TEACHING THE WRITING MIND: 
COGNITIVE APPROACHES TO COMPOSITION

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Writing’s Connection to Thinking

In his monumental essay, “Writing is a Technology that Restructures Thought,” Walter Ong examines “the normal oral or oral-aural consciousness and noetic economy of humankind before writing came along” in order to “grasp what writing accomplished” in terms of transforming consciousness (19). Ong finds that indeed, writing has done a great deal for humanity. Writing provides us with external memory stores, upon which we rely heavily. Furthermore, it allows us to engage in “protracted, intensive linear analysis” that is only possible when certain thoughts are held in place through text (Ong 22). Ong goes so far as to argue that writing is one of humanity’s most significant technologies, not only for what it has allowed us to do, but for how it has changed the way we think. He claims that although “we take writing so much for granted as to forget that it is a technology…It initiated what printing and electronics only continued, the physical reduction of dynamic sound to quiescent space, the separation of the word from the living present” (22). Indeed, the use of the technology of writing, Ong writes, “can enrich the human psyche, enlarge human spirit, set it free, intensify its interior life” (24). If writing and literacy are so valuable to the human species, it seems almost imperative that students learn to use them fully to benefit from the possibilities of extended thought.

Arthur Applebee takes up Ong’s question in “Writing and Reasoning,” beginning by scrutinizing the United States’ educational system’s continual focus on writing as a key part of the curriculum. Applebee asks, “What contribution, if any, does written language make to intellectual development?” (577). With this question, Applebee gets at the heart of a key debate in today’s educational system. He provides the following explanation for how writing affects thinking:

The role of writing in thinking is usually attributed to some combination of four factors: (a) the permanence of the written word, allowing the writer to rethink and revise over an extended period; (b) the explicitness required in writing, if meaning is to remain constant beyond the context in which it was originally written; (c) the resources provided by the conventional forms of discourse for organizing and thinking through new ideas or experiences and for explicating the relationships among them; and (d) the active nature of writing, providing a medium for exploring implications.
entailed within otherwise unexamined assumptions. (577)

Applebee finds much broad support for his theory in his 1984 review of research, but he is careful to note that perhaps literacy and schooling have more effect than the practice of writing alone. Since then, however, numerous studies, including those described in Applebee’s 2007 book-length work on the subject with Judith Langer, *How Writing Shapes Thinking*, give evidence that writing can be a method for learning. The general consensus on the matter is testified to by continued interest in “writing across the curriculum” programs, which seek to use writing for learning and thinking throughout the disciplines. Furthermore, research has begun to explain how this learning takes place, demonstrating how writing about a subject actually does reconstitute the way we understand it.

Despite the promising research, we must consider whether all writing is equally effective at fostering reasoning skills. As I will argue, if students gain increased metacognitive awareness of their writing and its process, they will engage more deeply with it and will practice the kind of writing that transforms knowledge, providing the cognitive benefits that Applebee seeks. Moreover, the methods we can use to teach writing as tool for thinking also teach students to be reflective writers, helping students learn to use their writing for their own benefit, allowing them to use the human technology that has done so much for our forebears. Although it is quite obvious to experienced writers that writing is akin to thinking, novice writers may be astounded to realize that they become deeply cognitively invested in anything they write. If they can learn to harness this aspect, they can learn to write with their brains. I agree with Ong that “Writing is a consciousness-raising and humanizing technology,” and I believe we can teach students to see it this way and to value it, which is a powerful key to becoming a good writer (31).

**Developing Metacognition through Reflection**

While we understand that writing can affect our thinking, there remains much debate on exactly how that happens, and on how we can harness that ability for our benefit. Is it enough to merely have students write more frequently? Part of the answer may be found in the arguments of numerous composition theorists whose focus on the writing process came to the forefront in the 1980s. Thinkers such as Kathleen Blake Yancey and Linda Flower assert that we should teach students to write reflectively; that is, encouraging them to engage more deeply with their own writing, “putting multiple perspectives into
play with each other in order to produce insight” (Yancey 6). This practice of reflection is precisely what fosters greater metacognitive awareness in students. Indeed, Ong argues that writing itself is the first level of metacognition. He writes, “By distancing thought, alienating it from its original habitat in sounded words, writing raises consciousness” (23). While students must write frequently, they must also be engaged in the process through practiced reflection, becoming metacognitively aware of their own practices and habits, as well as the thoughts they have while writing. Yancey values this process for its aid in setting “specific goals for learning…strategies for reaching those goals…and…means of determining whether or not we have met those goals” (6). Through cognitive science, moreover, we find additional support for reflective writing. Research shows that reflective writing promotes the very skills that Applebee so desperately wants to impart to his students: the ability to think and to reason. If we can teach students to understand their writing as thinking and to reflect actively on it, we can infuse our writing instruction with greater value.

In this project, I interpret the work of composition theorists Yancey and Flower, as well as writing and cognition researchers and theorists, Ronald T. Kellogg and Carl Bereiter and Marlene Scardamalia, to develop a system that uses metacognition to teach many aspects of writing. Based on my research, I have identified several levels of metacognition that are valuable for writers: metacognitive awareness of the self-talk that happens during writing, of the change in thinking that takes place over time, of the process itself, and of the end product of writing. I will later demonstrate specific practices of reflection that can be incorporated into any classroom to help students develop each kind of metacognitive awareness.

**Using a Blog to Teach Writing as Thinking**

Based on what we know writing can do for an individual’s mind, we have the opportunity to communicate this understanding to our students, and in this way communicate to them the inherent value of writing and its possible benefit to them. In order to teach this type of writing as thinking, it is vital that students have opportunities to write frequently in a valued but low-pressure situation, such as a participation-required course blog. I will give specific recommendations for the development of the blog in the following chapters, but the underlying principle is that students should be able to see their writing and thinking changing over the course of the semester. They will practice the habit of writing, and discuss their
experiences with the process. This makes writing less foreign and directly demonstrates to them their own writing as thinking. Their blogs will also serve as pre-writing for any assigned essays, and will aid in their understanding of concepts from their coursework.

It is important to note the significance of using a blog for these assignments. Although personal journals of any kind could serve a similar purpose, a course blog or set of connected blogs would allow students to read each other’s writing, which, as a reflection of their own, would give them another perspective on themselves as writers. Likewise, individual posts can be set to private or shared selectively, which gives the teacher a lot of flexibility according to the students’ needs. Andrew Sullivan, an avid blogger and writer for The Atlantic, writes in “Why I Blog” that the instant reader feedback that blogging provides is both a benefit and a challenge. The feedback is often criticism of his opinions or corrections to his claims, but it also provides new ideas for future posts. A course blog would differ in that it would likely be limited to the members of the class, who would be encouraged to avoid being overly harsh with each other. Instead of seeing each other strictly as editors or challengers, they should consider themselves a community of thinking writers. The feedback, then, should be a highly constructive, direct and immediate form of peer revision.

An additional benefit of the blog is that its form provides an excellent space for students to casually work through their thoughts in writing. Blogs are instances of writing that are self-published to at least some readership, which give them a more obvious and immediate purpose than personal journaling, but the informal writing that is expected in blogs allows students to use them to practice writing with minimal pressure. Sullivan echoes this notion, writing that blogs reward “a colloquial, unfinished tone” (2). Sullivan, who began blogging near the beginning of the explosion of the form’s popularity in 2000, uses a method similar to what students should use. Blogging requires much less formality than newspaper articles, and when he began blogging he “wrote as I’d write an e-mail--with only a mite more circumspection” (2). While blogs are not quite as fluid as stream-of-consciousness writing, they are easy to write because they do not carry the same restrictions that more formal writing does.

Most importantly, perhaps, Sullivan precisely identifies the reason that I find the blog to be particularly useful for teaching students to understand their writing as thinking. Comparing the writings of
Blaise Pascal and Thomas Aquinas, Sullivan writes that what makes Pascal’s writing much more “compelling” is that his *Pensées* “is a series of meandering, short, and incomplete stabs at arguments, observations, insights,” unlike the “polished treatise” of Aquinas (3). Like Pascal, blogging writers understand the “provisionality” of any written work and use their blog posts as steps in a journey to greater understanding. Sullivan also compares blogging to the writing of Montaigne, who published his essays in series, each amending and adding to the previous edition. Montaigne’s writing demonstrates what I want students to understand: that “a writer evolves, changes his mind, learns new things, shifts perspectives, grows older” (3). With each blog post, students will see their thoughts developing in a similar manner.

