinct content domains: scoring and training, writing and writing instruction, and components of the rubric. This sub-category of data seemed varied because of participants’ experiential differences. Those who had served as scorers and trainers previous to

these range-finding events provided more evidence of thought about task knowledge, which affirms the belief that metacognition is, in part, a specialized kind of knowledge that develops over time with experience (Steward, Cooper, & Moulding, 2007; Pressley, 2005). Knowledge of strategy, too, revealed evidence of participants' explicit awareness of having considered the *how* and *why* strategies used to achieve better understanding of content and thinking skills needed for sound writing (Zohar, 1999); it makes sense that the challenging conversations in the study would lead teachers to think about and talk about how to score and read more effectively.

Content codes related to metacognitive experiences were the most prolific data to emerge evidencing the teachers' thinking about their own thinking. These experiences included cognitive and affective dimensions, often mingled, that seemed to be in gradation to one another. Epiphanies were distinct from recollections which were distinct from revelations which were distinct from moments of awareness which were distinct from reflections which were distinct from verbalizations of indecision which were distinct from questions. Yet despite the distinctness, the large number of data points similarly pointed to the possibility that participants were experiencing cognitive change in the study—and were cognizant of the newfound change. The three dichotomous themes, as well, indicated some sense of transformation in thinking because of metacognitive or, at least reflective, experiences. As with metacognitive knowledge, the awareness of knowing or the awareness of “oneself experiencing such and such” confirms the meta-level dimension of these experiences.

Corollaries three and four became visible through six content codes and three content codes, respectively. Participants demonstrated making six different types of cognitive decisions to regulate their understanding while reading and responding to student essays: pronouncements, resolutions, conclusions, modifications, justifications, and recommendations. These goals (tasks) emanated from awareness of their knowledge and experiences. In other words, the self-monitoring of their knowing and feeling and experiencing contributed to decision-making that would lead to a better command or regulation of content. Relatedly, participants initiated actions (strategies) to more effectively reach cognitive and metacognitive goals. They took specific cognitive steps, posed challenging questions, and issued requests. These mental measures and strategies to better manipulate one's understanding illustrate the type of advantage Nickerson et al. (1985) attributed to metacognitive learners. In sum, the content codes which emerged through Flavell's four corollaries as applied to the study's participants bespoke evidence of

teachers' metacognitive monitoring and regulation when reading and responding to student essays.

### ***Range-finding as Cognitive Apprenticeship***

Not only do the content codes and the cross-case themes which emerged attest to evidence of participants' metacognitive knowledge, experiences, goals, and actions, but they also draw attention to the efficaciousness of the range-finding experience (Goldberg, 2012) itself as a catalyst in fostering metacognitive thinking. The range-finding event resembled what Collins et al. (1991) described as a *cognitive apprenticeship*, which has its roots in the Social Constructivist theory. This theory emphasizes transformation or mediation which can occur when a knowledgeable guide assists another's cognitive growth (Ormrod, 2011). It is a mode of instruction that utilizes cognitive and metacognitive skills and processes to guide learning that it utilizes the dialectic process which holds at its core that mental advancement comes from contradiction (McCaslin & Hickey, 2001). A dialectic process allows reasoning to unfold through intellectual conversation. Often in this process, contrary ideas are put in juxtaposition to one another for the sake of reaching a conclusion or a resolution—also described as “graduated mismatching” (Risko et al., 2005, p. 326) or meaning negotiation (Ruddell, 1995). The whole group and small group discussions in the range-finding events followed this type of process. All discussions were facilitated by an administrator with previous scoring experience who served to initiate and redirect discussions as needed, and participants bantered back and forth until they were able to reach scoring consensus or, at least, “agree to disagree,” as some admitted. Further, Collins et al. (1991) said features of a cognitive apprenticeship include modeling, coaching, scaffolding, articulation, reflection, and exploration. All six of these features 1) materialized as components of the range-finding experience and 2) characterized groups of data revealing participants' metacognitive thinking, thus, pointing to the apprenticeship potential of a range-finding event. Table 13 below showcases the aspects of the range-finding that pertain to each of the six features and the content codes which demonstrate evidence of participants' metacognition in relation to each feature. Each of cognitive features aligns to at least one of Flavell's four corollaries.

**Table 13: Range-finding as Cognitive Apprenticeship**

Cognitive Features	Relevant Components of Range-finding	Data in Alignment with Features
		<i>MK = metacognitive knowledge</i> <i>ME = metacognitive experiences</i> <i>MG = metacognitive goals (tasks)</i> <i>MA = metacognitive actions (strategies)</i>
<b>Modeling</b>	<ul style="list-style-type: none"> <li>• previously scored essays + rubrics (served as product models)</li> <li>• cognitive modeling during training sessions</li> <li>• cognitive modeling during review sessions for previously scored papers</li> <li>• cognitive modeling during practice scoring sessions</li> </ul>	<ul style="list-style-type: none"> <li>• MK of strategy: scoring</li> <li>• MK of strategy: comprehension</li> <li>• MA: steps</li> </ul>
<b>Coaching</b>	<ul style="list-style-type: none"> <li>• training sessions</li> <li>• reviewing of previously scored essays</li> <li>• practice scoring sessions (whole group)</li> <li>• facilitator direction during small group sessions</li> </ul>	<ul style="list-style-type: none"> <li>• MK of task: scoring and training</li> <li>• MK of task: writing and writing instruction</li> <li>• MK of task: rubric</li> <li>• MG: recommendations</li> <li>• MA: challenge questions</li> </ul>
<b>Scaffolding</b>	<ul style="list-style-type: none"> <li>• previously scored essays + rubrics</li> <li>• rubric supplement</li> <li>• training sessions</li> <li>• practice scoring sessions (whole group)</li> </ul>	<ul style="list-style-type: none"> <li>• MK of strategy: scoring</li> <li>• MK of strategy: comprehension</li> <li>• MA: steps</li> </ul>
<b>Articulation</b>	<ul style="list-style-type: none"> <li>• training sessions</li> <li>• whole group debriefing</li> <li>• facilitator direction during small group sessions</li> <li>• practice scoring sessions (whole group)</li> </ul>	<ul style="list-style-type: none"> <li>• MK of person: preferences</li> <li>• MK of person: tendencies</li> <li>• MK of person: insufficiencies</li> <li>• MK of person: elusiveness of thought</li> <li>• ME: all content codes</li> <li>• MG: pronouncements</li> <li>• MG: resolutions</li> <li>• MG: conclusions</li> <li>• MG: modifications</li> <li>• MG: justifications</li> <li>• MG: recommendations</li> <li>• MA: requests</li> </ul>
<b>Reflection</b>	<ul style="list-style-type: none"> <li>• whole group discussions</li> <li>• whole group debriefing</li> <li>• small group discussions</li> <li>• focus group interviews</li> </ul>	<ul style="list-style-type: none"> <li>• MK: all content codes</li> <li>• ME: all content codes</li> <li>• MG: all content codes</li> <li>• MA: all content codes</li> </ul>
<b>Exploration</b>	<ul style="list-style-type: none"> <li>• reviewing of previously scored essays</li> <li>• practice scoring sessions (whole group)</li> </ul>	<ul style="list-style-type: none"> <li>• ME: questions</li> <li>• MA: challenge questions</li> </ul>

The professional development experience of the range-finding event worked as a scaffold of sorts to encourage transfer of metacognitive thinking practices in the classroom (Curwen et. al., 2010). In light of the alignment between features of a cognitive apprenticeship and the metacognitive content codes which emerged through the data, the range-finding events appeared to be fertile settings for stimulating the English teachers' thinking and meta-thinking.

### ***Internalization***

The internalization of thinking patterns and behaviors also pointed to evidence of teachers' metacognition when reading and responding to student essays. Toward the end of the second day of each range-finding event, participants became more automatic in their scoring strategy and consensus-building. Part of this, of course, could have been due to sheer mental exhaustion, but the cross-case themes which emerged strongly indicate an internalization of the complex mental processes (Ormrod, 2011) of range-finding. Vygotsky (1978) explained that learning "presupposes a specific social nature and a process by which children grow into the intellectual life of those around them" (p. 88). And so a parallel can be drawn between his theoretical idea and the data which emerged in this study. Having been immersed into the language of the rubric, meaning of the rubric's components, the surrounding dialogue and ensuing discussions related to the application of the rubric to pieces of student writing, participants most likely internalized certain thinking patterns that implied a more transcendent level of thought—monitoring and regulating. Each of the cross-case themes—teaching and scoring, confusion and clarity, and frustrations and fruits—positioned dichotomous perspectives or experiences that indicated conditions ripe for internalization. Participants were engaged in discussions, with others and themselves, involving conflicting ideas while simultaneously learning new skills and supporting one another (Brown, Bransford, Ferrara, & Campione, 1982; McCaslin & Hickey, 2001). It is this kind of deep internalization and its accompanying reflective thought that leads to transfer of learning to new contexts (National Research Council, 2000; Curwen et. al., 2010). The "scoring," "clarity," and "fruit" ends of the dichotomous themes highlight a higher-order mentality. All in all, the content codes, the range-finding experience itself, and the cross-case themes collectively pointed to evidence of teachers' metacognition and rich, purposeful learning.



## *Subsidiary Research Question #2*

### **What strategies do English teachers use while reading and responding to student essays?**

It became apparent throughout both cases that participants verbalized and utilized different types of strategies to assist their reading and responding of text. The content codes which emerged under the metacognitive knowledge of strategy corollary highlighted prominent types of strategies of which participants knowingly recognized as valuable—scoring strategies and reading comprehension strategies. The three content codes under the metacognitive actions (strategies) corollary attest to specific types of cognitive strategies participants employed to arrive at metacognitive goals: steps, challenging questions, and requests.

### *Evidence Demonstrating Knowledge of Strategies*

The “metacognitive knowledge of strategy” section in Chapter Four recounts the varying shades of strategy use for both scoring strategies and reading comprehension strategies. To iterate, data emerged in the study showing a range of resoluteness in participants’ knowledge of scoring strategies. Moving from lesser to greater resoluteness, some data points revealed a sense of “Here-is-something-I-have-tried,” others, “This works,” and still others, “It-is-essential-this-occur-to-achieve-that.” This scale manifests varying degrees of familiarity participants had with the academic and cognitive tasks they experienced in the range-finding events. The more hands-on scoring experience participants had (including the scoring experience that accumulated during the range-finding events), the more aware they seemed of the multi-dimensions of strategies used, and this led to vocalized revealing of strategy knowledge. Wilson et al. (2009) similarly found that repeated exposure to a strategy (QAR) fostered teachers’ intimate knowledge and led to a deeper understanding of the strategy’s conditional benefits. In other words, the teachers moved beyond knowing what to do into the *when*, *why*, and *how*.

As well, teachers expressed knowledge of strategies to support their reading comprehension. Data points were stratified according to reading phases; participants spoke of strategies for approaching text, processing text, and evaluating text. The strategies they mentioned are typically associated with good readers who are also known as metacognitive (Schreiber, 2005; Fisher et al., 2011; Baker & Brown, 1980; Pressley, 2002). Metacognitive readers possess conditional knowledge for reading strategies—knowing at what point and how

and why to exercise a given strategy so as to work through a comprehension pitfall or glean clearer understanding of text and, in turn, advance in knowledge.

### ***Evidence Demonstrating Utilization of Strategies***

More telling than verbalizing an understanding of strategy use was participants' implementation of specific cognitive strategies to achieve metacognitive goals. Data points revealed participants' use of comprehension fix-up strategies. They reread portions of text, sought assistance through the use of the rubric supplement, enumerating ideas on essays, marked pertinent ideas, cultivated mental images of text ideas, reflecting upon ideas read, annotated key text features, and engaged in conversation so as to clarify and reinforce their understanding of text. These fix-up strategies demonstrated their attentiveness to textual integrity: they monitored their comprehension enough to know discern what needed further adjustment, clarification, redirection, or affirmation.

In addition to fix-up strategies, participants utilized two distinct categories of cognitive actions aimed at metacognitive goals: challenge questions and requests. They were distinguishable by their intent. First, the challenge questions sought to place an idea in contrast to another's so as to extend understanding (of their own or another's). These questions typically occurred at moments of contradiction or tension to shed light on another's reasoning or rationale. Most all data points that indicated this type of strategy were expressed by participants with prior scoring experience. Second, the requests, too, conveyed a specific intent—to gain assistance beyond what the participant could acquire individually. In these data points, participants sought cognitive help from others. Aware of a gap in understanding or need for further clarification or enrichment, they specifically requested elucidation. These three content codes, then (fix-up strategies (steps), challenge questions, and requests), in addition to participants' verbalization of appropriate and effective scoring and reading comprehension strategies—contributed to the evidence of teachers' metacognitive monitoring and regulation of strategies when reading and responding to student essays.

### ***Implicit and Explicit Monitoring and Regulation***

What remained rather unclear about participants' knowledge and use of strategies was the degree of implicitness or explicitness. In other words, how much of participants' metacognitive

strategizing was fueled by conscious awareness? It is reasonable to consider both types of self-monitoring and self-regulation, implicit and explicit, were at play during the range-finding events. Implicit self-monitoring, for example, would have been typical in their reading of student essays. Metacognitive readers are skilled readers in that they utilize strategies automatically. Reading essays is a regular, familiar event for English teachers. However, their processing of and responding to the essays most likely would have given rise to more explicit awareness of monitoring and regulation. Because the range-finding event, which challenged their professional approach, was a new experience for the majority of participants, they would have exerted extra mental effort at learning the process, requiring more overt awareness and control (Stolp & Zabucky, 2009; Sternberg, 1998; Hacker et al., 2009). Moreover, metacognition can reveal itself in both a top-down and bottom-up processing (Efklides, 2008). Some metacognitive experience content codes, for example, contained data points that revealed the participants' explicit monitoring and awareness of not knowing—of being made clearly aware of a gap or glitch in understanding and a need to seek clarity right from the start, such as the *questions* and *awareness* codes; these points would represent what Efklides (2008) described as top-down processing. Contrarily, other data points could have emphasized bottom-up processing (Palinscar & Brown, 1984)—where participants read and responded, implicitly monitoring their understanding until or unless a need for clarification arose, but such implicit monitoring remained, for the most part, hidden. Hence, one cannot say with certainty that bottom-up processing occurred. However, it is reasonable to conclude that the metacognitive goal (task) content codes and the metacognitive action (strategy) content codes represent the results of implicit (as well as explicit) monitoring, for they were regulatory measures participants took to reach cognitive and metacognitive goals—goals, which as earlier presented, were implemented to assist the participants in arriving at new or clearer understanding.

### ***Self-regulation***

Exercising both implicit and explicit means to monitor and regulate one's thinking is a facet of self-regulated learning. While self-regulation is a theoretical construct that includes more than just metacognition (e.g., motivation, behavior, self-efficacy, affect, goal-setting), the presence of self-regulated learning was pertinent to this study because of the extensiveness and expansiveness of the range-finding experience and its demands upon participants. A self-

regulated learner is metacognitive; he plans, sets goals, organizes, self-monitors, and self-evaluates throughout the duration of a learning experience (Zimmerman, 1990). But each of the preceding actions presupposes the use of strategies. Thereupon, participants engaged in the range-finding events, many for the first time, found themselves working through a process that demanded an intensive type of cognitive and metacognitive investment to self-monitor and self-regulate. The three dichotomous themes indicated possible transformative thinking processes participants experienced because of metacognitive experiences in conjunction with goals and actions. It is possible that through implicit and explicit use of various strategies, participants sought to fulfill the events' demands and meet the pre-established district expectations, exercising differing degrees of self-regulation.

Overall, then, the evidence of participants' knowledge and utilization of strategies and implicit and explicit means to self-monitor and self-regulate affirmed the English teachers' active engagement in this study. Therefore, considering the types and manner of strategies used sheds clear light upon the study's larger question—the English teachers' perception and regulation of their own thinking.

### ***Subsidiary Research Question #3***

**How do English teachers' perceptions of their thinking impact their reading of and response to student essays?**

This question begs consideration of what perceptions participants acknowledged and verbalized and an interpretation of how those perceptions influenced continuing professional behavior during the range-finding. And so the answer to this research question includes discussion of two core ideas which draw from certain metacognitive content codes and the cross-case dichotomous themes: *thought-filled professionals* and *pedagogical metacognition*.

#### ***Thought-filled Professionals***

Certain content codes under the corollary of metacognitive experiences directly speak to this research question. *Epiphanies, revelations, awareness, reflections, and verbalizations of indecision* codified evidence of participants' perceptions of their own thinking. *Epiphanies* were sudden bursts of clarity. *Revelations* were an unveiling of the process of coming to see and coming to agree. *Awareness* described a body of data points that depicted acute clarity, a sense

of “getting it,” in which participants were mindful of knowing and not knowing. *Reflections*—the most prominent content code under the corollary—revealed participants’ considerations of themselves, ideas from the texts, or both, and *verbalizations of indecision* captured participants’ perceptions of their inability to make a cognitive decision and why. While other data points in other content codes also unveiled varying levels of participants’ cognizance of their thoughts, these five codes are most telling because of the perceived result: clarity. Recognizing what *is* and *is not*—in what determines in regard to content *and* self—can fuel a learner’s initiative to seek particular action. Through self-knowledge, teachers can cultivate the ability to act in certain ways because of the idea of intentionality. Duffy et al. (2009) explain this type of perceptive knowledge can lead to personal agency, which can encourage better decision-making and increase teachers’ self-efficacy (Bandura, 1997). In this case, participants’ metacognitive experiences furthered more precise monitoring and regulating. Thus, while it has already been assumed that teachers can learn to be metacognitive (Duffy et al., 2009), this evidence of participants’ perceptions indicates that greater awareness, greater clarity, can lead to more thoughtful decision-making.

Undoubtedly, all participants were mentally engaged in the range-finding events. All participants contributed to the groups’ dynamics and progress, and all participants left the experience with a more defined understanding of the district’s rubric and its use in evaluating student writing. Much thought occurred. While it is beyond the scope of this study to determine whether or not the dichotomies reflected definite change in thought patterns, it is reasonable to conclude that the dichotomous themes attested to transformational distinctions in teachers’ thinking. Careful consideration of the dichotomous themes of teaching and scoring, confusion and clarity, and frustrations and fruits which spanned both cases led to the following conclusions regarding how and to what extent participants perceived their thinking.

1. Participants perceived their thoughts to be *discernible*. Participants used various strategies individually and collaboratively and attempted to acknowledge and resolve confusion by clarifying their positions, perspectives, and reasons.
2. Participants perceived their thoughts to be *malleable*. Participants sought clarity and maturation; they wanted to reach consensus, wanted to unify understanding so as to achieve a common mental rubric.

3. Participants perceived their thoughts to be *individual*. Participants recognized the professional and personal differences they brought to the range-finding events, and they also recognized the value in respecting personal convictions, coming to see the benefits of agreeing to disagree.
4. Participants perceived their thoughts to be *translatable*. Utterance after utterance bespoke this perception. Participants shared their thoughts by talking through them, reiterating them, clarifying them; their vocalized thoughts were persistent and repetitive.
5. Participants perceived their thoughts to be *vulnerable*. Only on rare occasions did participants speak from a pedantic stance. Many contributions hinted at the possibility of error, and participants routinely laced comments with hesitation and uncertainty.
6. Participants perceived their thoughts to be *valuable*. Despite defensiveness, guardedness, and confusion, participants continued to participate throughout the entirety of both range-finding events. No participant stopped or remained silent. All remained steadfast contributors.

The mentally intense nature of the range-finding events permitted an unusually large amount of vocalized thoughts in a professional setting. While only verbalized thoughts were counted as data points, the transformative kinds of thinking patterns (moving from the ideology of teaching writing to scoring writing, moving from the position of defensiveness and guardedness to confidence and maturity, moving from the validation of frustrations to fruits) that emerged denote thought-filled professionals. Such change is reminiscent of what researchers have found in regards to teachers' thoughtful adaptations in the classroom on the continuum of *minimally thoughtful* to *thoughtful* to *considerably thoughtful* (Parsons, 2012; Duffy et al., 2008; Parsons et al., 2010). The immediate impact of teachers' thoughtful attentiveness can lead to more developed habits of mind where teachers become attuned to monitoring and evaluating their own performance and making adjustments and modifications when necessary to achieve a more professional result (Hammerness et al., 2005). It seemed the participants left the range-finding events more thoughtful professionals.

### ***Pedagogical Metacognition***

Another far-reaching impact of the English teachers' perceptions of their thinking was the emergence of *pedagogical metacognition*—a more abstract but vital construct to bringing about

results in the reading and responding of student essays. Pedagogical metacognition in the context of this study holds as a larger view the anticipated benefit of bringing about more effective writing instruction. It is defined as the teachers' understanding of what is necessary for the teaching of metacognition (Wilson & Bai, 2010), and it involves the teachers' intimate knowledge of how, when, and why to be metacognitive within a particular content area. In other words, teachers teach students how to be metacognitive during writing instruction by knowing what it means to be metacognitive—by having lived it and experienced it. The participants' verbalized perceptions of their thinking and meta-thinking shed light on how they viewed (or came to view) metacognition, how they recognized what it meant and what it contained, and how it led to particular monitoring and regulating decisions. For many, such instrumental insight can only come after having undergone a mental or cognitive experience that makes perceptions of one's thoughts apparent. As Zohar (1999) found, teachers were often unable to articulate their thinking, yet higher-order thinking instruction (as in the case of academic writing instruction) is dependent upon teachers' explicit awareness of thinking as an important goal in learning. Being aware of one's thoughts, therefore, is an essential first step in bringing about teacher effectiveness in writing instruction that segues into the teachers' ability to make thinking processes explicit to students. This study uncovered rich potential in teachers' thinking about their own thinking when faced with recognizing and evaluating their thoughts and personal judgments in the context of others'—a foundational step, indeed. Pedagogical metacognition begins with teachers' cognizance of personal metacognitive experiences that morph into cognitive decisions and later, potentially, cultivate metacognitive behavior and skill development in students. The evidence of the participants' growth in clarity of self and influences affecting self, differentiation of rubric components and shades of value in rating categories, and alignment to objectives and the common mental rubric attested to the perceptiveness of participants' thinking and the likelihood of a keener sense of how to make meta-thinking understandable to others, namely, students.

### *Overarching Research Question*

#### **How do secondary English teachers perceive and regulate their own thinking when reading and responding to student essays?**

The three previous subsidiary questions support the overarching research question that guided this study. Because 1) evidence of teachers' metacognitive thinking emerged in this study and 2) participants' utilized various strategies to 3) support their perceptions and hone their understanding of metacognition as a means of making clearer cognitive decisions, this question depicts a broader picture of how participants perceived and regulated their thinking in this study. Below are six conclusions that shape this picture of teachers' metacognition in this study.

First, the participants in this study perceived and regulated their thinking differently from one another. Though 28 prominent content codes and three dichotomous themes emerged within and across the cases—indicating similar types and ways of metacognitive thinking—each participant's thinking was uniquely his own. Some teachers were more experienced at scoring writing assessments. Some were more verbal. Some were more outgoing in demeanor and some, more confident in disposition. While personalities and modes of expression might have made evidence of metacognitive thinking more obvious in some participants than others, they did not deter every participant from demonstrating evidence of perceiving and regulating thought while reading and responding to student essays. If anything, the diversity of participants' means of processing added to the complexity of metacognition, the interrelatedness of its components, and its manifold ways of manifesting itself in teachers. The qualitative differences in participants' expressions of their perceptions and regulations contributed to the overall strength of the study.

Second, participants perceived and regulated their thinking gradually. They knew at the onset they were to come together in a shared scoring mindset; the very nature of their task entailed a developmental process with smaller steps leading to a fuller grasp. The training sessions and opening whole group sessions where participants reviewed previously scored papers served as mental warm-ups. Participants were taking in new information—assimilating and accommodating, and so not as many data points emerged in the opening sessions of both cases. But once participants were expected to read and score on their own (in the whole group and small group settings), the number of data points evidencing their perceptions and regulations



increased. It was not so much that the evidence unfolded in stages or phases; rather, it seemed to emerge in spurts, uniquely for each participant—as if, concurrently, each participant comprehended different aspects or shades or hues of different concepts...much like what we know happens in classroom learning. This most likely accounted for the various gradations as indicated in Chapter Four, when identifying and illustrating various content codes. It is also wise to consider the instructional benefits specific scaffolds provided in this study. 1) Training and reviewing sessions were led by experienced administrators who explicated the process and illustrated it with product models (previously reviewed student essays). 2) Participants also walked through several previously scored essays along with their accompanying annotated rubrics until they were ready to begin scoring on their own; scaffolding then faded (Dennen & Burner, 2008). 3) The rubric supplement, as well, served as a scaffolding tool, along with redirection and clarification administrative facilitators contributed during the small group discussions. Yet even with the levels of scaffolding, some participants grappled with multiple, intersecting concepts. Some remained fixated on single aspect or a couple of key aspects throughout, and only a few immediately understood most of the concepts and issues which arose in discussion, needing only careful honing at critical junctures. In any event, every participant expressed the need to grow in deeper understanding or certitude on at least one aspect, on at least one occasion, and all participants utilized the built-in instructional supports.

Third, as demonstrated through their perceptions and corresponding decisions and actions, participants seemed to arrive at clearer understanding by bumping up against others' thoughts, particularly in juxtaposition with their own. Participants were being made to see differently from viewpoints and decisions they initiated, pre-determined, or held as comfortable. Their conversations were dialectic in nature; each comment directed the conversation by adding vigor, providing support, or redirecting the mental flow, building up “rhetorical space” (Ritchhart, 2002)—the same type of intellectual conversation Paul (2001) recommended occur in the classroom. On a regular basis, participants offered comments and questions that challenged the topic at hand. These remarks sparked further discussion and debate, prompting additional consideration, more questions, and even more challenges, and at many points, the process appeared unsettling and frustrating for participants. However, when ideas were stretched and reasons supported, the participants more sufficiently circumscribed the ideas so as to reach a

sound consensus. Self-talk mingled with interpersonal interaction, and participants came to a more focused realization of where their ideas stood in relation to others.

Fourth, participants perceived and regulated their thinking through articulation. They recognized (either right from the start or early on) the need to verbalize their thoughts clearly and succinctly because each discussion had at least four participants, and the conversations moved quickly along the categories of the rubric. At first, comments were more hesitant and general, but as participants grew more familiar with the range-finding expectations and more comfortable with one another—though relations were not always amiable—their points became more specific, directed to precise criteria, and reminiscent of clearer understanding of self and text and mission. Yet moments of tension tended to bring on longer utterances with the aim to make thoughts clear. Overall, their articulation was supported by their acquisition of scoring and rubric terminology, which delineated meaning. Consequently, many words and phrases became part of the regular scoring lingo.