Interestingly, Sullivan indicates that blogs can often be written using knowledge-telling. He writes that while a blogger may “air a variety of thoughts or facts on any subject in no particular order other than that dictated by the passing of time,” which is typically how knowledge-tellers compose, a formal writer would likely spend time “synthesizing these thoughts, ordering them, weighing which points count more than others, seeing how [the writer’s] views evolved in the writing process itself, and responding to an editor’s perusal of a draft or two” (4). The difference between what I intend for the blog and how Sullivan observes they can be used is that the knowledge-transformation that takes place during formal, extended writing can also take place over the course of several blog entries, especially when coupled with developmental reflections, which I will discuss in chapter three. My students will be using the blog as a form of prewriting, as the space in which they begin to synthesize and organize their thoughts prior to committing them to a formal assignment.

Not surprisingly, Sullivan also indicates that the transition from the blog to a formal written piece can be a knowledge-transforming event. To write the essay for *The Atlantic*, he had to return to the “shards and fragments” of it that have appeared in his blog and “order them in my head and think about them for a longer stretch” in order to use them in his piece (4). This process affected his relationship with his ideas by helping him to “understand them better, and perhaps express them more clearly” (4). This is precisely the purpose of having students’ writing begin on the blog, become more coherent in developmental reflections on it, and become polished and clear in formal papers.

**Getting Students Involved in Learning**
While blogging might be a more appealing way to write for technologically-inclined modern students, they still may resist investing in the process of learning to write. Because “true” reflection cannot be verified, students must be personally motivated to remain involved in their own learning processes, which is the only way they will fully benefit from reflection. Yancey argues that reflection is a key to getting students involved in their own learning, but to get students to actively reflect requires that they believe that what they are doing will actually benefit them. Research from Ellen Lavelle and Nancy Zuercher suggests that in order to encourage the development of reasoning skills through reflective writing, we must also get students involved cognitively by teaching them what reflective writing can do for their minds.

Lavelle and Zuercher set out to determine whether the way students view writing affects how they engage with it and therefore how they perform. By conducting interviews with students after a writing trial, they analyzed students’ views of themselves as writers, and of writing in general. A portion of the students’ testimonies revealed that they already engage in reflective writing. However, many students exhibited one or several of the three dominant “surface” approaches the researchers identified: Low self-efficacy, Procedural, and Spontaneous-Impulsive. These are characteristics of students who tend to dislike writing and see themselves as poor writers, and/or those who pay little attention to the writing process. Ultimately, they determined that “It is the writer’s relationship to writing which serves as a defining motivational factor” in students (384). While Lavelle and Zuercher advocate methods such as creating meaningful, clearly defined writing tasks and avoiding point-based grading rubrics in order to help change students’ opinions of, and therefore approaches to writing, I argue that if we explicitly teach students how to use writing for their own benefit as thinkers, they will be better able to grasp it as a cognitive task, one that they can practice and improve. Furthermore, we can teach them the reasons behind the recommendations we give them.

The introduction of the blog is the place to begin discussing writing as a process of thought. Simply telling students that writing is thinking is unlikely to immediately enable them to use it as such, but certain exercises and methods will begin to make it apparent. It is important to use classroom discussion to set the tone of the approach to writing. When speaking about writing with our students, we can discuss it in
terms of the thought process that goes into it and of which it is a part. Classroom discussions would involve questions about the value and uses of writing, how the students’ relationships with writing are changing (or not), and what the writing process is for each student. Furthermore, writing would be characterized as a human project, one that can be used for communicating clearly and thinking deeply in a variety of situations: personal, professional, or academic. In conjunction with learning how to be reflective writers, students will learn why. These conversations are an important part of the typical classroom discussion that takes place when introducing the assignment. In addition to discussing the general guidelines of a research paper, teachers can also talk about the process of writing. Teachers of younger students may do this already, but even for college students, acquiring the processes and habits of effective writers does not have to be left up to trial and error. Writing should be understood as a process, and students should be encouraged to think about and discuss their processes, along with their processes of thought, with each other.

A further benefit to a direct approach to teaching writing as a habit of mind is that we can discuss and teach students to employ useful cognitive strategies. Because of the control provided by increased metacognitive awareness of the writing process, reflective writing opens the door for the use of cognitive strategies. Contrary to Ann Berthoff’s worry that teaching strategies might eliminate the aspect of invention by overemphasizing technique, the reflective approach first emphasizes writing as a tool for thought, and then asks how we think best. Research on the cognitive demands of writing provides insights into ways to disperse the cognitive load so that the writer may work with his or her mind. Many strategies, such as planning and outlining, are commonly taught and encouraged by writing teachers at every level. However, I am not sure that students are always aware of the reasoning behind these practices. Students should understand the possible benefits of each technique so that they may choose to use it to their best advantage. Although I recognize that all writers have different habits that might work quite well, it is prudent to inform students of the research and allow them to experiment with the recommendations. Even if most students found them useless, it would at least provoke them to be conscious of their own processes.

An important tenet of this approach is that writing instruction should be explicit, goal directed, and student centered. Providing direct instruction on control strategies, instead of having students undertake an
activity with no indication of its purpose, can help students understand and make use of strategies when they are no longer under direct supervision of their teachers. Flower, referencing Applebee, argues against “blind training,” which “is the use of process activities in writing that are not anchored to a goal-directed image of the process--students are not let in on the goals of the activity, including what it is good for (and what it is not)” (233). If students believe (and they often do) that teachers are merely assigning outlines or journal entries as busy work and do not understand the learning objectives behind them, they will be unable to use these immensely important strategies to their full potential. Furthermore, images of writing that are not explicitly process-based can give students a false understanding of writing as an elusive skill that one either has or does not have. Instead, by witnessing and experiencing the immense effort that the writing process requires of everyone, skilled and novice writers alike, students begin to dispel for themselves some of the “myth of genius” that intimidates so many people into avoiding writing.

**Putting it into Practice**

A significant benefit to this view is that it is transferable to almost any type of writing: creative or critical, casual or academic. Like the “Writing across the Curriculum” movement, which seeks to make use of writing for learning in a variety of subjects, the practice of reflective writing is widely useful. Though in each case writing will be taught as a habit of thought, the way writing is discussed will differ according to the situation. In a literature class, for example, as the students discuss their own critical writing and ideas about a particular work, they can also take time to imagine the authors as writers, thinkers who struggle to make meaning much like they must. Students may begin to find new value in literature as great novels become examples of the tremendous mental effort that went into creating them.

Likewise, science students may learn how to use the practice of writing to puzzle through complicated test results or to better understand a difficult theory or even to develop a new one. Similar applications can be found for history, philosophy, economics - virtually any course subject that deals in the commerce of ideas. In addition to helping students in the particular subjects, this would also help students learn to think critically through writing and would meet the goal of many universities to equip each student with the writing skills needed to survive in the business world. Most importantly, however, students would be able to make better use of their own cognitive technology of writing for thinking.
In what follows, I will discuss the research behind each aspect of my proposed program, and will illustrate each concept with an assignment or sequence of assignments. I will introduce and explain several cognitive strategies and will suggest ways to discuss and implement them. I have imagined three courses in which these practices would be useful which I will use to illustrate the assignments I propose. Although it is certainly not limited to just these three, I will demonstrate how a first-year composition course, an upper-level literature course, and a graduate-level program for mid-career learners might incorporate these techniques.\(^1\) In chapter two, I discuss the importance of self-talk, the ongoing conversation that writers have with themselves as they compose. This technique is metacognition-in-action, and it is the foundation of all other aspects of the program. Chapter three delves more deeply into the blog. Here I discuss the value of the regular practice of writing on the blog for both learning and thinking. The subject of the chapter, developmental reflection, refers to the thinking and writing about their thinking and writing over time that students can do to begin to recognize their own learning. In chapter four, students turn to reflect on the actual process of composing. As they write, they will also pay attention to how they are writing. They will consider their own habits and techniques, and will begin to develop self-theories of writing. Through this practice, they will claim authority over their own processes and will be able to approach writing confidently and strategically. Finally, students will explore revision as they reflect on the product of their writing in chapter five. Though much of this project focuses on the writing process, the formal assignments that make up the bulk of many courses require students to carefully consider their texts in their final forms. Here they step back and attempt to examine their own writing as if they were reading it for the first time. Together, this project presents a practical approach to a philosophical view of writing.

In Patricia H. Perry’s *A Composition of Consciousness: Roads of Reflection from Freire and Elbow*, the author offers a somewhat idealized notion of the possibilities of a view of writing in which students are fully aware of its personal value for them. The following quote epitomizes the broadest scope of what we hope to gain by teaching students to understand and use writing as a process of thought. Perry writes:

\(^1\) My discussion of this course is based on my experience as a writing tutor for Georgetown University’s School of Continuing Studies Master’s of Human Resources Program.
Such transformed consciousness going out from writing classrooms into the academy, like the masses of pollen grains and spores in early spring to transform the natural landscape, could eventually and dramatically change the academic and political landscape of writing with in our institutions. These students would demand more courses where they could continue to use writing as thinking and learning. Conditioned consumers, they would seek the most for their education dollar, and they would know that continuing their development as writers would make that possible. (6)

This is the attitude that a habit of reflective writing can cultivate. As students begin to see their writing as thinking, and to understand that the two processes are intertwined and mutually beneficial, they will engage more fully with it and will progress as writers. Through this project, I hope to demonstrate a method for encouraging this view of writing, and to provide a practical guide to helping students develop as thinking and writing humans.
CHAPTER II

Self-Talk: Metacognition and the Writing Process

In any substantive instance of writing, there are a great many conditionals that a writer must navigate in order to produce a coherent text. A writer must determine the purpose of his or her piece in order to decide what information to include and how it might best be conveyed. Writers do not typically produce a final text from start to finish in a single sitting. On the contrary, many of the details of the composition, such as how its topic is presented, either in terms of form or content, must be worked out in-process. For example, as a graduate student I began preparing a paper for a course on the Renaissance by writing on the stereotypes of common folk in P. M. Zall’s edited collection of jokes, A Nest of Ninnies and Other English Jestbooks of the Seventeenth Century. I began with the idea that I would contrast the portrayals of female prostitutes with that of male shopkeepers. In the process of planning and writing, which involved reading and analyzing the text deeply, I realized that I had much more to write about the loose women of jest, and I shifted my focus accordingly. As I continued writing about these women, I began to uncover a relationship between the social power of prostitutes, virginal women, and cuckolding wives, which allowed me to make a clear and powerful argument with which to structure my entire paper. The process of exploring the text in writing enabled me to develop a much more complex and interesting topic than the one with which I began. Just as I discovered, many students’ papers in-process undergo a great many changes as the writer expands, deepens and develops his or her thinking through writing.

From our experience, we know that the writing process is far from spontaneous and instantaneous. If we stopped to think about it, we might realize that the discovery process occurs as we negotiate the text with ourselves – either aloud, on paper, or in our heads. The broader changes in focus result from the numerous smaller adjustments in thinking that writing incites. We ask ourselves if something we’ve written is what we really mean. We tell ourselves that a sentence doesn’t make sense, and that we’ll have to come back later and fix it. We explain a complex issue to ourselves on scratch paper before we find a way to say it in formal writing. We think through what we write – as an ongoing conversation expressed in written notes or simply considered mentally – with both the result and the most important input as the text in production. Because we do it almost without thinking, we might not realize that this “self-talk” is a vital
part of the composing process, and that it is a skill that less experienced writers, such as college students, may not know they possess. College students likely use self-talk, unless they write purely stream-of-consciousness, but it is uncertain whether or not they know that what they are doing is a valuable part of the composition process.

How can we demonstrate to students that writing is thinking, and that writing requires a great deal of explicit thinking? How will they come to know their own internal narratives as their guide in the process of putting their thoughts into words? How can they come to understand that self-talk is a valuable tool for navigating the difficult task of translating interior thoughts into the shared symbol system of written language?

The first step in teaching students to use their writing as thinking is to have them pay conscious attention to what they are thinking as they write. Experienced writers may not realize it, but they most likely go back and forth frequently between what they want to communicate and how they are saying it on paper. These debates can occur almost unconsciously or they can be expressed in writing as notational meta-text. Regardless of what form they use, many successful writers no doubt engage in metacognitive reflection on their writing in process. This metacognitive textual and mental awareness is the practice that Carl Bereiter and Marlene Scardamalia consider the signature of knowledge transformation. Knowledge-transformers think through their writing, constantly negotiating between problems in the “content space,” such as how to define a particular concept, and in the “rhetorical space,” which include questions of the reader’s understanding (11). If we want to demonstrate to students that their writing is thinking, and to get them to utilize writing as they think through a problem, we need to increase students’ metacognitive awareness of and engagement with the self-dialogue that is their reasoning during the composition process.

Writing as an Independent Act

There are many challenges associated with learning to write, but recently researchers have focused on the difficulties inherent in the transition from mental thought to thought expressed on paper. Most people are able to participate in oral conversations from a very young age, having little difficulty producing responses or actively directing the conversation thanks to the turn-taking of conversational speech. Following Lev Vygotsky, however, Bereiter and Scardamalia recognize that the act of writing, which is
also an attempt to communicate with others, occurs independently without prompting from a responder, and is therefore a significantly difficult undertaking for the inexperienced. Bereiter and Scardamalia claim that “the transition from oral to graphic expression…is a major step in the development of symbolic thought,” and they maintain that an equally significant related challenge “is the transition from a language-production system dependent at every level on inputs from a conversational partner to a system capable of functioning autonomously” (55). Indeed, an entirely new approach to translating thoughts into words is needed when the words are written instead of spoken.

Research suggests that students may have difficulty accessing “appropriate memory stores in the absence of the continual flow of prompts” from a partner, simply because they are not sure of what they are searching for (Bereiter & Scardamalia 56). Without a partner helping to direct and solicit information, a novice writer may simply run a few memory searches to generate content based on the prompt’s initial question and then be at a loss for how to continue. Complicated or long writing assignments can seem overwhelming for less experienced writers who do not have another to help push inquiry forward. Even experienced students may have difficulty writing a clear essay on a complicated subject or successfully using their writing to gain clarity without an understanding of how to serve as their own responders.

Although the college-level writers who are the focus of this project have experience producing text independently, the task remains challenging for them as they compose on more complicated subjects and think through the difficult arguments they are trying to make. Bereiter and Scardamalia, Linda Flower and others suggest that conferences with teachers and conversations with peers about specific assignments throughout the planning and writing process can be helpful. If the composition process were directly supported by oral conversation, conversational partners would help each other to stay on topic and would request specific additional information or clarification of ideas, and in so doing would prompt each other’s content-generating memory searches. This is a major benefit of university Writing Centers – to provide students with outside responders to help them identify flaws in logic and to think of new ways to approach their texts. Working through writing in-process with another person, such as a Writing Center tutor, classmate, or professor, can be extremely beneficial to writers at all levels.

Although collaboration is quite valuable, it cannot entirely eliminate the difficulty of writing. Oral
conversations are much more fluid than written text, and they do not require the level of structure and organization needed for a reader to comprehend an idea expressed in writing. Moreover, even with outside support, the bulk of the composition process takes place in solitude. For these reasons, students will benefit from learning to talk themselves through the writing process.