Fifth, participants perceived and regulated their thoughts as they held them accountable to a stabilized entity that evolved. Those with previous scoring experience had already engaged in a similar mental exercise where groups of teachers gathered together to conceptualize a scoring rubric in like manner. The influences of previous scoring experiences mingled with the new experiences and insights and perspectives of these participants as they struggled to foster mutual understanding of rubric categories and interpretation of scoring parameters. What came to be was the common mental rubric, which, as an entity, seemed quite synonymous across cases. As the shared conceptualization became more defined, participants tended to appeal to its qualifiers when explaining or justifying their ratings and decisions. This resembled the conceptual chunking the National Research Council (2000) named specialized categorization of content knowledge; participants formed their knowledge around the rubric categories and then defined relationships and connections between and within them in order to more effectively apply this contextualized knowledge (Berliner, 1994) to student essays. And toward the end of each range-finding event, when scoring became more automatic, participants held one another accountable to what had been established—what seemed to reign as authority.

Six, the participants perceived and regulated their thoughts in order to gain clarity and abound in confidence. Participants showed through their behavior, mannerisms, and utterances that they did not enjoy feeling uncomfortable or confused or indecisive. They had been told they

were invited to the range-finding events to serve as the “think tank” because of the competence they had demonstrated in their classrooms. But in the midst of whole and small group discussions, participants physically and audibly expressed a desire to clearly grasp the principles of the rubric, denote its finer distinctions and qualifiers, and more efficiently and confidently score student essays according to the standards and expectations the group held as so. The very conversations and dialectic processing that many found distressing actually served as catalysts—over time—for instilling confidence in them as thinkers and teachers and evaluators of student writing. It was the disturbances and rubbings that sharpened the points of distinction and enlightened participants’ cognizance of discriminatory differences in *this* versus *that*. And with clarity came confidence in their ability to score in accordance with the common mental rubric that had evolved—thus, leading to a perceived increase in scoring self-efficacy (Bandura, 1998; Bandura, 1997). In other words, participants ended the range-finding events with firmer belief in their ability to accomplish the task of scoring using the district’s rubric. This increased sense of personal aptitude could potentially translate into the development of richer, more meaningful writing instruction.

Collectively, these six general findings for the overarching research question affirm participants’ perceptive awareness and attentive involvement in their own thinking and meta-thinking while reading and responding to student essays. Additionally, these six conclusions speak to the uniqueness of the range-finding event as a professional development structure capable of inciting intense and elaborate thought in a collaborative setting designed to reinforce the development of other scorers down the line. Undergoing the range-finding process led to the honing of participants’ perceptive grasp of content in relation to a common mental rubric and a host of diverse teachers. Participants left with keener insight into district expectations as to what constitutes good writing, greater verbal command of their subject matter, and a more grounded sense of themselves as teachers of writing.

### **Significance of Study**

Little is known about teachers’ metacognition, despite recognition that 1) metacognition is an integral part of sophisticated learning and critical thinking (Flavell, 1979; Stewart et al., 2007; Pressley, 2005; Baker & Brown, 1980; Paris & Winograd, 1990; Nickerson et al., 1985) and 2) teachers are prime instruments in bringing about effective educational reform

(“Framework,” 2009; Sawchuck, 2010; “Blueprint,” 2010; IRA, 2010; Bean, 2009; Darling-Hammond, 2000; NWP & Nagin, 2006). Thus, this study intersected the research of metacognition and teacher effectiveness in a unique way by exploring and describing the thinking practices and behaviors of those prominently responsible for developing critical reading, writing and thinking skills in students: writing teachers.

By applying Flavell’s theoretical model to a specific context (writing teachers reading and responding to student essays), this study uncovered a large number of distinct patterns of thought within each of his corollaries, expanding understanding of what constitutes metacognition because of the manifold evidences. It permitted careful examination of each distinct corollary while highlighting their interrelatedness and interactivity. In other words, this study gave flesh to Flavell’s model.

This study also supported and extended the small corpus of research on teachers’ metacognition. Indeed, the participants in this study exhibited thoughtful, metacognitive behavior (Peterson, 1988; Duffy et al., 2009); demonstrated teachers’ potential to grow more explicitly aware of themselves as thinkers and the monitoring and regulating of their thoughts (Zohar, 1999; Wilson et al., 2009); and indicated processes of development that can give rise to more sophisticated thought about self as thinker (Artzt & Armour-Thomas, 1998; Wilson & Bai, 2010). It provided a more delineated understanding of teachers’ metacognition through the 28 content codes, characterizing types and manners of teachers’ thinking *while in the act* of reading and responding to student essays. As well, it pointed to transformational distinctions in teachers’ thinking, which suggest changes of thought which can occur in like circumstances.

And further, this study uncovered and described rich accounts of writing teachers’ thinking practices and behavior when challenged by colleagues in a professional, collaborative setting designed to crystalize thoughts and professional judgments from the “best of the best.” Participants’ honest utterances revealed a wealth of different types of meta-thinking grounded in their own self-knowledge, perceptions of affective and cognitive experiences, and regulations of cognitive decisions. They made presumptions, shared revelations, verbalized indecisions, announced resolutions, posed recommendations, and enacted cognitive steps to achieve fuller comprehension—to name of few of the mental activities which occurred. Additionally, they exhibited movement from the mindset of teaching writing to scoring writing, attained clarity after confusion, and recognized both frustrations and fruits of the range-finding process, as the

three dichotomous themes portrayed. The abundant presence of metacognitive thoughts, experiences, goals, and actions which emerged in this study adds to the knowledge base of metacognition research in the field of teacher effectiveness and prepares a fertile base for future research.

### **Implications for Practice**

Because the Common Core State Standards' emphasis on academic writing is influencing schools' and teachers' pedagogical outlook and raising new concerns (Calkins, Ehrenworth, & Lehman, 2012), the need for sophisticated, thoughtful, self-regulated teachers is stronger than ever. The results and findings of this study have the potential to significantly impact practice for three constituents: teacher educators, practicing teachers, and school district administrators.

#### ***Teacher Educators***

Many of the participants admitted a lack of adequate training to teach writing. Like Brimi (2012) found, the teacher-participants received ample preparation in literature and reading response but not the fundamentals of writing. Several had not encountered Six-trait Writing Model (Spandel, 2008) previous to their teaching position, and most counted their experiences in building, refining, and field-testing the district rubric to be the most pertinent training in writing instruction they had previously received. Teacher educators, then, could benefit from this study's findings and conclusions by first recognizing the advanced levels of thought involved in reading and responding to student essays. Attaining such levels of thought cannot occur from a minimal number of English methods courses that a wide spectrum of items in a secondary English education curriculum, 7-12. The sophisticated levels of thought evidenced by many participants in this study came about from intensive interaction with text, content (via the rubric), and dialectic conversations with colleagues centered on real writing, just as Morgan (2010) found. This type of training requires a good deal of time, frequent exposure to student writing samples, and opportunities for structured dialogue.

Teacher educators might also take note of the standardized entity upon which the range-finding events were based: the rubric. Murray (2004) cautioned that most writing teachers do not have the writing experience or firsthand knowledge to know how good writing is made or taught. The rubric could provide pre-teaching training in writing instruction. The district's finely tuned

rubric served as the anchor for the common mental rubric which evolved during the range-finding events, as well as the instrument for training participants in the elements of academic writing. Pre-service English education teachers could benefit from generating this assessment tool and using it to establish expectations for the instruction and evaluation of student writing; the rubric could bridge their development as teachers of writing and scorers of student writing—a disconnection presented in the dichotomous theme teaching-scoring. In addition, pre-service experience in the creation and application of an analytic scoring a rubric would give soon-to-be teachers hands-on practice with the traits of writing so integral to writing instruction. With the preponderance of concerns regarding standardized writing assessments and their influence on writing instruction and student performance, pre-service English teachers cannot have enough discussion about how to recognize, understand, and teach elements of academic writing within the context of standard expectations of sound writing.

As well, teacher educators might appreciate the catalogues of evidence for metacognitive knowledge, experiences, goals (task), and actions (strategies) as identified in the 28 content codes. Together, they depict metacognitive thinking in action, which is not always present or perceptible in such explicit form in more typical interactions with pre-service teachers. But in the special confines of the range-finding events, participants demonstrated diverse ways that metacognitive knowledge, monitoring, and regulating can surface when teachers are highly engaged in and challenged by their content. These evidences could help in establishing expectations for appropriate thinking and reflection dispositions, habits of thinking and action (Hammerness et. al., 2005), for pre-service English teachers—what mentally involved teachers think and do when interacting with students’ texts. These evidences (data points) could also bring to life the more advanced levels of teacher expertise, as Berliner (1994) discussed, Stage Four, the proficient level, and Stage Five, the expert level. The fourth stage is marked by conditionalized understanding, pattern recognition, categorization, and detecting similarities in disparities—as was detected in participants’ reckoning and rendering of judgments. The fifth stage is a more advanced version of the fourth, characterized by teachers’ intuition and arationality, where decision-making is fluid and natural (Berliner, 1994). Using data points from this study, pre-service English teachers could situate themselves within the mindset of the participants who developed metacognitive habits of mind (Hammerness et. al., 2005) and refined their grasp of what constitutes good writing and what is mentally required for effective and fair

scoring—and enter the teaching profession with a clearer understanding of sound writing and a firmer sense of personal agency. Teacher educators should explore ways to encourage mindfulness of thinking and meta-thinking and implement concrete experiences that put pre-service teachers in direct connection with themselves, their comprehension of ideas, and their regulation of what they know and have learned in regard to student writing.

### *Teachers*

This study explored and described the thinking practices and behaviors of practicing teachers. Teachers, then, could reap benefits from its results and findings. Most teachers, pre-service and practicing, do not examine their own thinking on a regular basis, which puts them at a significant disadvantage. They miss out on opportunities to reflect, to refine their efforts, to rekindle motivation, to redirect their energies, and to evaluate their overall effectiveness and competence; in other words, they lose intimate occasions for self-improvement and self-direction. Teachers who do habitually ponder their thinking tune in to their affective and cognitive experiences and take stock of how and when and why to regulate their thinking are more likely to produce students who metacogitate (Costa, 2001)—which should be the supreme goal of an English teacher. Vygotsky (1978) attested to this reality by suggesting that people grow into the intellectual life around them. What we teachers do and how we think influences what our students do and how they think.

Plus, paying attention to thinking processes and behaviors paves the way to adaptive metacognition (Lin, Schwartz, & Hatano, 2005) or adaptive expertise (National Research Council, 2000) so praised by education reformers. Adaptive experts are more willing to adjust “their core competencies and continually expand the breadth and depth of their expertise” (Bransford, Derry et al., 2005, p. 49), and by developing themselves, they are better equipped to develop their students. To be effective, it is imperative that teachers of writing differentiate instruction, tailoring written and oral feedback and direction to students’ varied needs—which change with each new essay. This, of course, can only be done when the teacher carefully monitors and regulates understanding of the students’ ideas and his or her own so as to provide the most appropriate feedback possible. This essential teaching ability is highly dependent upon mindfulness of one’s thinking, i.e., metacognition.

The study's results and findings revealed teacher-participants engaged in more than Flavell's (1979) four corollaries. Their thinking and meta-thinking were conditionalized to the unique act of reading and responding to student essays—the most fundamental type of work English teachers perform. The data then sheds light on six characteristics of engagement: 1) specific patterns of thought that accompany intense reading of text, 2) what teacher-participants found pertinent to enhancing their comprehension of text, 3) collective understanding of how elements of a written product ultimately influence a reader's grasp and sense of text, 4) affective experiences or influences that impacted decision-making when responding to text, 5) valuable cognitive steps implemented to enhance a reader's experience, 6) and genuine expressions of perceived growth resulting from intensive individual and collaborative efforts with text. This study could inspire teachers' hope in personal and professional development by showcasing the mental movements and transformations that are possible when teachers attentively tune in to their thinking processes. Pre-service and practicing teachers could more clearly see various levels of meta-thinking when considering the myriad ways it presented itself in participants engaged with colleagues, text, and self in this study and, perhaps, envision those yet still to be attained. It is critical that new and practicing teachers of writing find opportunities and resources to support and increase their metacognitive knowledge so as to be more mindful of their decision-making when interacting with students and students' writing.