Knowledge-Telling

Because most people are capable of obtaining basic literacy skills with some education, including the ability to successfully transcribe thoughts to a page, we can see writing as both a “natural and problematic” task (Bereiter and Scardamalia 4). It is no great challenge to write out one’s thoughts in a straightforward manner; the trouble comes when the writing is to be specific, of a certain length, and to a purpose. Inexperienced writers tend to accommodate for the difficulty of composing without a partner in dialogue by employing what Bereiter and Scardamalia call a “knowledge-telling model” of writing (7). Knowledge-telling “provides a natural and efficient solution to the problems immature writers face in generating text content without external support,” allowing writers to merely give information with little concern for how it is presented (9). Although they have a few inputs aside from their own thoughts, students use the knowledge-telling model because it is only through this basic approach that “discourse production can go on, using only these sources of cues for content retrieval--topic, discourse schema, and text already produced” (7). They are able to quickly generate associated ideas based on the topic key words and expectations of the assignment, for “the knowledge-telling model is adapted to children’s difficulties with memory search; it makes maximum use of external prompts, self-generated prompts, and the apparently powerful support of discourse schemas (story schemas, etc.) for memory retrieval” (28). The simple model is successful because it “relies on already existing discourse-production skills in making use of external cues and cues generated from language production itself” (9). No dialogue is needed here, because knowledge-tellers simply transcribe their initial thoughts about the subject and move on, serving “the straight-ahead form of oral language production” and requiring “no significantly greater amount of planning or goal-setting than does ordinary conversation” (9-10). Although this model is seen most clearly in those with very little formal writing experience, because it meets many of the basic demands of writing assignments, it is easy for students to continue using it to some extent throughout their schooling.
The ease and simplicity of the model is precisely why many people write using the knowledge-telling model. With minimal effort on the part of the writer, knowledge-telling “makes maximum use of natural human endowments of language competence and of skills learned through ordinary social experience” to produce text (5). Perhaps, then, the knowledge-telling model is sufficient. Should not teachers be satisfied if their students are able to meet the general requirements of an assignment, as long as they remember not to end their sentences with prepositions or make other grammatical errors? Most writing teachers would disagree that teaching students to produce clean, error-free writing is their only goal. While knowledge-tellers are able to produce text, the quality and depth of the finished pieces, as well as the thinking exhibited in them, are often less than what most teachers want from their students.

The reason for the lack of sophistication found in texts produced through knowledge-telling is that they are frequently disorganized, or are simplistic in nature, doing little more than summarizing and restating facts. Knowledge-tellers often do not develop their thoughts deeply because their method allows them to complete assignments without allocating greater effort to let the writing process take their thinking somewhere new. These writers are not typically reflective, so they often do not give adequate attention to the content or composition of their texts. Although knowledge-telling allows for the transcription of information, it does not require or support significant transformation of thought and in so doing squanders much of the cognitive benefit of writing. Using the knowledge-telling model, students may be able to meet the basic requirements of essay assignments, such as providing adequate details on the assassination of Abraham Lincoln or describing the use of color imagery in *The Great Gatsby*, but they may be unable to structure their responses in any way other than chronologically. They do not realize that they can and should allow their thinking to change as they write and learn, and they can modify their essays accordingly. For this reason, this basic model is inherently limiting to the thinking and reasoning that is possible through writing.

**Knowledge-Transforming**

In spite of the natural ease of the knowledge-telling model, which many college students continue to use, many other writers do in fact make use of the more advanced model of writing described by Bereiter and Scardamalia, which they call the “knowledge transforming” model (6). To move beyond the
knowledge-telling model and engage in a “psychology of the problematic” is initially more difficult, but it allows for more successful and developed writing than the natural habit of knowledge telling does (5). In the knowledge transforming approach, writers go “beyond normal linguistic endowments in order to enable the individual to accomplish alone what is normally accomplished only through social interaction” (5). This model is typically used by mature writers and “involve[s] deliberate, strategic control over parts of the process that are unattended to in the more naturally developed ability” (6). Knowledge transformers have greater metacognitive control over the writing process, for they are aware of the difficult relationship between the rhetorical and content constraints of any written work to a much greater extent than someone using the knowledge-telling model would be. Advanced writers cope with these acknowledged challenges by adding “problem spaces” to their method of composing, represented as the “content space,” where “problems of belief and knowledge are worked out,” and the “rhetorical space,” where “problems of achieving goals of the composition” are solved (11). These areas represent the writer’s analysis of the problem of the assignment itself – the ideas they want to include, as well as the way in which that content can or should be communicated according to the task. This negotiation between organizational structure and content involves a back-and-forth that continually challenges the writer’s schemata about his or her topics. It is in this transformation of knowledge that learning happens – a valuable side effect of a more conscious approach to writing.

The division between the two models, especially if it is studied only through the textual products of writers, is not always clear, as many students use a combination of the two models. Furthermore, some students arrive at knowledge transformation independently, without direct instruction. Bereiter and Scardamalia write that “evidence of a knowledge-transforming approach to writing can be found even among people who have no particular talent for or commitment to writing” (11). Thus it is not always possible to tell whether an individual text is a product of the telling or transforming model. Some writers who use the knowledge-telling approach may map out a mental schema of their entire essay prior to writing, and would therefore be able to produce a clear and organized text with little or no knowledge transformation. However, this is not typical, and regardless of the quality of the product, knowledge-telling does not provide the writer with the full mental benefits of transformative writing.
**Self-Talk**

In order to transform their thinking through writing, students must first understand that writing is indeed a process of developing thought. Being able to use the knowledge-transforming model requires, in part, some metacognitive awareness of the self-dialogue that should occur during the composing process. Oral conversations often lead to transformations in understanding due to the opposing forces of the people in dialogue. For autonomous writing, however, students must learn to become readers of their own texts, readers who employ “self-talk” to think through an instance of writing. Linda Flower takes up writing researchers Ericsson and Simon to suggest that self-talk, a form of “statable metacognition,” begins by “doing nothing more than asking problem solvers to state a reason for each move they make as they are thinking,” and she notes its importance for the way that students are able to narrate and therefore exhibit control over their own learning (*Construction of Negotiated Meaning* 227). Students can learn to develop a “language-production system that can operate flexibly with feedback from its own output” (57). This can be a significant difficulty for anyone inexperienced in interacting with his or her own writing in this way.

Writing takes a lot of practice, but much research suggests that there are specific skills that students can be taught to use to learn how to engage in transformative writing. Bereiter and Scardamalia, as well as Yancey, Flower, and Perry, among others, advocate a practice of reflection for the purpose of enabling metacognitive awareness of the internal aspect of the writing process. Flower suggests that this practice will help students to “[revamp] the language-production system so that it can function autonomously” (*Construction of Negotiated Meaning* 57).

The notion of self-talk, a basic form of metacognition, is a practice that most students probably do to a certain extent, even if they tend to be knowledge-tellers. While we write, we have a constant, if mostly unconscious, dialogue with ourselves about any number of things—the topic we are discussing, spelling or grammar concerns, if the word we have just written is the one we actually want—and this dialogue helps us shape the text. Even if an experienced writer is not metacognitively aware of such internal dialog as a way to think through the composition of his or her text, as a knowledge transformer he or she is still likely to use some form of self-talk, which is the first level of metacognition on the text. Novice writers can also learn to engage with their own thoughts as they write, productively harnessing their own insights as they
puzzle through their essays. As they begin to practice conscious awareness of their own thoughts, they may be surprised by the concerns they need to address that they may have overlooked in the past, such as problems in organization or terms that must be defined. By talking to themselves as they write, in a way students provide their own peer reviewer to help talk them through their tasks.

In addition to the deeper engagement with the writing process that a reflective habit of self-talk can help develop, the metacognitive aspect of the practice has additional benefits. Linda Flower explores the implications of metacognition in the writing classroom, referring to it as “knowing that you know something and being able to inventory and talk about your own knowledge as content and as process, that is, 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” (Construction of Negotiated Meaning 226).

Metacognitive awareness of one’s own mental habits of writing, fostered by reflection, gives the writer greater control over his or her own thinking and learning. Furthermore, students who are conscious of their own thoughts as they write are metacognitively aware of their thinking and learning, and when this self-talk is expressed in writing, it also gives teachers access to students’ thoughts. The significance of the benefits of self-talk will become more apparent as related practices are discussed in the following pages.

Although she praises reflection, Flower is careful to caution against a blind embrace of the practice. Instead, educators must “approach metacognition, especially intentional reflection, with [their] eyes open,” not simply assuming that any kind of unguided reflection will automatically lead to better writing (Construction of Negotiated Meaning 230). Reflection is completely individualized, and, as Flower warns, it “is not a mimetic act mirroring an inner reality; it does not function as a gesture of pure awareness,” for far more thinking occurs than a reflecting writer can easily put into words (224). Flower discusses several caveats to both the level of understanding that has been gleaned from studies of think-aloud protocols and to the level of awareness students employing metacognition can be expected to develop. The verbal reports of students narrating their thinking “allow more direct access to cognition,” but they can be reliable indicators only of “knowledge and processes that are operating in focal attention (i.e., not automated processes or weakly activated knowledge) and secondly, knowledge and processes that are already verbally coded” (Construction of Negotiated Meaning 231). Flower uses the example of a computer
programmer who is able to rapidly troubleshoot a computer problem almost unconsciously, yet cannot verbally explain the process without “considerable recoding” of the task knowledge (231). Such self-reporting is also complicated by the fact that attempting to make certain elements conscious can change the writer’s thought processes. Though this changing of focus can be beneficial in terms of strategizing, it can also distort the writer’s self-knowledge. Flower sums up the caveats to this process by stating that “reflection must be recognized as a highly interpretive process, influenced by the prior knowledge we bring and the way it is conducted. The value of observation in this process is its ability to challenge as well as to shape the ways we construct ourselves as writers” (232).

To keep reflection effective, then, it is important to have external checks and to focus reflection on tasks at hand. This is precisely what Flower’s “theory of reflection as a situated, strategic act” aims to do (Construction of Negotiated Meaning 234). Her theory “looks at cognition in context in response to a problem the writer poses, aided by an independent observational record that can both support and challenge interpretation” (235). We can imagine self-talk in its most definite form as written notation as being such an “observational record” of the writer’s internal process (235). Having observable accounts of the student’s reflections keeps the reflecting writer from becoming overly solipsistic, unable to criticize the thoughts about which he or she thinks. With a written record of their own thoughts and observations, moreover, students will be able to judge their own behavior and reasoning against multiple instances of writing. This idea will be explored further when I discuss reflection over time.

**Putting Self-Talk into Practice**

Perhaps the most important component in teaching students to engage with self-talk is the classroom discussion that must surround the practice. It is essential that students understand the reasoning behind it so they use it correctly and are motivated to put in the necessary effort. As Linda Flower explains, in order for it to be successful, reflection must take place on students’ specific instances of writing, not simply on writing in general. Reflection must be personal, directly related to their thoughts on and as represented in their own writing. Although undergraduate and graduate students most likely have some access to this type of self-knowledge, explicit, practiced attention to their own thinking through reflection will help them gain greater control over their writing. This most basic principle of the writing process is
highly important for all students to understand. Because the following introductory demonstration and assignment is quite short, even a class that does not have much time to devote specifically to exploring self-talk could use it as a great way to bring the always-in-process nature of writing and the idea of writing as thinking into the conversation for all future writing assignments.

A good preliminary classroom conversation would begin by asking students to reflect on their past experiences with writing. Do they typically begin with a plan? Does anything about the topic or structure of their essay change as they write? Has any student ever used a form of meta notation, either written or in thought, about their essays while they write? What do these notes say and do? It is essential to emphasize the fact that when they step back and speak to themselves as the writer of the text, they are engaging in self-talk. Furthermore, students should understand that self-talk is used primarily by writers to negotiate the challenges of communicating certain content or ideas within the rhetorical constraints of the assignment.

Once students have had a general introduction to self-talk, a demonstration of what it looks likes, sounds like, and does can be quite instructive, especially if few or no students indicate an awareness of it. To do so, an instructor may compose a short piece while narrating his or her thinking aloud for the class. A simple, familiar topic allows students to easily see the thinking that goes into writing in an almost exaggerated way, for which reason I have chosen to use the causes of the Civil War as an example. If students witness a professor composing a piece on a topic they understand, they will be able to anticipate and readily agree or disagree with the professor’s line of thinking, and will not be distracted by any complicated details. This topic or something similar could be used in any course. Similarly, teachers may choose to use a basic topic in their subject area with which students are already fully familiar. The following is an example of a transcript of such a demonstration:

Professor: An important habit of successful writers can be called “self-talk,” for it is the practice through which writers have side conversations with themselves and with the text they are composing, either aloud or as thought. Writers are not always aware that they do this, just as I suspect many of you already do this but may not have thought about it explicitly. These conversations usually involve little thoughts about

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2 Bereiter and Scardamalia frequently use instructor-led demonstrations to teach students particular techniques (see page 269).
how to resolve problems that arise when you try to express a complex idea in a particular way for an audience. For example, you might have to decide if a certain term you use needs to be explained or if you need to provide more context or support for a claim or assumption. Through self-talk, you can ask yourself whether or not your organization facilitates explanation of your ideas, or whether or not a particular paragraph serves the broader purpose of your paper. Self-talk, which can take a number of forms, is practiced metacognition on the act of expressing an idea in writing through which you as the writer can critique and comprehend your own papers.

Professor: There are two primary benefits to metacognitive awareness of one’s own thoughts during writing. First, as composition theorists Carl Bereiter and Marlene Scardamalia write, when writers think about “whether the text they have written says what they want it to say and whether they themselves believe what the text says,” they are able to transform their thinking and writing as needed (11). It is through this practice that writing plays “a role in the development of their knowledge” (11). When you write, the interaction and discrepancies between the content and rhetorical problems you face, as well as your attempts to solve them, lead to changes in your thinking as you begin to see things in new ways. Secondly, focused attention on the writing process provides you with greater awareness of and therefore control over the text, as well as the composing process itself.

Professor: To give you a concrete example of how writers use self-talk, I will demonstrate what it would look like if I were composing a short essay while both writing and narrating the thoughts I have about the text that are not the text. Here I’m going to assign myself a one-paragraph essay describing and explaining the general causes of the American Civil War. Although this topic is unrelated to this course, it will allow you to see the writing process in a basic form so that you may easily follow my line of thinking.

[Professor ideally uses a computer with a projected screen so that students can hear her voice and read her text as she composes.]

Professor types and narrates: [Well, I know I’m going to have to talk about states’ rights, slavery, and Abraham Lincoln’s fight to preserve the Union. I think I’ll start by writing a broad summary, like a thesis statement:] “In the mid nineteenth century, differences between the northern and southern states came to a head over the issue of slavery.” [OK, now I have to explain how slavery relates to states’ rights...}
versus federal authority.] “Although the northern states had already abolished slavery, the southern states depended on slave labor for their agricultural production, which was the basis of their collective economy. President Lincoln believed that the country would not be able to continue so divided.” [I still haven’t said what this has to do with the debate about states’ autonomy.] “Disputes over who had the authority to permit or abolish slavery, individual states or the federal government, began to fracture the nation. Eventually, the southern states decided to secede from the Union.” [I might need to explain what secession means and whether the southern states seceded as a group or individually.] “Although the 11 states that seceded did so individually, they banded together into what was called “The Confederate States of America” under the leadership of Jefferson Davis.” [Now I have explained much of the conflict, but I still need to talk about how that led to war and what it has to do with slavery.] “President Lincoln refused to acknowledge the autonomy of the Confederate States, insisting that they were merely states in rebellion against the true government. Thus the CSA declared war on the Union, which they eventually lost, beginning the long road to reunification and reconstruction following the abolition of slavery.” [In a longer piece, I might need to expand certain ideas or rearrange them to emphasize the details that I think are most important. I could do this by working with the text I just wrote, using self-talk to help myself organize my main points.]

Immediately following the demonstration, students should complete their own versions of the assignment in class. The professor can suggest appropriate topics that are complicated enough to require some extended explanation, yet can be sufficiently summarized in a paragraph. A possible list could include, “Explain the system of checks and balances in the US government,” or “Explain the rules of play of your favorite sport.” Students could also be asked to write about a specific topic relevant to the learning goals of the class. Each person should choose a topic with which he or she is fairly comfortable; however, the purpose of this exercise is primarily to help students recognize their self-talk, not to verify their topic knowledge. This exercise is unlikely to invite much transformative thought, but through it students will recognize their own thoughts as important input into the writing in process.

Like the professor’s demonstration, in this exercise students should keep a written record of their own self-talk as they write. The exercise should last about twenty minutes. Immediately following, the teacher can choose to split students into small groups to discuss the experience, and then discuss as a class,
or simply begin as a large group. As they discuss the exercise, students should reflect on their own experiences. The primary learning goal of this exercise is for students to understand that they do, in fact, talk to themselves and make decisions as they write, and that being metacognitively aware of this self-talk can be an enormous benefit to them as writers. Using self-talk, they will have greater control over their essays and will be more conscious of their writing as thinking. They compose their essays through a series of decisions, ones that will have better results if they take conscious control over them. They do not have to constantly talk to themselves, however, and sometimes being metacognitively aware of what they are thinking might not be the best for flow. Instead, student writers should recognize this type of thinking as a useful and indeed vital tool for successful transformative writing. This practice will become a habit as they continue, and they will most likely eventually develop their own methods for reflecting on their thinking. Students who understand that their writing and their understanding are supposed to change throughout the composing process have already taken the first step toward knowledge transformation.