### ***School District Administrators***

More alternative forms of professional development—involving time-intensive, content-rich, collaborative settings, like this range-finding event—can bring about meaningful changes in teachers and merge theory and practice (Valerie, 2012). This study could provide school districts with a model for an alternative learning experience where content area teachers come together to delineate and substantiate the concepts they teach by encouraging challenging discussions built upon a common entity, like the rubric. The range-finding model emphasized many aspects of what Duffy et al. (2009) recommended for educative professional development: a model that is dynamic, case or problem-based, collaboratively innovative, emphasizing teacher thoughtfulness. And so, the participants' utterances in this study attested to higher-levels of thought, metacognitive thought, not normally achieved in more typical teacher conversations concerning the use of strategies, textbooks, grammar worksheets, and discipline concerns; the focused,



intensive dialectic conversations during the range-finding events opened eyes and minds to a more sophisticated way of understanding writing and written products. Participants were given an opportunity to reflect upon their own knowledge, cognitive and affective experiences and decision-making—all in relation to others'. Granted, this study was possible because a self-directed school district enacted a long process to unify the efforts of its English teachers and support their work in preparing students to reach district expectations of writing competence as demonstrated through their Analytic Writing Assessments. Thus, they developed an analytic rubric (through multiple versions), field-tested it, and refined it again. Many district teachers were strategically involved in the process, and all teachers were expected to teach and score writing with the district rubric. But districts need not go through such an extensive process to experience the same types of mentally sophisticated benefits as participants in this range-finding declared to enjoy. Certain elements of the range-finding events could be extracted and utilized by school districts in many authentic ways. Here are aspects of the range-finding event that could be modified and incorporated into any district's professional development plan:

- Extended periods of time devoted to a specific outcome
- Learning experiences rooted in content area realities (grading live student work, for example)
- Collaborative settings with teachers of the same content area
- Teacher-driven development of a core assessment tool or entity that embodies key elements, principles, or facets of the content area
- Tiered levels of training, where trainers teach trainers who teach future trainers
- Opportunities for rich, deep, and challenging discussions where teachers justify decisions and establish priorities
- Learning opportunities that combine training with collaborative and individual practice
- Content area discussions that harmonize individual preferences with consensus-formed judgments

While the study most concerned itself with the perceptions and regulations of English teachers' metacognition when reading and responding to student essays, it did utilize an *instrumental* collective case study approach; the instrument of the range-finding events, in many ways,

contributed to the results of this study, namely, by furnishing the space and occasion for teachers to think deeply, consider those thoughts, and use them to improve their professional stance and judgments.

More importantly, however, school districts could benefit from the illustrations of different types of metacognitive thought and behavior as evidenced in the content codes and cross-case themes. Sophisticated thinking is hard to characterize, but the utterances in this study offer concrete illustrations for the more sublime kinds of thoughts and actions typical of expert teachers; they have, in a sense, given readers access to what lives “inside teachers’ heads” (Duffy et al., 2009, p. 242). Because metacognition is so valuable, it behooves a district to explore how to develop it in their teachers (Duffy et al., 2009). Examining participants’ exploration of self-knowledge, patterns of development, and perceptions of what they recognized and could change in their thinking behaviors and goals could potentially lead to better mentoring experiences for new teachers, more introspective forms of reflection and modeling, and re-energized and re-directed efforts at cultivating the professional identities of practicing teachers. School district administrators should make a concerted effort to address and develop teachers’ thinking and meta-thinking in contextualized settings that support their specific content areas.

### **Recommendations for Further Research**

Because this instrumental, collective case study sought to explore and describe teachers’ metacognition, it contributes to a small body of metacognition research in teacher effectiveness in a foundational way. A great deal of future research is needed to more fully understand the complex phenomenon of metacognition in the context of writing teachers’ thinking and behavior. The following recommendations for future research derive from what emerged in this study.

#### ***Recommendation One:***

It is important that the study be replicated in a similar range-finding event so as to confirm or refine the 28 content codes within Flavell’s (1979) theoretical model of metacognition. Do the same content codes emerge? If so, to what extent are they prominent? Do other content codes emerge? If so, what emerges, and why?

#### ***Recommendation Two:***

It would be beneficial for researchers to explore the interacting influences between the Flavell’s four corollaries. How does metacognitive knowledge influence or affect metacognitive

experiences? How do metacognitive experiences influence or affect metacognitive goals (tasks) or actions (strategies)? In turn, what influences to metacognitive goals (tasks) and actions (strategies) have on metacognitive experiences of metacognitive knowledge?

***Recommendation Three:***

Metacognitive research could benefit from conducting this study again with more specific emphasis on teachers' experience and professional training. How would the results compare and contrast if teachers worked in groups of homogenous experience levels—pre-service teachers, new teachers, and seasoned teachers? Would the quality of quantity of metacognitive utterances be different in teachers with graduate training as opposed to those with none?

***Recommendation Four:***

It would be important to find out how teachers who demonstrate metacognitive practices and behaviors teach metacognition strategies to their own students. What aspects of metacognition do they emphasize? What metacognitive strategies do they teach, and how? And, ultimately, what effect does metacognitive instruction have upon students' performance?

***Recommendation Five:***

Extending Recommendation Four, it would also be interesting to compare and contrast the metacognitive practices of teachers who had experienced a range-finding event (or a similar time-intensive professional development opportunity) and those who had not. How do their teaching philosophies differ? Do the teachers utilize different strategies or approaches? How is oral and written feedback on students' papers similar and different?

***Recommendation Six:***

It would be interesting to study a single teacher as a case study—a teacher who experienced a time-intensive professional development experience, like a range-finding event. What was the teacher's metacognitive development before, during, and after the range-finding event? How was the teacher's thinking characterized before the event? What factors during the event led to changes in thinking patterns or cognitive decision-making? What influences of the range-finding event followed the teacher into the classroom?

***Recommendation Seven:***

Professional development models, like Guskey's (2000) and Killion's (2002), consider *transfer* and *student performance results* as essential components of evaluating the overall effectiveness of a professional development experience. It would be worthwhile to study the

transfer that occurs when participants in a range-finding event go back to their classrooms to teach and evaluate writing using the same rubric. Do participants make changes to their instruction because of having experienced range-finding? What evidence of improved meta-thinking occurs in teachers who have experienced range-finding? How does student performance compare for students who are taught by teachers who have experienced a range-finding event versus students who are taught by teachers without range-finding experience?

***Recommendation Eight:***

Using more alternative types of job-embedded professional development models, described as being grounded in day-to-day teaching practices and context-rich settings and connecting learning to daily application (Croft, Coggshall, Dolan, Powers, Killion, 2010), a researcher could take aspects of the range-finding event and extend them over a long period of time, a semester or even a school calendar year, for example. It would be interesting to see what similar and new content codes and themes emerged over time. What aspects of a range-finding experience best accentuate sophisticated thinking practices and behaviors in practicing teachers attending on-going development training? How do the training sessions influence teachers' thinking development? How do the whole group review sessions of previously scored essays influence thinking development? How do the small group discussions influence teachers' thinking development?

Because metacognition has really only been a researchable phenomenon the past forty years (Dunlosky & Metcalfe, 2009)—and such little research has been conducted with English teachers' thinking practices and behaviors—researchers interested in writing teachers' thinking, writing teachers' professional development, writing teachers' effectiveness, writing instruction, and teacher-student interactions have a wide berth upon which to experiment. More qualitative and quantitative studies are necessary to extend and sharpen common understanding of this “fuzzy concept” (Baker & Brown, 1980; Paris & Winograd, 1990) of teachers' metacognition.

### **Closing Thoughts**

Teaching writing well demands that teachers be sophisticatedly thoughtful. They must comprehend students' texts and understand students' thinking, while being mindful of their own thoughts and inclinations so as to impart sound direction. Impactful teachers like these are metacognitive—attuned to themselves, their experiences, their reasoning, and their decisions.

Hence, teacher educators, practicing teachers, and school administrators cannot do enough to cultivate metacognitive awareness and development in those charged with teaching students to be critical and reflective readers, writers, and thinkers.

This instrumental, collective study explored and described writing teachers' metacognition, their perceptions and regulations of thoughts while engaged in a range-finding event. As they read stacks of student essays, participants challenged one another and themselves to think deeply about the content and their craft. Their dialectic conversations led them to conceptualize a common scoring rubric as a shared mindset, and their scoring decisions and annotated rubrics will be used to train future district scorers of live writing. But through the mental push-and-pull, participants evidenced substantial amounts of metacognitive thoughts, culminating into 28 distinct content codes under Flavell's (1979) theoretical model of metacognition and transformational distinctions in teachers' thinking, as reflected in three dichotomous themes across both cases. The genuine passion, engagement, and mental self-involvement which occurred in this study testify to the potential benefits of intense, collaborative, and contextualized forms of alternative professional development for teachers of writing.

This study's intent was to explore and describe a relatively uncharted phenomenon in a content area in significant need of research-based enrichment (Reid, 2009; Murray, 2004; National Writing Project & Nagin, 2006). It built upon a small corpus of research in teachers' metacognition but directed its sights on writing teachers. Though its results and findings come from a small pool of participants in a specific context, its conclusions and implications could benefit teacher educators, practicing teachers, and school district administrators in a wide array of settings. Rich descriptions of participants' distinct types of metacognitive thinking characterize the phenomenon in a more concretized fashion, giving insight into its tacit mental processes—virtually unseen otherwise—and deeming it worthy of future qualitative and quantitative studies. Writing teachers' thinking and thinking about thinking matter—to the profession, to their students, and to themselves.

## A Writing Teacher Comes Full Circle: A Reflection

Palmer (1993) spoke about the pain of disconnectedness in education—the disconnections teachers experience between their content, their students, and themselves. It was my reflection on *disconnectedness* that primed me for the revolutionary encounter that sparked this study of metacognition. Why a disconnection? What holds us back from what we teachers take on as part of ourselves? Perhaps fear is an answer—or ignorance. Perhaps lack of time is another, or indifference. Regardless, I felt inclined to study that which seems most intimate to who we are: our thoughts. I mused, if we can tap into our thoughts, then maybe we can better determine the sources of our disconnectedness and the means for becoming more authentic and effective in the classroom. And so this research has been reflexive. Through the participants' experience, I have gained.

- I have learned that no two thoughts are created equal, but all thoughts reflect a bit of something deeper.
- I have seen that to the degree we permit ourselves to consider our thoughts is the degree we will grow more comfortable with allowing them to be refined and improved.
- I have witnessed capable teachers become competent after struggling to justify and rectify their thoughts amid contradictory views and decisions.
- I have felt a surging pride at the caliber of sophistication possible when teachers are challenged to know more, know better, and know why.
- I have hoped for students to experience instruction from thought-full teachers who have learned how to learn in a way that can be simplified and translated to others.

As I come full circle, I celebrate the reality that developmental processes—like reading, writing, and thinking—are ongoing and limitless. Our joy as writing teachers comes in discovering this reality anew with our students, in connection with them and with our beloved craft...beginning first, of course, with what we have pondered in and of ourselves.

## References

- Afflerbach, P., Pearson, P. D., & Paris, S. G. (2008). Clarifying differences between reading skills and reading strategies. *The Reading Teacher*, 61 (5), 364-373.
- Applebee, A. N. (1981). *Writing in the secondary schools: English and the content areas*. Urbana, IL: National Council of Teachers of English.
- Artzt, A. F., & Armour-Thomas, E. (1998). Mathematics teaching as problem-solving: A framework for studying teacher metacognition underlying instruction practice in mathematics. *Instructional Science*, 26, 5-25.
- Axelrod, R. B., & Cooper, C. R. (2010). *The St. Martin's guide to writing* (9<sup>th</sup> ed.). Boston, MA: Bedford/St. Martin's.
- Baker, L., & Brown, A. (1980). *Metacognitive skills and reading* (Technical Report No. 188). Retrieved from University of Illinois at Urbana-Champaign, Center for the Study of Reading: <http://www.eric.ed.gov/PDFS/ED195932.pdf>
- Bandura, A. (1989). Human agency in social cognitive theory. *American Psychologist*, 44(9), 1175-1184.
- Bandura, A. (1993). Perceived self-efficacy in cognitive development and functioning. *Educational Psychologist*, 28(2), 117-148.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: W. H. Freeman and Company.
- Beach, R., & Friedrich, T. (2006). Response to writing. In C. A. MacArthur, S. Graham, and J. Fitzgerald (Eds.), *Handbook of writing research* (pp. 222- 234). New York: The Guilford Press.
- Bean, R.M. (2009). *The reading specialist: Leadership for the classroom, school, and community* (2<sup>nd</sup> ed.). New York, NY: The Guilford Press.
- Becker, A. (2006). A review of writing model research based on cognitive processes. In A. Horning and A. Becker (Eds.), *Revision: History, theory, practice*. West Lafayette, IN: Parlor Press.
- Bejar, I. I. (2012, Fall). Rater cognitions: Implications for validity. *Educational Measurement: Issues and Practice*, 31(3), 2-9.
- Bereiter, C., & Scardamalia, M. (1987). *The psychology of written composition*. Hillsdale, NJ: Lawrence Erlbaum Associates.