**Blog Assignment**

The blog serves primarily as a space in which students can explore topics in class that they find interesting, and it can also be used specifically to teach self-talk. Throughout the semester, these blog posts should be of significant length so that they require thought and effort but are not particularly strenuous, approximately 300-400 words. Although they may be much less formal than a graded assignment, each post should contain a complete thought, even if many open questions remain. Here I will use an example of how a class from the Human Resources program might use this assignment. To get students started, the teacher may wish to offer writing prompts, such as, “Explain your current understanding of diversity in the workplace,” or “Explain how subjects in this course might relate to your experience in a current or former job.” Explanatory essays are a great place to begin exploring self-talk, for writers will have a number of choices to make about what information a reader might need, and in what order the information should be presented to a reader. Students will switch back and forth between their perspective and that of the reader, with the text under consideration in the middle.

Each week for two weeks, students will write two blog posts, either in-class or as homework, according to the needs of the teacher. As they write these short pieces, they should be paying conscious
attention to the problems they encounter and the ways they talk, think and write themselves to solutions.

For at least the first week, students should use a notebook (either pen and paper or a Word document on the computer) to record their self-talk as they plan and write their blog posts. After the first week, though they should remain aware of and engaged with self-talk, they can choose to document it or not according to the practice they find most useful. As they compose their blog posts, they should write down any questions or challenges they encounter. For example, a student writing about diversity in the workplace might realize that he must explain the national issues of diversity before he can fully explain the significance of his personal experience at a particular office. As they compose, students should also pause periodically, such as after every few sentences, after each paragraph, or during any transition, to ask themselves what they have been thinking. What decisions are they making? Have they changed the order of sentences in a paragraph or chosen a more precise word somewhere? What terms, if any, have they had to stop and define, and how did they determine this? What choices are they having to make to continue writing? Furthermore, are they finding metacognitive awareness of their inner dialogue to be beneficial? In what ways?

There are several benefits to self-talk that should become apparent to students as they use it to write their blog posts, and these underwrite the thinking and practice that is to come in this project. First, self-talk helps writers to “prime” their memories to begin writing about a particular topic. Comparing writing to conversation, Bereiter and Scardamalia note that oral conversations do not usually start on a random topic unrelated to anything at hand. Instead, “relevant memory nodes have already been activated either by something in the environment or by a process of conversation trials and probes” (66). Thus in everyday conversation we rarely encounter a need to assess our general knowledge on a particular topic, while this is in fact an important part of priming the memory to generate content for an essay. As students write their blog posts and become accustomed to using self-talk, they may discover that they are asking themselves questions about the text and its content on a meta-level, reading as if they were an independent audience instead of the author.

Secondly, self-talk enables writers to use themselves as conversational partners during the composing process. While a conversational partner can point out flaws in logic or areas that need more explanation, a writer writing independently must be able to depend on his or her own reasoning skills to
determine whether his or her argument is valid or convincing. This thoroughness of logic can be difficult, especially for advanced students who are writing about complex issues. Bereiter and Scardamalia tell of a trial they conducted with a group of fourth graders. The students were given the final sentence of a story: “And so…the duke decided to rent his castle to the vampire after all, in spite of the rumor he had heard” (71). The children then proceeded to compose the story, bouncing ideas off of one another and at times exposing the flaws in each other’s thinking, collectively navigating the challenges of presenting an appealing and cohesive story. Although their planning session was not entirely successful, it demonstrates how other people can aide in thinking. However, it is possible for independent writers to act as their own collaborators by practicing metaconscious awareness of their own thoughts through self-talk. This aspect of ongoing revision will be discussed again in Chapter V.

Although only a composition class may have time for writing-specific instruction in class, classroom discussions during the self-talk blog assignment sequence allow students to examine the process and their reflections on it with the teacher and each other. During these conversations, teachers should listen for indications of knowledge-transformation, such as statements of realization or specific changes in understanding arrived at through the writing process. Students should be beginning to see themselves making decisions as they compose. The teacher can ask: Is this kind of thinking at all familiar to them? Have they used self-talk while writing any other papers, and in what way did they use it? What kind of reflection is happening as they write? Are any students writing in their own margins, leaving notes for themselves, or finding it necessary to keep a notepad beside them as they write in order to hold side conversations with themselves? How (or is) this reflection changing the way they compose? This practice is the launching point and foundation of the rest of this method of teaching writing, and classroom discussions will foster and sustain the reflective practices that are essential to becoming knowledge-transforming writers. Students of any level can benefit from increased awareness of their own thinking, and by making this self-talk explicit, they will become more aware of writing’s connection to thought.

**Solidifying Learning through a Reflective Essay**

Finally, it is instructive to have students reflect on their experience with self-talk, not only to provide the teacher with some insight as to how well students understand the principle, but also to help
students process and understand how their thinking and learning has begun to change. It is in the reflection on the process that students are able to recognize the shifts in their learning that may have taken place. Students should become both more aware of the nature of their thinking during the composing process and of the changes in learning that occur due to the knowledge transforming aspect of the process.

Ronald T. Kellogg explains how these shifts in thinking occur through reflective writing. In doing so, he provides a picture of how the writing mind works and of the learning benefits that accompany reflective, transformative writing. As we recognize evidence of learning in student writers, we must be careful not to assume that it is only the act of putting pen to paper that causes transformations in understanding. Instead, Kellogg explains that there are certain mental mechanisms that engage during transformative writing that cause changes in thinking. Kellogg begins by distinguishing between personal symbols, which are the private images an individual associates with a concept, and “consensual symbols,” which are the symbols associated with a concept that are readily understood and accepted by people in general (7). He explains, “We may all use the word cow in consensual communication, but the personal images evoked by that term include the smell of a cow in a barn or the feel of milking a cow only for those with real experience with a cow” (19). Even the simple translation of thoughts into written words can act as the first level of metacognition, according to both Walter Ong and Carl Bereiter and Marlene Scardamalia. Bereiter and Scardamalia cite Church’s 1961 speculation that “thematization,” the act of “putting such material [from memory] into words has a knowledge-transforming effect” (29). Likewise, Ong claims the abstraction of words into written form as the first level of metacognition, which helps transform thinking.

**Schemata**

The flexible categories into which the unconscious meanings of these symbols are stored in the mind Kellogg calls *schemata*. A *schema*, Kellogg writes, “is a mental representation of a type of object or event that describes only the general characteristics that define the type” (18). Far from being predetermined or fixed, a schema is “a dynamic, living structure that continually accommodates new experiences and goals” (20). It is “an unconscious procedure for generating the personal symbols of mental activity, such as perceiving, remembering, imagining, and thinking. It also generates the consensual symbols of communicative activity, such as writing and speaking,” which is how the “tacit knowledge” of
the schema becomes “explicit or conscious knowledge” (19). We create these schemata for ourselves by learning: “by doing, observing, and communicating,” as well as through formalized education, which “consists of learning through oral and written communication enabled by consensual symbol systems” (19). Schemata are important in writing because it is through repeated searches of memory stored in the form of schemata that writers retrieve knowledge to generate content.

When writers attempt to respond to a particular writing problem, they must search the personal knowledge that they have accumulated through experience, classroom learning, and reading to find appropriate information to be converted into consensual symbols in words. The differences between personal and consensual symbols mean that thinking writers must negotiate with themselves to determine what consensual symbol best fits with their schema and that of their readers. A common problem in writing is that a writer’s schemata do not always fit with the requirements of a particular assignment or audience. For this reason, the “writer’s knowledge representations must be modified in greater or lesser degrees to be applied to the unique features of the task at hand” (22). It is through this negotiation that transformations of thought occur in writing. Students will likely have had to modify some schemata while writing their initial blog posts, and they will recognize these changes as they reflect on the process.