- Berliner, D. C. (1986, August/September). In pursuit of the expert pedagogue. *Educational Researcher*, 15(7), 5-13.
- Berliner, D. C. (1994). Expertise: The wonder of exemplary performances. In J. N. Mangieri and C. Collins Block (Eds.), *Creating powerful thinking in teachers and students* (pp. 141-186). Ft. Worth, TX: Holt, Rinehart, & Winston.
- Berninger, V. W., & Richards, T. L. (2002). *Brain literacy for educators and psychologists*. San Diego, CA: Academic Press.
- Blueprint for reform: The reauthorization of the Elementary and Secondary Education Act*. (2010, March). Retrieved March 14, 2011, from United States Department of Education: <http://www2.ed.gov/policy/elsec/leg/blueprint/index.html>
- Boekaerts, M. (1995). Self-regulated learning: Bridging the gap between metacognitive and metamotivation theories. *Educational Psychologist*, 30(4), 195-200.
- Bogdan, R.C., & Biklen, S.K. (2007). *Qualitative research for education: An introduction to theory and methods* (5<sup>th</sup> ed.). Boston, MA: Pearson Education, Inc.
- Book, C. L., Duffy, G. G., Roehler, L. R., Meloth, M. S., & Vavrus, L. G. (1985, January). A study of the relationship between teacher explanation and student metacognitive awareness during reading instruction. *Communication Education*, 34, 29-36.
- Boulware-Gooden, R., Carreker, S., Thornhill, A., & Malatesha, J. (2007). Instruction of metacognitive strategies enhances reading comprehension and vocabulary achievement of third-grade students. *The Reading Teacher*, 61(7), 70-77.
- Bransford, J., Darling-Hammond, L., LePage, P. (2005). Introduction. In L. Darling-Hammond and J. Bransford (Eds.), *Preparing teachers for a changing world: What teachers should learn and be able to do* (pp. 1-39). San Francisco, CA: Jossey-Bass.
- Bransford, J., Derry, S., Berliner, D., Hammerness, K., & Beckett, K. L. (2005). Theories of learning and their roles in teaching. In L. Darling-Hammond and J. Bransford (Eds.), *Preparing teachers for a changing world: What teachers should learn and be able to do* (pp. 40-87). San Francisco, CA: Jossey-Bass.
- Brimi, H. (2012, Fall). Teaching writing in the shadow of standardized writing assessment: An exploratory study. *American Secondary Education*, 41(1), 52-77.
- Brooks, G. W. (2007). Teachers as readers and writers and as teachers of reading and writing. *The Journal of Educational Research*, 100(3), 177-191.
- Brophy, J. E. (1982, September). How teachers influence what is taught and learned in classrooms. *The Elementary School Journal*, 83(1), 1-13.



- Brown, A. L., Bransford, J. D., Ferrara, R. A., & Campione, J. C. (1982, June). *Learning, remembering, and understanding* (Technical Report No. 244). Retrieved from University of Illinois at Urbana-Champaign, Center for the Study of Reading: [http://www.ideals.illinois.edu/bitstream/handle/2142/17511/ctrstreadtechrepv01982i00244\\_opt.pdf?sequence=1](http://www.ideals.illinois.edu/bitstream/handle/2142/17511/ctrstreadtechrepv01982i00244_opt.pdf?sequence=1)
- Burchard, M. S., & Swerdzewski, P. (2009, Fall). Learning effectiveness of a strategic learning course. *Journal of College Reading and Learning*, 40 (1), 14-34.
- Burke, K. (2009). *How to assess authentic learning* (5<sup>th</sup> ed.). Thousand Oaks, CA: Corwin.
- Calkins, L., Ehrenworth, M., & Lehman, C. (2012). *Pathways to the Common Core: Accelerating achievement*. Portsmouth, NH: Heinemann.
- Clark, K. F., & Graves, M. F. (2004, March). Scaffolding students' comprehension of text. *The Reading Teacher*, 58(6), 570-580.
- Collins, A., Brown, J. S., & Holum, A. (1991, Winter). Cognitive apprenticeship: Making thinking visible. *American Educator*, 15(3), 6-11, 38-39.
- Common Core State Standards Initiative. (2010). *Common core state standards for English language arts and literacy in history/social studies, science, and technical subjects*. Retrieved March 14, 2010, from <http://www.corestandards.org/>
- Costa, A. L. (2001). Mediating the metacognitive. In A. Costa (Ed.), *Developing minds: A resource book for teaching thinking* (3<sup>rd</sup> ed.) (pp. 408-412). Alexandria, VA: Association for Supervision and Curriculum Development.
- Creswell, J. W. (2007). *Qualitative inquiry and research design: Choosing among five approaches* (2<sup>nd</sup> ed.). Thousand Oaks, CA: Sage Publications.
- Croft, A., Cogshall, J. G., Dolan, M., Powers, E., Killion, J. (2010, April). *Job-embedded professional development: What it is, who is responsible, and how to get it done well* (Issue Brief). Washington, DC: National Comprehensive Center for Teacher Quality.
- Curwen, M. S., Gretiz Miller, R., White-Smith, K. A., & Calfee, R. C. (2010, Fall). Increasing teachers' metacognition develops students' higher learning during content area instruction: Findings from the Read-Write Cycle Project. *Issues in Teacher Education*, 19(2), 127-151.
- Darling-Hammond, L. (2000, June). How teacher education matters. *Journal of Teacher Education*, 51(3), 166-173.
- Darling-Hammond, L., Wei, R. Ch., Andree, A., Richardson, N., & Orphanos, S. (2009). *Professional learning in the learning profession: A status report on teacher development in the United States and abroad*. Retrieved from National Staff Development Council: <http://learningforward.org/docs/pdf/nsdcstudy2009.pdf>

- David, D., Gordon, B., & Pollard, R. (1995, December). Seeking common ground: Guiding assumptions for writing courses. *College Composition and Communication*, 46(4), 522-532.
- Dean, D., & Kuhn, D. (2003). *Metacognition and critical thinking*. [Rep. No. 141]. Teachers College, Columbia University.
- Dennen, V. P., & Burner, K. J. (2008). The cognitive apprenticeship model in educational practice. In J. M. Spector, M. D., Merrill, J. Van Merriënboer, and M. P. Driscoll (Eds.), *Handbook of research on educational communications and technology* (pp. 425-439). New York: Lawrence Erlbaum Associates.
- Desautel, D. (2009, August). Becoming a thinking thinker: Metacognition, self-reflection, and classroom practice. *Teachers College Record*, 111(8), 1997-2020.
- Duffy, G. G. (2002, Summer). Visioning and the development of outstanding teachers. *Reading Research and Instruction*, 41(4), 331-344.
- Duffy, G. G. (2005). Developing metacognitive teachers: Visioning and the expert's changing role in teacher education and professional development. In S. E. Israel, C. C. Collins Block, K. L. Bauserman, and K. Kinnucan-Welsch (Eds.), *Metacognition in literacy learning* (pp. 299-314). Mahwah, NJ: Lawrence Erlbaum Associates, Publishers.
- Duffy, G. G., Miller, S., Kear, K., Parsons, S., Davis, S., & Williams, B. (2008). Teachers' instructive adaptations during literacy instruction. *57<sup>th</sup> Yearbook of the National Reading Conference*, 160-171.
- Duffy, G. G., Miller, S., Parsons, S., & Meloth, M. (2009). Teachers as metacognitive professionals. In D. J. Hacker, J. Dunlosky, & A. C. Graesser (Eds.), *Handbook of metacognition in education* (pp. 240-256). New York, NY: Routledge.
- Duffy, G., Webb, S., Parsons, S., Kear, K., & Miller, S. (2006, December). *Does thoughtfully adaptive teaching exist?* Paper presented at the National Reading Conference, Los Angeles, CA.
- Duijnhouwer, H., Prins, F. J., & Stokking, K. M. (2012). Feedback providing improvement strategies and reflection on feedback use: Effects on students' writing motivation, process, and performance. *Learning and Instruction*, 22, 171-184.
- Dunlosky, J., & Metcalfe, J. (2009). *Metacognition*. Thousand Oaks, CA: Sage Publications, Inc.
- Durkin, D. (1978/1979). What classroom observations reveal about reading comprehension instruction. *Reading Research Quarterly*, 14(2), 481-533.
- Dyson, A. H., & Freedman, S. W. (1990, July). On teaching writing: A review of the literature. *National Center for the Study of Writing*. Retrieved December 8, 2011, <http://www.nwp.org/cs/public/print/resource/715>

- Efklides, A. (2012). Commentary: How readily can findings from basic cognitive psychology research be applied in the classroom? *Learning and Instruction, 22*, 290-295.
- Efklides, A. (2008). Metacognition: Defining its facets and levels of functioning in relation to self-regulation and co-regulation. *European Psychologist, 13*(4), 277-287.
- Emig, J. (1971). *The composing process of twelfth graders*. Urbana, IL: National Council of Teachers of English.
- Epiphany. (2013). In *Merriam-Webster.com*. Retrieved February 16, 2013, from <http://www.merriam-webster.com/dictionary/epiphany>
- Ericsson, K. A., Krampe, R. T., & Tesch-Romer, C. (1993). The role of deliberate practice in the acquisition of expert performance. *Psychological Review, 100*(3), 363-406.
- Fearn, L., & Farnan, N. (2007, Summer). The influence of professional development on young writers' writing performance. *Action in Teacher Education, 29*(2), 17-28.
- Fernandez-Duque, D., Baird, J. A., & Posner, M. I. (2000). Executive attention and metacognitive regulation. *Consciousness and Cognition, 9*, 288-307.
- Fisher, D., & Frey, N. (2007). *Checking for understanding: Formative assessment techniques for your classroom*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Fisher, D., Lapp, D., & Frey, N. (2011). Comprehension: The cooperation of many forces. In D. Lapp & D. Fisher (Eds.), *Handbook of research on teaching in the English language arts* (3<sup>rd</sup> ed.) (pp. 258-263). New York, NY: Routledge.
- Fitzgerald, J., & Shanahan, T. (2000). Reading and writing relations and their development. *Educational Psychologist, 35*(1), 39-50.
- Flavell, J. H. (1976). Metacognitive aspects of problem solving. In L. B. Resnick (Ed.), *The nature of intelligence* (pp. 231-235). Hillsdale, NJ: Lawrence Earlbaum Associates.
- Flavell, J. H. (1979). Metacognition and cognitive monitoring: A new area of cognitive-developmental inquiry. *American Psychology, 34*(10), 906-911.
- Flavell, J. H., Miller, P. H., & Miller, S. A. (2002). *Cognitive development* (4<sup>th</sup> ed.). Upper Saddle River, NJ: Prentice Hall.
- Flower, L. (1994). *The construction of negotiated meaning: A social cognitive theory of writing*. Carbondale, IL: Southern Illinois University Press.
- Flower, L., & Hayes, J. R. (1981, December). A cognitive process theory of writing. *College Composition and Communication, 32*(4), 365-387.

- Fordham, N.W. (2006). Crafting questions that address comprehension strategies in content reading. *Journal of Adolescent and Adult Literacy*, 49(5), 390-396.
- Framework for 21<sup>st</sup> century learning. (2009, December). *Partnership for 21<sup>st</sup> Century Skills*. Retrieved March 20, 2011, from [http://www.p21.org/documents/P21\\_Framework.pdf](http://www.p21.org/documents/P21_Framework.pdf)
- Freedman, S. W., Greenleaf, C., & Sperling, M. (1987). *Response to student writing* (NCTE Research Report No. 23). Urbana, IL: National Council of Teachers of English.
- Garner, R. (1987). *Metacognition and reading comprehension*. Norwood, NJ: Ablex Publishing Corporation.
- Garner, R. (1990). When children and adults do not use learning strategies: Toward a theory of settings. *Review of Educational Research*, 60(4), 517-529.
- Garner, R., & Alexander, P. A. (1989). Metacognition: Answered and Unanswered questions. *Educational Psychologist*, 24(2), 143-158.
- Gay, L.R., Mills, G.E., & Airasian, P. (2009). *Educational research: Competencies for analysis and applications* (9<sup>th</sup> ed.). Upper Saddle River, NJ: Pearson Education, Inc.
- Goldberg, G. L. (2012, Fall). Judgment-based scoring by teachers as professional development: Distinguishing promises from proof. *Educational Measurement: Issues and Practice*, 31(3), 38-47.
- Gourgey, A. F. (1998). Metacognition in basic skills instruction. *Instructional Science* 26, 81-96.
- Graff, N. (2010, February). Teaching rhetorical analysis to promote transfer of learning. *Journal of Adolescent and Adult Literacy*, 53(5), 376-385.
- Graham, S. (2006). Strategy instruction and the teaching of writing. In C. A. MacArthur, S. Graham, and J. Fitzgerald (Eds.), *Handbook of writing research* (187-207). New York, NY: The Guilford Press.
- Graham, S., & Perin, D. (2007). *Writing next: Effective strategies to improve writing of adolescents in middle and high schools* (Carnegie Corporation Report). Washington, DC: Alliance for Excellent Education. Retrieved on July 11, 2012, from <http://www.all4ed.org/files/WritingNext.pdf>
- Graves, D. H. (1983). *Writing: Teachers and children at work*. Portsmouth, NH: Heinemann Educational Books.
- Griffeth, P. L., & Ruan, J. (2005). What is metacognition, and what should be its role in literacy instruction? In S. E. Israel, C. C. Collins Block, K. L. Bauserman, and K. Kinnucan-Welsch (Eds.), *Metacognition in literacy learning* (pp. 3-18). Mahwah, NJ: Lawrence Erlbaum Associates, Publishers.

- Grisham, D. L., & Wolsey, T. D. (2011). Writing instruction for teacher candidates: Strengthening a weak curricular area. *Literacy Research and Instruction, 50*, 348-364.
- Guba, E. G. (1981, Summer). Annual review paper: Criteria for assessing the trustworthiness of naturalistic inquiries. *Educational Communication and Technology, 29*(2), 75-91.
- Guba, E. G., & Lincoln, Y. S. (1994). Competing paradigms in qualitative research. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (pp. 105-117). London: Sage.
- Guskey, T. (2000). *Evaluating professional development*. Thousand Oaks, CA: Corwin Press.
- Hacker, D. J., (1998). Definitions and empirical foundations. In D. J. Hacker, J. Dunlosky, and A.C. Graesser (Eds.), *Metacognition in educational theory and practice* (pp. 1-23). New York: Routledge.
- Hacker, D. J., Keener, M. C., & Kircher, J. C. (2009). Writing is applied metacognition. In D. J. Hacker, J. Dunlosky, & A. C. Graesser (Eds.), *Handbook of metacognition in education* (pp. 154-172). New York, NY: Routledge.
- Hammann, L. (2005). Self-regulation in academic writing tasks. *International Journal of Teaching and Learning in Higher Education, 17*(1), 15-26.
- Hammerness, K., Darling-Hammond, L., Bransford, J., Berliner, D., Cochran-Smith, M., McDonald, M., & Zeichner, K. (2005). How teachers learn and develop. In L. Darling-Hammond and J. Bransford (Eds.), *Preparing teachers for a changing world: What teachers should learn and be able to do* (pp. 358-389). San Francisco, CA: Jossey-Bass.
- Hayes, J. R., (1990). Individuals and environments and writing instruction. In B. F. Jones & L. Idol (Eds.), *Dimensions of thinking and cognitive instruction* (pp. 241-263). Hilldale, NJ: Lawrence Erlbaum Associates.
- Hayes, J. R., & Flower, L. S. (1986, October). Writing research and the writer. *American Psychologist, 41*(10), 1106-1113.
- Hillocks, G. (1982, October). The interaction of instruction, teacher comment, and revision in teaching the composing process. *Research in the Teaching of English, 16*(3), 261-278.
- Hillocks, G. (1995). *Teaching writing as reflective practice*. New York: NY: Teachers College Press.
- Hillocks, G. (2005, November). At last: The focus on form vs. content in teaching writing. *Research in the Teaching of English, 40*(2), 238-248.
- Horowitz, F. D., Darling-Hammond, L., Bransford, J., Comer, J., Rosebrock, K., Austin, K., & Rust, F. (2005). Educating teachers for developmentally appropriate practice. In L. Darling-Hammond and J. Bransford (Eds.), *Preparing teachers for a changing world:*

- What teachers should learn and be able to do* (pp. 88-125). San Francisco, CA: Jossey-Bass.
- International Reading Association. (2010). *Standards for reading professionals—revised 2010*. Newark, DE: Author.
- Joseph, N. (2003, Winter). Metacognition in the classroom: Examining theory and practice. *Pedagogy*, 3(1), 109-113.
- Joseph, N. (2010). Metacognition needed: Teaching middle and high school students to develop strategic learning skills. *Preventing School Failure*, 54 (2), 99-103.
- Kellogg, R. T. (2008). Training writing skills: A cognitive developmental perspective. *Journal of Writing Research*, 1(1), 1-26.
- Ketch, A. (2005, September). Conversation: The comprehension connection. *The Reading Teacher*, 59(1), 8-13. doi: 10.1598/RT.59.1.2
- Killion, J. (2002). *Assessing impact: Evaluating staff development*. Oxford, OH: National Staff Development Council.
- Kuhn, D. (1999). A developmental model of critical thinking. *Educational Researcher*, 28(16), 16-26. doi:10.3102/0013189X028002016
- Kuhn, D., & Dean, D. (2004, Autumn). A bridge between cognitive psychology and educational practice. *Theory into Practice*, 43(4), 268-273.
- Kuhrt, M., & Farris, P. (1990). Empowering students through reading, writing, and reasoning. *Journal of Reading*, 33(6), 436-441.
- Langer, J. A., & Applebee, A. N. (1986). Reading and writing instruction: Toward a theory of teaching and learning. *Review of Research in Education*, 13, 171-194.
- Langer, J. A., & Applebee, A. N. (1987). *How writing shapes thinking: A study of teaching and learning*. Urbana, IL: National Council of Teachers of English.
- Lawrence, S. A., Rabinowitz, R., & Perna, H. (2009). Reading instruction in secondary English language arts classrooms. *Literacy Research and Instruction*, 48(1), 39-64.
- Leat, D., & Lin, M. (2003). Developing a pedagogy of metacognition and transfer: Some signposts for the generation and use of knowledge and the creation of research partnerships. *British Educational Research Journal*, 29, 383-415.
- Leinhardt, G., & Greeno, J. G. (1986). The cognitive skill of teaching. *Journal of Educational Psychology*, 78(2), 75-95.

- Lesley, M., Watson, P., & Elliot, S. (2007, October). "School" reading and multiple texts: Examining the metacognitive development of secondary-level preservice teachers. *Journal of Adolescent & Adult Literacy*, 51(2), 150-162.
- Lin, X., Schwartz, D. L., & Hatano, G. (2005). Toward teachers' adaptive metacognition. *Educational Psychologist*, 40(4), 245-255.
- Livingston, J. (1997). *Metacognition: An overview*. Retrieved April 19, 2011, from University of New York Web site: <http://gse.buffalo.edu/fas/shuell/cep564/metacog.htm>
- Manzo, U. C., Manzo, A. V., & Thomas, M. M. (2009). *Content area literacy: A framework for reading-based instruction* (5<sup>th</sup> ed.). Hoboken, NJ: John Wiley & Sons.
- McCaslin, M., & Hickey, D. T. (2001). Self-regulated learning and academic achievement: A Vygotskian view. In B. J. Zimmerman & D. H. Schunk (Eds.), *Self-regulated learning and academic achievement: Theoretical perspectives* (2<sup>nd</sup> ed.) (pp. 227-252). Mahwah, NJ: Lawrence Erlbaum Associates, Publishers.
- McCombs, B. L., & Marzano, R. J. (1990). Putting the self in self-regulated learning: The self as agent in integrating will and skill. *Educational Psychologist*, 25(1), 51-69.
- McLaughlin, M., & DeVogd, G. (2011). Critical literacy as comprehension. In D. Lapp & D. Fisher (Eds.), *Handbook of research on teaching in the English language arts* (3<sup>rd</sup> ed.) (pp. 278-282). New York, NY: Routledge.
- Merriam, S. B. (1998). *Qualitative research and case study applications in education*. San Francisco, CA: Jossey-Bass.
- Molenaar, I., Van Boxtel, C. A. M., & Slegers, P. J. C. (2011). Metacognitive scaffolding in an innovative learning arrangement. *Instructional Science*, 39, 785-803. doi: 10.1007/s11251-010-9154-1
- Morewood, A. L., Ankrum, J. W., & Bean, R. M. (2010). Teachers' perceptions of the influence of professional development on their knowledge of content, pedagogy, and curriculum. In S. Szabo, M. B. Sampson, M. Foote, & F. Falk-Ross (Eds.). *Mentoring literacy professionals: Continuing the spirit of CRA/ALER after 50 years* (pp. 201-219). Commerce, TX: Association of Literacy Educators and Researchers.
- Morgan, D. N. (2010). Preservice teachers as writers. *Literacy Research and Instruction*, 49(4), 352-365.
- Mosenthal, J. H., Schwartz, R. M., & MacIssac, D. (1992). Comprehension instruction and teacher training: More than mentioning. *Journal of Reading*, 36 (3), 198-207.
- Moss, B., & Bordelon, S. (2007, Spring). Preparing students for college-level reading and writing: Implementing a rhetoric and writing class in the senior year. *Reading Research and Instruction*, 46(3), 197-221.

- Murray, D. (2004). *A writer teaches writing* (2<sup>nd</sup> ed.). Boston, MA: Thomson-Heinle.
- Nash-Ditzel, S. (2010, Spring). Metacognitive reading strategies can improve self-regulation. *Journal of College Reading and Learning*, 40(2), 45-63.
- National Council of Teachers of English. (1985). *Teaching composition: A position statement*. Urbana, IL: Author.
- National Institute of Child Health and Human Development. (2000). *Report of the National Reading Panel. Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction* (NIH Publication No. 00-4769). Washington, DC: U.S. Government Printing Office.
- National Research Council. (2000). *How people learn: Brain, mind, experience, and school*. J. D. Bransford, A. L. Brown, & R. R. Cocking, R. R. (Eds.). Commission on Behavioral and Social Sciences and Education. Washington, DC: National Academy Press.
- National Writing Project, & Nagin, C. (2006). *Because writing matters: Improving student writing in our schools*. San Francisco, CA: Jossey-Bass.
- Negretti, R. (2012). Metacognition in student academic writing: A longitudinal study of metacognitive awareness and its relation to task perception, self-regulation, and evaluation of performance. *Written Communication*, 29(2), 142-179. doi: 10.1177/0741088312438529
- Nelson, T. O. (1996, February). Consciousness and metacognition. *American Psychologist*, 51(2), 102-116.
- Nelson, T. O., & Narens, L. (1996). Why investigate metacognition? In J. Metcalfe and A. P. Shimamura, (Eds.), *Metacognition: Knowing about knowing* (pp. 1-25). Cambridge, MA: MIT Press.
- Nickerson, R., Perkins, D., & Smith, E. (1985). *The teaching of thinking*. Hillsdale, NJ: Erlbaum.
- Ormrod, J. E. (2011). *Educational psychology: Developing learners* (7<sup>th</sup> ed.) Upper Saddle River, NJ: Pearson Education, Inc.
- Palinscar, A. S., & Brown, A. L. (1984, Spring). Reciprocal teaching of comprehension-fostering and comprehension-monitoring activities. *Cognition and Instruction*, 1(2), 117-175.
- Palmer, P. (1993). *To know as we are known: Education as a spiritual journey*. San Francisco, CA: Harper Collins Publishers.
- Paris, S. G., Cross, D. R., & Lipson, M. Y. (1984). Informed strategies for learning: A program to improve children's reading awareness and comprehension. *Journal of Educational Psychology*, 76(6), 1239-1252).



- Paris, S. G., & Winograd, P. (1990). How metacognition can promote academic learning and instruction. In B. F. Jones & L. Idol (Eds.), *Dimensions of thinking and cognitive instruction* (pp. 15-51). Hilldale, NJ: Lawrence Erlbaum Associates.
- Parsons, S. (2012). Adaptive teaching in literacy instruction: Case studies of two teachers. *Journal of Literacy Research*, XX(X), 1-22. doi:10.1177/1086296X12440261
- Parsons, S. A., Davis, S. G., Scales, R. Q., Williams, B., & Kear, K. A. (2010). How and why teachers adapt their literacy instruction. In S. Szabo, M. B. Sampson, M. Foote, & F. Falk-Ross (Eds.), *Mentoring literacy professionals: Continuing the spirit of CRA/ALER after 50 years* (pp. 221-236). Commerce, TX: Association of Literacy Educators and Researchers.
- Parsons, S., Massey, D., Vaughn, M., Faircloth, B. S., Howerton, W. S., Griffith, R., & Atkinson, T. S. (2011, Spring). Developing teachers' reflective thinking and adaptability in graduate courses. *Journal of School Connections*, 3(1), 91-111.
- Parsons, S., Williams, B., Burrowbridge, S., & Mauk, G. (2011). The case for adaptability as an aspect of reading teacher effectiveness. *Voices from the Middle*, 19(1), 19-23.
- Patthey-Chavez, G. G., Matsumura, L. C., & Valdes, R. (2004, March). Investigating the process approach to writing instruction in urban middle schools. *Journal of Adolescent and Adult Literacy*, 47(6), 462-477.
- Paul, R. W. (1990). Critical and reflective thinking: A philosophical perspective. In B. F. Jones, and L. Idol (Eds.), *Dimensions of thinking and cognitive instruction* (pp. 445-494). Hillsdale, NJ: Lawrence Erlbaum Associates, Publishers.
- Paul, R. W. (2001). Dialogical and dialectical thinking. In A. Costa (Ed.), *Developing minds: A resource book for teaching thinking* (3<sup>rd</sup> ed.) (pp. 427-436). Alexandria, VA: Association for Supervision and Curriculum Development.
- Paul, R., & Elder, L. (2009a). Critical thinking development: A stage theory. *The Critical Thinking Community: Foundation for Critical Thinking*. Retrieved March 14, 2011, from [http://www.criticalthinking.org/aboutct/define\\_critical\\_thinking.cfm](http://www.criticalthinking.org/aboutct/define_critical_thinking.cfm)
- Paul, R., & Elder, L. (2009b). Defining critical thinking. *The Critical Thinking Community: Foundation for Critical Thinking*. Retrieved March 13, 2011, from [http://www.criticalthinking.org/aboutct/define\\_critical\\_thinking.cfm](http://www.criticalthinking.org/aboutct/define_critical_thinking.cfm)
- Pearson, D. P. (2007). An endangered species act for literacy education. *Journal of Literacy Research*, 39(2), 145-162.
- Perkins, D. N., & Salomon, G. (1992). The science and art of transfer. *International Encyclopedia of Education* (2<sup>nd</sup> ed.). Retrieved July 12, 2012, from <https://learnweb.harvard.edu/alps/thinking/docs/trancost.pdf>