The most basic way that schemata can be changed is through a process Kellogg calls “tuning” (22). When tuning occurs, it is because a writer’s previously learned concepts are challenged and modified as he or she paraphrases them to conform to a particular context or problem of the text at hand. Furthermore, Kellogg writes, “The tuning of schemata…illustrates nicely the flexibility of schemata in meeting ever-changing and unique needs in writing tasks” (22). The writing process requires high levels of thinking and great cognitive investment as writers collect data, translate it into their own language or symbol system in notes or thoughts, then rearticulate it into a consensual form of an essay for an audience, and finally reexamine it for how the essay functions and how the ideas are communicated.

Student writers learn through the tuning of schemata, but they are only able to undergo this process if they are conscious enough to allow their writing and thinking to change during the composing process. By engaging in reflection through self-talk, students actively seek out and attempt to resolve conflicts that may alter their schemata. Kellogg echoes this, claiming that a writer must “evaluate how well
his or her thinking and writing are going. Cognitive psychologists refer to such self-reflective thinking as metacognition—thinking about thinking…the employment of effortful, metacognitively guided processes as a state of mindfulness” (17). By paying careful attention to their thinking and writing as it happens, students take an active role in their own learning.

In students’ reflective essays, teachers should expect to see evidence of awareness of such tuning taking place. At the completion of the blog assignment sequence, students will be asked to first examine their own blog series, reflecting on their use of self-talk during the composition process, just as they did in class discussions following the initial assignment and during the blog series. Secondly, they should study their series for ways in which their thinking on their chosen subject changed throughout the process. Regardless of whether they are small or significant changes, all students are certain to have experienced a few instances where they were forced to consider their subjects in new ways due to the nature of the assignment. The following chapter expands on other uses of this reflection on thinking over time, both as reinforcement of metacognition and as recognition of the learning that can occur through writing.
CHAPTER III

Developmental Reflection: Metacognition on Thinking over Time

Perhaps the most effective way to teach students to write is to give them many opportunities to practice. We can only expect our students to become better writers if they practice writing frequently and with a purpose, but with minimal pressure so that anxiety or ambivalence do not prevent full engagement. To this effect, lightly-structured writing practice can be designed to benefit students’ content knowledge and verbal knowledge. There has long been interest in prewriting and freewriting, but the former often focuses too specifically on preparation for a paper, which can hinder exploratory thought, while the latter is so loose that it can easily become little more than personal journaling. What would a prewriting program look like if its primary purpose were to provide meaningful, yet low-stakes writing opportunities through which students could experiment with putting their thoughts into words? In this chapter, I introduce a blog assignment structure that not only supports an extensive and flexible prewriting process, but also emphasizes learning and transformation of thought. In addition to explaining the value of frequent blogging, I will discuss how semi-formal reflections on the blog over time help individual blog posts serve their purpose for learning and exploring ideas, while the reflections act as a space in which to solidify and define specific thoughts in preparation for formal assignments. Together, I call this prewriting process developmental reflection.

This use of the blog is similar to what Kathleen Blake Yancey has in mind when she discusses “constructive reflection,” with its purpose as the primary difference (49). Yancey’s notion of constructive reflection involves reflection on the writing process over time, but the purpose of constructive reflection is for students to create individual self-theories of writing. Through constructive reflection, Yancey intends students to reflect on their past reflections on the process over time, and she recommends that students engage in long-term goal setting – for writing, for learning – to help them understand what they are doing broadly, not just within a single text. For this reason, constructive reflection in Yancey’s sense relates much more to the following chapter on reflection on process. Although developmental reflection also involves students reflecting over time, in this chapter I discuss this reflection in terms of development of ideas, involving both content and organization. Developmental reflection asks students to consider how their
thinking changes throughout the prewriting and drafting process. This type of reflection helps students see how their writing and thinking have affected one another to prompt transformation of thought.

**Using the Blog to Teach Developmental Reflection**

As I explained in the first chapter, a series of writing assignments based on a class blog or individual student blogs is an excellent method for implementing a writing regimen. A base usage of the blog could involve requiring students to post twice each week, with each post either having a minimum word count or time spent writing, according to the teacher’s preference. These posts should not be graded for grammar or surface quality, but the professor should require students to demonstrate thoughtfulness in each blog. A final grade based on overall effort can be given according to the professor’s judgment. Thus blog assignments provide enough structure to encourage students to take them seriously and to write well while also leading them to focus on developing meaningful ideas in writing.

As a semester-long project, it is expected that after students become accustomed to the habit of writing, they will individualize their own use of the blog according to their writing styles and needs. Depending on the course, teachers can assign specific topics according to the subjects studied in class, or, as would be highly useful in a literature course, for example, blog posts can serve as planning for upcoming formal paper assignments. Twice each week, students will be writing about a topic that interests them. In the Human Resources program, for example, these posts might explore the relationships between theories learned in class and a student’s experience in the work force. Literature students may begin thinking about a book or author of interest in preparation for an upcoming formal assignment, and composition students might informally explore writing in a genre about which they are learning in class. However, it is recommended that professors provide specific prompts for the blog at the beginning of the semester. These prompts will let students know what is expected of them and will give them ideas about what they can begin to do with writing. An example of such a prompt for an ethics class in the Human Resources program follows:

“In this first blog assignment, I want you to imagine that you are employed in the HR department of a large firm (you may also use your own relevant current or past employment as a model). It has been called to your attention by an employee that another soon-to-be-married employee is planning her wedding
on company time. Although the employee has not shown a significant drop in performance, her immediate coworkers are becoming disgruntled at the fact that they work hard during work hours while their teammate makes calls to florists and catering services throughout the day. What action would you take in this situation? Be sure to explain the reasoning behind your decisions, drawing on what we have learned in class and any assigned readings, as well as your own experience. You are free to embellish the hypothetical situation according to the needs of your particular response.”

After students have written several of these types of entries, developmental reflection comes into play during the slightly longer and more formal reflections on past blog posts that are required at regular intervals throughout the semester. Developmental reflection can serve as a bridge for translating the ideas explored in prewriting on the blog into a more formal context, either in direct preparation for a paper or simply as practice for the future. For example, the HR student who is writing his or her first formal paper on ethics in the workplace would be able to draw from his or her response to the hypothetical situation introduced in the sample prompt. This blog post and others like them would serve as readily-available stores of information on the student’s response to and interpretation of theories learned earlier in the semester. Although he or she will have to write a new paper, the student has already thought and written extensively on the topic, which will allow him or her to take these ideas to a deeper level.

In any course, developmental reflection assignments would enhance the benefits of the practice of regular writing because they encourage students to be metacognitively reflective on their writing and thinking over time. Periodically throughout the semester, such as every three weeks, students will write reflections on their past blog posts, examining how their thinking has or has not changed over the past six entries. Students will be asked to read through recent posts, looking for a common train of thought they see developing that they can pursue in a semi-formal reflective piece. In their reflections, they will be asked to be more purposeful and structured than they are required to be in regular blog posts, although not as formal as they might be in graded assignments. These reflections might be approximately two pages, although individual teachers may modify requirements to fit their needs. These reflections may also be shared on a central class blog so that students can comment on each other’s ideas. In this way, students would be able to articulate thoughts about their thinking and would come to see themselves and each other as fellow
writing thinkers and thinking writers. According to the instructor’s preference or the design of the course, these developmental reflections could either be graded based on effort and participation, as are the individual blog posts, or they may serve as stepping-stones for the formal papers in that they are graded on grammar and style as well as development – though not necessarily refinement – of thought. This interactive element will be discussed more fully in Chapter V, as it relates to reflecting on the product of writing and understanding how to read one’s own text as an independent reader.

In addition to basic, regularly scheduled practice in the habit of writing, there are numerous benefits to developmental reflection. Variations in its use will necessarily emphasize different benefits, and teachers can decide how they wish to implement it in keeping with their learning goals. Not only does this method provide specific support for an extensive prewriting process, but it also encourages metacognition and learning, which can be radically beneficial to writers. By learning about the subjects of their papers through writing about them, students increase writing fluency by having a deeper understanding of their subject and by translating that understanding into consensual symbols in advance of the paper. This significantly lightens the writer’s cognitive load, which ideally makes the process far less painful for students.

**Writing to Learn**

Perhaps the most basic benefit of regular writing on specific topics is learning. The “Writing across the Curriculum” program is based on this theory, and alone it serves as an excellent argument for including extended writing in virtually any course. Students will learn through lectures, class discussions and assigned reading, and their regular writing on the blog serves as a space in which to think more deeply about what they are learning. The writing element also forces students to extend their learning independently. A difference between written responses to learning goals and studying for exams is that the focus moves from one of memorization to one of personal exploration and application.