- Peshkin, A. (2000, December). The nature of interpretation in qualitative research. *Educational Researcher*, 29(9), 5-9.
- Peterson, P. L., (1988, June/July). Teachers' and students' cognitional knowledge for classroom teaching and learning. *Educational Researcher*, 17(5), 5-14.
- Philippot, R., & Graves, M. F. (2009). *Fostering comprehension in English classes: Beyond the basics*. New York, NY: The Guilford Press.
- Pintrich, P. R. (2002, Autumn). The role of metacognitive knowledge in learning, teaching, and assessing. *Theory into Practice*, 41(4), 219-225.
- Posner, M. I., & Rothbart, M. K. (2007). *Educating the human brain*. Washington, DC: American Psychological Association.
- Pressley, M. (2002). Metacognition and self-regulated comprehension. In A. E. Farstrup & S. Samuels (Eds.) *What research has to say about reading* (pp. 291-309). Newark, DE: International Reading Association.
- Pressley, M. (2005). Final reflections: Metacognition in literacy learning: Then, now, and in the future. In S. E. Israel, C. C. Collins Block, K. L. Bauserman, and K. Kinnucan-Welsch (Eds.), *Metacognition in literacy learning* (pp. 391-411). Mahwah, NJ: Lawrence Erlbaum Associates, Publishers.
- Pressley, M. (2006). *Reading instruction that works: The case for balanced teaching* (3<sup>rd</sup> ed.). New York: The Guilford Press.
- Pressley, M., El-Dinary, P.B., Gaskins, I., Schuder, T., Bergman, J., & Almasi, L, et al. (1992). Beyond direct explanation: Transactional instruction of reading comprehension strategies. *Elementary School Journal*, 92, 511-554.
- Randi, J. (2004, September). Teachers as self-regulated learners. *Teachers College Record*, 106(9), 1825-1853.
- Reid, E. S. (2009, December). Teaching writing teachers writing: Difficulty, exploration, and critical reflection. *College Composition and Communication*, 61(2), 197-221.
- Risko, V. J., Roskos, K., & Vukelich, C. (2005). Reflection and the self-analytic turn of mind: Toward more robust instruction in teacher education. In S. E. Israel, C. C. Collins Block, K. L. Bauserman, and K. Kinnucan-Welsch (Eds.), *Metacognition in literacy learning* (pp. 315-333). Mahwah, NJ: Lawrence Erlbaum Associates, Publishers.
- Ritchhart, R. (2002). *Intellectual character: What it is, why it matters, and how to get it*. San Francisco, CA: Jossey-Bass.
- Roe, B. D., Stoodt-Hill, B. D., & Burns, P. C. (2011). *Secondary school literacy instruction: The content areas* (10<sup>th</sup> ed.). Belmont, CA: Wadsworth Cengage Learning.

- Rosemary, C. A. (2005). Teacher learning instrument: A metacognitive tool for improving literacy teaching. In S. E. Israel, C. C. Collins Block, K. L. Bauserman, and K. Kinnucan-Welsch (Eds.), *Metacognition in literacy learning* (pp. 351-371). Mahwah, NJ: Lawrence Erlbaum Associates, Publishers.
- Rosenblatt, L. M. (2004). The transactional theory of reading and writing. In R. B. Ruddell & N. J. Unrau (Eds.), *Theoretical models and processes of reading* (5<sup>th</sup> ed.) (pp. 1363-1398). Newark, DE: International Reading Association.
- Ross, P., & Gibson, S. A. (2010). Exploring a conceptual framework for expert noticing during literacy instruction. *Literacy Research and Instruction*, 49, 175-193. doi: 1080/19388070902923221
- Ruddell, R. B. (1995, March). Those influential literacy teachers: Meaning negotiators and motivation builders. *The Reading Teacher*, 48(6), 454-463.
- Sawchuck, S. (2010, November). Professional development at a crossroads. *Education Week*, 30(11), S2-S4.
- Schraw, G. (1998). Promoting general metacognitive awareness. *Instructional Science*, 26, 113-125.
- Schreiber, F. J. (2005). Metacognition and self-regulation in literacy. In S. E. Israel, C. C. Collins Block, K. L. Bauserman, and K. Kinnucan-Welsch (Eds.), *Metacognition in literacy learning* (pp. 215-239). Mahwah, NJ: Lawrence Erlbaum Associates, Publishers.
- Schunk, D. H., & Zimmerman, B. J. (2007). Influencing children's self-efficacy and self-regulation of reading and writing through modeling. *Reading & Writing Quarterly*, 23, 7-25. doi: 10.1080/10573560600837578
- Seidman, I. (2006). *Interviewing as qualitative research: A guide for researchers in education and the social sciences* (3<sup>rd</sup> ed.). New York, NY: Teachers College Press.
- Shanahan, T. (2006). Relations among oral language, reading, and writing development. In C. A. MacArthur, S. Graham, and J. Fitzgerald (Eds.), *Handbook of writing research* (171-183). New York, NY: The Guilford Press.
- Shulman, L. S. (1986, Feb.). Those who understand: Knowledge growth in teaching. *Educational Researcher*, 15(2), 4-14.
- Sitko, B. M. (1993). Exploring feedback: Writers meet readers. In A. M. Penrose and B. M. Sitko (Eds.), *Cognitive research in the college writing classroom* (170-187). New York: Oxford University Press.
- Sitko, B. M. (1998). Knowing how to write: Metacognition and writing instruction. In D. J. Hacker, J. Dunlosky, and A. C. Graesser (Eds.), *Metacognition in educational theory and practice* (pp. 99-115). New York: Routledge.

- Smith, C. H. (2010, May). "Diving in deeper": Bringing basic writers' thinking to the surface. *Journal of Adolescent and Adult Literacy*, 53(8), 668-676.
- Smith, L. (2001, November). *Implementing the reading-writing connection*. Retrieved from <http://literacymethods.wikispaces.com/file/view/SCP98.8.pdf>
- Spandel, V. (2008). *Creating writers through 6-Trait writing: Assessment and instruction* (5<sup>th</sup> ed.). Boston, MA: Allyn & Bacon.
- Stake, R. (1995). *The art of case study research*. Thousand Oaks, CA: Sage.
- Sternberg, R. J. (1998). Metacognition, abilities, and developing expertise: What makes an expert student? *Instructional Science*, 26, 127-140.
- Stewart, P. W., Cooper, S. S., & Moulding, L. R. (2007). Metacognitive development in professional educators. *The Researcher*, 21(1), 32-40.
- Stolp, S., & Zabrucky, K. M. (2009, October). Contributions of metacognitive and self-regulated learning theories to investigations of calibration of comprehension. *International Electronic Journal of Elementary Education*, 2(1), 7-31.
- Summary of NCTE executive committee discussion on adolescent and young adult literacy. (1998-2011). *NCTE: National Council of Teachers of English*. Retrieved from <http://www.ncte.org/governance/AdolescentLiteracy>
- Tierney, R. J., & Pearson, P. D. (1983). *Toward a composing model of reading* (Reading Education Report No. 43). Retrieved from University of Illinois at Urbana-Champaign, Center for the Study of Reading: <http://www.eric.ed.gov/PDFS/ED233329.pdf>
- Tracy, D. H., & Morrow, L. M. (2006). *Lenses on reading: An introduction to theories and models*. New York: The Guilford Press.
- Vacca, R. T., & Alvermann, D. E. (1998, October). The crisis in adolescent literacy: Is it real or imagined? *National Association of Secondary School Principals*, 82(600), 4-9.
- Vacca, R. T., & Vacca J. L. (2007). *Content area reading: Literacy and learning across the curriculum* (9<sup>th</sup> ed.). Boston, MA: Allyn & Bacon.
- Valerie, L. M. (2012). Professional development that works: Results from an Invitational Summer Institute for teachers of writing. *The NERA Journal*, 47(2), 31-42.
- Van Manen, M. (1990). *Researching lived experience: Human science for an action sensitive pedagogy*. New York: State University of New York Press.
- Veenman, M. V. J., Van Hout-Wolters, B. H. A. M., & Afflerbach, P. (2006). Metacognition and learning: Conceptual and methodological considerations. *Metacognition and Learning*, 1, 3-14. doi: 10.1007/s11409-006-6893-0

- Vygotsky, L. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.
- Vygotsky, L. (1934/1986). *Thought and language*. Cambridge, MA: The MIT Press.
- Wells, J. (2011). They can get there from here: Teaching for transfer through a “writing about writing” course. *English Journal*, 101(2), 57-63.
- Wharton-McDonald, R. (2008). The dynamics of flexibility in effective literacy teaching. In K. B. Cartwright (Ed.), *Literacy processes: Cognitive flexibility in learning and teaching* (pp. 342-358). New York: The Guilford Press.
- Wharton-McDonald, R., Pressley, M., & Mistretta Hampston, J. (1998). Literacy instruction in nine first-grade classrooms: Teacher characteristics and student achievement. *The Elementary School Journal*, 99(2), 101-128.
- Wilson, J. (1985, December). The role of metacognition in English education. *English Education*, 17(4), 212-221.
- Wilson, N. S., & Bai, H. (2010, October). The relationships and impact of teachers’ metacognitive knowledge and pedagogical understandings of metacognition. *Metacognition Learning*, 5, 269-288. doi: 10.1007/s11409-010-9062-4
- Wilson, N. S., Grisham, D. L., & Smetana, L. (2009, May). Investigating content area teachers’ understanding of a content literacy framework: A yearlong professional development initiative. *Journal of Adolescent & Adult Literacy*, 52(8), 708-718. doi:10.1097/004-8431.43.392
- Witte, S. P. (1992). Context, text, intertext: Toward a constructivist semiotic of writing. *Written Communication*, 9, 237-308.
- Wolsey, T. D. (2010). Complexity in student writing: The relationship between the task and vocabulary uptake. *Literacy Research and Instruction*, 49(2), 194-208.
- Wolsey, T. D. (2012, May). Students’ and teachers’ perceptions: An inquiry into academic writing. *Journal of Adolescent and Adult Literacy*, 55(8), 714-724.
- Yin, R. K. (2009). *Case study research: Design and methods* (4<sup>th</sup> ed.). Thousand Oaks, CA: SAGE Inc.
- Zimmerman, B. (1990). Self-regulated learning and academic achievement: An overview. *Educational Psychologist*, 25(1), 3-17.
- Zimmerman, B. (1995). Self-regulation involves more than metacognition: A social cognitive perspective. *Educational Psychologist*, 30(4), 217-221.

Zimmerman, B. (2001). Theories of self-regulated learning and academic achievement: An overview and analysis. In B. J. Zimmerman & D. H. Schunk (Eds.), *Self-regulated learning and academic achievement: Theoretical perspectives* (2nd ed.) (pp. 1-37). Mahwah, NJ: Lawrence Erlbaum Associates, Publishers.

Zimmerman, B. J., & Cleary, T. J. (2006). Adolescents' development of personal agency: The role of self-efficacy beliefs and self-regulatory skill. In F. Pajares and T. Urdan (Eds.), *Self-efficacy beliefs of adolescents* (pp. 45-70). Greenwich, CT: Information Age Publishing.

Zohar, A. (1999). Teachers' metacognitive knowledge and the instruction of higher order thinking. *Teaching and Teacher Education*, 15, 413-429.

# Appendix A – MPS’ 10<sup>th</sup> Grade Writing Rubric



## High School Writing Scoring Rubric

Criteria	3 Points EXCEPTIONAL Skill	2 Points STRONG Skill	1 Point DEVELOPING Skill	0 Points The writer has not demonstrated necessary skills.
<i>Idea Development and Organization</i>				
<b>Thesis Statement</b>	Thesis is engaging and specific; goes beyond the obvious. Thesis directs the topic and purpose. In persuasive, position is obvious.	Thesis is specific and directs the topic and purpose. In persuasive, position is obvious.	Thesis announces topic and purpose.	Thesis is not present.
<b>Introduction</b>	Uses effective hook/attention getter and provides unexpected yet appropriate background information.	Uses effective hook/attention getter with relevant, controlled background information.	Uses weak hook/attention getter. Background information lacks control.	The introduction is not present.
<b>Conclusion</b>	Provides resolution/closure by revisiting hook and/or major details with fresh phrasing. Persuasive includes a call to action.	Links the conclusion directly to introduction without complete repetition; may incorporate hook. Persuasive includes a call to action.	Conclusion is ineffective, awkward, or merely repeats the introduction, thesis, and main ideas.	The conclusion is not present.
<b>Main Ideas</b>	Main ideas stand out and are varied and original.	Main ideas are evident.	Main ideas are repetitive, random, and/or lack focus.	The main ideas are not evident, disconnected, irrelevant thoughts are listed.
<b>Supporting Details</b>	A variety of details and examples explore and enhance the main ideas.	Relevant details and examples support main ideas.	Limited or repetitive details are listed that support the main ideas.	Supporting details are consistently irrelevant.
<b>Order</b>	Uses intentional sequencing that emphasizes the strengths of the paper.	Parallels introduction/thesis; paragraphs present supporting details where they fit.	Misplaces order of some paragraphs and/or supporting details within the paragraphs.	There is no order of paragraphs and similar details are not grouped together.
<b>Transitions</b>	Uses smooth and effective transitions between and within paragraphs. Includes transitional link to next main idea.	Uses smooth and effective transitions.	Uses basic/mechanical transitions.	Transitions are not present.
<i>Voice and Word Choice</i>				
<b>Commitment</b>	Commitment to topic is expressive, engaging, and consistent throughout the piece.	Commitment to topic is expressive and consistent, but may not be engaging.	Commitment to topic is inconsistent, and may not be expressive or engaging.	Commitment and involvement are not evident.
<b>Tone</b>	The writer is aware of the reader and communicates the message effectively. The reader discerns the writer behind the words and feels a sense of interaction.	The writer conveys his/her attitude toward audience and subject matter.	The writer conveys his/her attitude toward subject matter without considering the audience.	The writer does not demonstrate his/her attitude toward subject or audience.
<b>Vocabulary/Accuracy</b>	Vocabulary is precise, vivid, active, and natural, enhancing the intended message.	Vocabulary is accurate and active, contributing to the intended message.	Vocabulary is mostly accurate but ordinary, contributing to the message in a limited way.	Vocabulary is used inaccurately, detracting from the message.
<i>Sentence Fluency</i>				
<b>Sentence Fluency</b>	Uses varied and complex sentence structures, lengths, and beginnings crafted to guide the reader throughout the paper.	Uses varied sentence structures, lengths, and beginnings.	Uses limited or repetitious sentence structures, lengths, and beginnings.	Uses only fragments and/or run-ons throughout.

Continue on Back . . .

Rater ID	

	2 Points	1 Point	0 Points
Criteria	STRONG Skill	DEVELOPING Skill	The writer has not demonstrated necessary skills.
<i>Conventions</i>			
<b>Spelling</b>	Consistent spelling of common and complex words. ③	Spells most common words correctly, but is inconsistent when using more complex words. ①	Misspells most common and complex words. ②
<b>Grammar Usage</b>	Demonstrates a consistent, accurate use of grammar. ③	Demonstrates an inconsistent use of grade-appropriate grammar. ①	Demonstrates incorrect use of grade-appropriate grammar throughout piece. ②
<b>Punctuation</b>	Demonstrates a consistent and accurate use of grade-appropriate punctuation. ③	Grade-appropriate punctuation is inconsistently used. ①	Frequency of punctuation errors impairs readability. ②
<b>Capitalization</b>	Capitalization is accurate throughout the writing. ③	Capitalization is inconsistent throughout the writing. ①	Lacks capitalization throughout. ②

Criteria	3 Points	0 Points
<b>Follows Mode</b>	Yes ①	No ②
<b>Addresses Prompt</b>	Yes ①	No ②



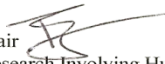
## Appendix B – IRB Approval



University Research Compliance Office

TO: Lotta Larson  
Curriculum & Instruction  
212 Bluemont

Proposal Number: 6300

FROM: Rick Scheidt, Chair   
Committee on Research Involving Human Subjects

DATE: July 17, 2012

RE: Proposal Entitled, "Exploring Experienced Secondary Writing Teachers' Thinking: An Avenue to Professional Development"

The Committee on Research Involving Human Subjects / Institutional Review Board (IRB) for Kansas State University has reviewed the proposal identified above and has determined that it is EXEMPT from further IRB review. This exemption applies only to the proposal - as written - and currently on file with the IRB. Any change potentially affecting human subjects must be approved by the IRB prior to implementation and may disqualify the proposal from exemption.

Based upon information provided to the IRB, this activity is exempt under the criteria set forth in the Federal Policy for the Protection of Human Subjects, **45 CFR §46.101, paragraph b, category: 1, subsection: i.**

Certain research is exempt from the requirements of HHS/OHRP regulations. A determination that research is exempt does not imply that investigators have no ethical responsibilities to subjects in such research; it means only that the regulatory requirements related to IRB review, informed consent, and assurance of compliance do not apply to the research.

Any unanticipated problems involving risk to subjects or to others must be reported immediately to the Chair of the Committee on Research Involving Human Subjects, the University Research Compliance Office, and if the subjects are KSU students, to the Director of the Student Health Center.

## Appendix C – Participant Letter

September 4, 2012

Dear Participant,

This letter invites you to participate in a qualitative research study that will investigate secondary writing teachers' thinking. The purpose of this study is to explore and describe experienced writing teachers' metacognition when reading and responding to student essays during a range-finding process for 10th grade persuasive/expository essays. In collaboration with the [REDACTED] district, I, as primary researcher, seek to study the thinking processes and patterns of writing teachers known as sophisticated to better inform professional development practices.

As a participant in the study and practicing [REDACTED] teacher, you will fulfill the range-finding objectives outlined by the [REDACTED] administrators. The study does not ask any additional time or tasks from you, except for your presence and participation in a focus group interview during lunch on the second day of the range-finding event, with fellow participants. As researcher, I will collect data as participants read students' papers individually and collaboratively; think aloud; evaluate, rate, and discuss writing quality with the analytic scoring rubric; take notes; compose annotations; and reflect upon their own thinking processes.

All participants will remain anonymous; they will not be used in the final research report or any subsequent documents or publications, nor will the district itself—directly or indirectly. Participation in this study is strictly voluntary, and participants may withdraw at any time.

If you have any questions, you may call me at (402) 223-9484. You may also call Dr. Lotta Larson, my major professor at Kansas State University, at (785)-532-5135 or email her at [lottalarson@k-state.edu](mailto:lottalarson@k-state.edu). Questions regarding the rights of human subjects should be addressed to Rick Scheidt, Chair of the Committee on Research Involving Human Subjects, or Jerry Jaax, Associate Vice Provost for Research Compliance and University Veterinarian, at (785) 532-3224.

A participant consent form is attached to this letter. After reading it carefully, please sign and return one copy of the consent form to [REDACTED], as soon as possible. I will provide an extra signed and dated copy of the consent form for you to keep in your records.

I appreciate your consideration of this invitation and look forward to working with you during this exploration of the important construct of teachers' metacognition in the writing teacher.

Sincerely,

Joy Martin  
(402) 223-9484  
[jmartina@k-state.edu](mailto:jmartina@k-state.edu)

# Appendix D – Participant Informed Consent Form

## KANSAS STATE UNIVERSITY

### Participant Informed Consent Form

**PROJECT TITLE:** Exploring Experienced Secondary Writing Teachers' Thinking: An Avenue to Professional Development

**APPROVAL DATE OF PROJECT:** July 2012      **EXPIRATION DATE OF PROJECT:**

**PRINCIPAL INVESTIGATOR:** Dr. Lotta Larson, Ph.D./ K-State Assistant Professor/785-532-5135/ lottalarson@k-state.edu

**CO-INVESTIGATOR(S):** Joy Martin, Doctoral Candidate/402.223.9484/jmartina@k-state.edu

**CONTACT NAME AND PHONE FOR ANY PROBLEMS/QUESTIONS:**

Dr. Lotta Larson - 785-532-5135

Joy Martin – 402-223-9484

**IRB CHAIR CONTACT/PHONE INFORMATION:**

- Rick Scheidt, Chair, Committee on Research Involving Human Subjects, 203 Fairchild Hall, Kansas State University, Manhattan, KS 66506, (785) 532-3224.
- Jerry Jaax, Associate Vice President for Research Compliance and University Veterinarian, 203 Fairchild Hall, Kansas State University, Manhattan, KS 66506, (785) 532-3224.

**PURPOSE OF THE RESEARCH:** Using an instrumental, collective case study approach, this qualitative study seeks to explore and describe experienced writing teachers' thinking when reading and responding to student essays during a range finding process for 10th grade persuasive/expository essays in order to inform professional development practices.

**PROCEDURES OR METHODS TO BE USED:** Through observations, interviews, and teacher annotations, the researcher would like to gain a deeper understanding of how the teachers' perceptions of their own cognition and metacognition influence their reading of and responding to student essays. Observations and interviews will be audio recorded and transcribed. All data and findings will be reviewed by a peer reviewer and the district's Director of Research, Assessment, and Evaluation.

**LENGTH OF STUDY:** September 2012 – September 2013

**RISKS OR DISCOMFORTS ANTICIPATED:** None

**BENEFITS ANTICIPATED:** Participants will participate in individual, small group, and large group reflections and discussions regarding their thinking while reading and responding to student essays in order to provide the district with anchor essays and illuminate cognitive and metacognitive knowledge, experiences, goals, and actions that could inform professional development in writing instruction.

**EXTENT OF CONFIDENTIALITY:** All references to names and identifiable locations will be changed or omitted in the final transcripts and in any documents or publications relating to the study.

**TERMS OF PARTICIPATION:** I understand this project is research and that my participation is completely voluntary. I also understand that if I decide to participate in this study, I may withdraw my consent at any time, and stop participating at any time without explanation, penalty, or loss of benefits, or academic standing to which I may otherwise be entitled.

I verify that my signature below indicates that I have read and understand this consent form, and willingly agree to participate in this study under the terms described, and that my signature acknowledges that I have received a signed and dated copy of this consent form.

Participant Name: \_\_\_\_\_ Date: \_\_\_\_\_

Participant Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Witness to Signature: (project staff) \_\_\_\_\_ Date: \_\_\_\_\_

## Appendix E – District Endorsement of Research Study

To: Joy Martin  
From: [REDACTED]  
Assessment, Research, and Evaluation  
CC: [REDACTED]  
Date: 8/27/12  
Re: Request to conduct research in [REDACTED]

In accordance with [REDACTED] this notification qualifies as your approval to conduct research in [REDACTED] under the following provisions:

- [REDACTED] is not identified directly or indirectly.
- All adult participants have the choice to participate in their comments being used and the choice participate in the focus group.
- The focus group question time of day two range finding event does not exceed the time of the planned lunch break.
- No compensation will be collected from the primary researcher nor shall the primary researcher provide compensation in any form to [REDACTED] teacher or student participants.
- Student work, before being used in research results, will be approved by the [REDACTED] Director of Assessment, Research and Evaluation. No student will be directly or indirectly identified.
- The role of the primary researcher during the range finding experience will be to collect adult comments and reflections during the process. All primary researcher notes will be made available to [REDACTED] Director of Assessment, Research and Evaluation. The primary researcher will collaborate with Department of Assessment, Research and Evaluation to summarize key results of the range finding process.
- Upon completion of the study, you will provide the [REDACTED] Director of Assessment, Research and Evaluation with a summary of findings and, if applicable, a complete report of procedures and findings.

We wish you the best in your study and look forward to reviewing the results at the completion of your work.

## Appendix F – Rubric Supplement

### Examples from student writing to help you score

#### **Thesis Examples**

**This is usually towards the end of the introduction, but it does not have to be.**

3: *Sadly, this resource isn't used in a way that people could get the best possible benefits from it. In fact, people should avoid watching too much television because the content of many TV programs is not educational, it makes people waste time that could be used in more beneficial activities, and it negatively affects people's mental development.*

2: *My family is unique because we enjoy many hobbies such as fishing, hiking, and snow skiing.*

OR

2: *an umbrella thesis—My family is unique because we enjoy many hobbies that most families rarely have a chance to experience.*

1: *Next I am going to tell you about.../In this paper you will read about...*

**For a 1 it must announce what is coming.**

#### **Introduction Examples**

3: *Being able to work hard is a crucial trait on the road to success. The younger kids start learning to work, the better off they will be in the future. School is very important for a student but that education cannot be utilized to its full potential without the will to work. It is very important for high school students to have jobs because it teaches them to work hard, lets them deal with money, and prepares them for the real world.*

2: *Most of you may say to yourself what could be fun about high school? Most people would quickly say nothing because all they think of is the work. If they actually thought about it, they would find out Olathe South has plenty to offer new students. Olathe South is a great school and if you get involved enough, you can have a great time. New incoming students will be very pleased with South if they join activities such as athletics, homecoming, and student council.*

1: *Students should not have part-time jobs and here are some reasons why. If anything, students should wait till they are 18. Also they should enjoy and live their life as a teenager. Finally students should just focus on school not a job.*  
**1 is labeled as "developing", and "awkward" fits here as well.**

0: *Not introduction is written OR there is only a thesis statement.*

2/2/12

### **Conclusion Examples**

3: *To work hard, use money, and know the real world are characteristics that improve your quality as a person. Things get done in the world today because of the hard work and effort that people put out. A part-time job will teach a student how to use their money and teach them about the world. There is no better step a student can take for themselves than to start working early.*

2: *As you can see, there are plenty of fun options for new students here at Olathe South. Now if you are bored at home on Friday nights, come watch football for tons of fun! Olathe South is a great school because of its athletics, homecoming, and student council.*

1: *There are many things to tell but these are just the basics. Still, knowing about classes, sports, and the school store will give you an edge.*

**1 is labeled as "developing", and "awkward" fits here as well.**

### **Transitions**

3: *Open and link statements as well as adjacent paragraphs (similarly, however, consequently, further more, because, since due to, for this reason, etc...). Seem to bring closure to one thought before tying into or moving on to the next.*

2: *Strong transitions typically at the beginning and some used within or at end of paragraph (similarly, however, consequently, further more, because, since due to, for this reason, etc...)*

1: *Basic/mechanical transitions (first, then, next, last, second, third, finally).*

0: *If a student has even one transition, you must give them a "1."*

### **Sentence Fluency**

1 is labeled as "developing", and "awkward" fits here as well.

**Comma Splice:** *The UPS truck is here, I hope my new book is in it!  
The student knew to pause and used a comma rather than a period. This is a punctuation issue.*

**True Run-on:** *The UPS truck is here I hope my new book is in it!  
The student did not account for any pause whatsoever. This is a sentence fluency issue.*

2/2/12

### Conventions

**Homophone errors:** where/wear or then/than *you/your*  
This is a ~~spelling~~ *everyday* issue.  
*may*

**Apostrophe errors:** its vs. it's; Dads (Dad's) recipe; wont (won't)  
This is a punctuation issue.

**Comma Splice:** The UPS truck is here, I hope my new book is in it!  
The student knew to pause and used a comma rather than a period. This is a  
punctuation issue.

**True Run-on:** The UPS truck is here I hope my new book is in it!  
The student did not account for any pause whatsoever. This is a sentence fluency  
issue.

2/2/12