The possibility of learning through writing has been hotly debated over the past few decades, with the benefits of writing to learn praised most notably by Janet Emig in “Writing as a Mode of Learning.” While the idea makes much common sense, teachers and researchers have argued over the kinds of situations where writing might aid in learning, and whether or not it is a worthwhile endeavor. Ann M.
Penrose and Barbara M. Sitko examine the literature on writing to learn and finds that “the relationship between writing and learning” depends on “the type of learning desired, the nature of the material to be learned, the nature of the writing task, and characteristics of writers themselves” (53). They find, among other things, that writing to learn is most effective and useful “when students are working with abstract material…and when they’re working with difficult rather than “easy” texts” (54). Writing helps students develop broad understanding of a topic because “essay writing involves global planning,” requiring “extensive manipulation of the source material” or the ideas being explored (Penrose and Sitko 54). This suggests that it is indeed the knowledge transformation that can occur that makes writing valuable for learning. Finally, Penrose and Sitko find that the students’ attitudes toward writing also play a role (56). Students who understand their writing and learning goals are more likely to invest in the writing process, and are therefore more likely to use writing for knowledge transformation.

Likewise, a study of “writing to learn” programs in schools conducted by Robert Bangert-Drowns, Marlene Hurley and Barbara Wilkinson supports the use of metacognition in learning to write. Overall, the researchers find the survey to be only moderately conclusive of writing as a benefit to learning. However, they do find small, yet consistent positive effects on learning as a result of writing. First of all, they find that writing facilitates the use of cognitive strategies for learning, which can be “clustered into four general groups: rehearsal strategies, elaboration strategies, organization strategies, and comprehension-monitoring strategies” (Bangert-Drowns, Hurley, and Wilkinson 32). A significant stipulation here is that the researchers judge students’ success on final grades and exams, which cannot account for any benefits that might be seen in written assignments.

It is important to note that simply reflecting on content might not be as useful as reflecting on content with relationship to oneself. A study reviewed by Bangert-Drowns, Hurley and Wilkinson found that biology students who reflected weekly not only on content, but also on “the processes they used to learn the content” typically “demonstrated greater use of metacognitive strategies, greater use of sophisticated cognitive strategies, greater awareness of learning strategies, and significantly higher scores on final examinations than did” a group who simply composed “scientific reports” which focused solely on content (33). Thus, metacognition is a vital component in using writing to learn. In fact, the researchers’
survey led them to conclude that “specific training for metacognitive awareness can have powerful effects on learning” (32). Indeed, the finding that is most significant to this project is that “assignments requiring students to evaluate their current understandings, confusions, and feelings in relation to the subject matter yielded more positive effects than instruction that did not include such metacognitive stimulation” (Bangert-Drowns, Hurley, and Wilkinson 47). An implication for my argument is that while these students benefited from reflection “without explicit cognitive strategy training,” the authors conclude that explicit instruction on reflection for metacognition would benefit learning (50). They write, “If one of writing’s most important contributions to learning is the activation and support of metacognition, one might expect its efficacy to be enhanced if it were integrated with explicit cognitive strategy training” (50).

Indeed, this is precisely what I intend to do with this method of teaching writing. Fitting well with my assignment structures, the researchers concluded that, above all, “the learning enhancement derived from writing stems, at least in part...from scaffolding metacognitive processes, presumably in the service of developing self-regulation of learning strategies” (Bangert-Drowns, Hurley, and Wilkinson 51). Thus, the use of a blog in a reflective classroom is particularly beneficial to learning. Courses using this method would focus on explicit training on metacognition, directly instructing students to be reflective as they write in every prompt, actively encouraging metacognitive awareness and discussion of writing in the classroom, and infusing lectures with the perspective of the value of self-awareness in writing and learning. The blog assignments and developmental reflections scaffold metacognition into the writing process, training students on the practice and allowing them to experience its benefits. Finally, “Metacognition enables learners to deploy cognitive strategies flexibly and in novel contexts,” which reinforces my claim that metacognition is a valuable tool for teaching all kinds of writing (Bangert-Drowns, Hurley, and Wilkinson 32).

**Reflecting on Writing over Time**

While writing itself has a broad effect on learning, metacognition on the process over time is essential in helping students understand and appreciate their own learning. Regular writing in response to classroom subjects has been shown to reinforce learning content for tests or essay questions. Periodic reflections on these writings over time, however, takes students from the exploratory and knowledge-
building twice-weekly writing on the blog to more critical writing on solidified thoughts as they assess and think deeply and broadly about their own thinking. As they reflect on what they have written about a concept over a period of time, students will be able to see how their thoughts have changed, and thus they will be better able to understand their own learning. Likewise, reflection over time allows them to make connections between concepts and between their own varied ideas. By reflecting on what they have been thinking and writing about, students are able to see and articulate the development of their own learning, and the goal of such articulation is that they will discover new directions that their thinking and questioning could take.

**Cognitive Effects of Writing to Learn**

As we have continually seen, these fundamental changes in thinking occur during and as a result of the metacognitive act of writing and metacognition on the act itself. In developmental reflection, the most prominent learning can be described as “a permanent change in schemata” that is “abrupt and massive, not cumulative and small” (Kellogg 23). At any point during the writing process, “A sudden insight can prompt a major reorganization of existing knowledge structures” (Kellogg 23). This is especially possible during developmental reflection, for here students attempt to refine the broad thoughts they explore in their blog posts into more formal reflections. Kellogg explains how this might prompt learning: “Suppose that a writer encounters a fuzzy example of a concept that does not quite fit existing knowledge representations. Upon reflection, she may creatively see a way to reorganize the structures of several concepts in order to accommodate the new example” (23). By giving students experience with this process without the pressure of a grade, the focus is placed most heavily on the thinking itself. Furthermore, structured prewriting provides student writers opportunities to work through complicated problems in thinking long before an official deadline. As they summarize, explain and articulate their thought processes in formal reflections, moreover, they continue to reinforce the transformative learning process. Kellogg claims that “as long as the writer continues to think about and modify knowledge schemata that address the organizational problem in the task at hand,” which is more pronounced in formal reflections than in individual blogs, the transformation of thought continues (36). In reflections on past blog entries, students are asked to clearly articulate their learning, and in doing so they will find areas of past
thought that no longer fit with their current schema of understanding.

**Why Learning Matters for Writing**

Learning through writing is not simply beneficial because it teaches specific concepts. Prewriting on the paper’s subject, even when not designated as direct planning for the paper, is extremely valuable for promoting subject knowledge fluency. Think-aloud studies show that college students who are unfamiliar with a topic have greater difficulty producing ideas for writing and are also far less organized in presenting them (Kellogg 73). In fact, gaining greater understanding of a topic through writing enables students to write about that topic with greater ease and fluency when they are formally asked to do so in the future. When writers have greater knowledge about a particular topic, they are able to write about it in more specific detail than those who are less familiar, and may develop their ideas further than they could otherwise. Studies show that students with greater topic knowledge are able to “generate a large number of relevant ideas and organize them effectively,” and the quality of these students’ essays “correlated reliably but modestly with ratings of essays composed by the students” (Kellogg 73). While topic knowledge is not the only factor in text quality, at higher levels it certainly allows students to write with greater ease and fluency. Through structured prewriting, student writers learn about and gain familiarity with subjects they may soon explore further in formal assignments.

In addition to bolstering fluency, expressing topic knowledge in writing prior to a formal assignment can lighten the cognitive load of the student writer when he or she begins a graded composition. In his own study, Kellogg finds that students with greater knowledge on a subject exert less overall effort on all aspects of the writing process than do students with less subject knowledge (92). Overall quality remains equal in both groups, however. Kellogg surmises that while “writing performance depends on how much the writer knows about the topic,” overall text quality is not affected by increased topic knowledge (91). Prewriting for learning does not solve all of the problems a writer faces when composing a particular text, but it can lighten the load significantly because students have easier cognitive access to the information to be included. When they know more about what they are attempting to explain, especially if they have explained it to themselves through writing on the blog, they are better able to develop “a document schema relatively effortlessly” (Kellogg 92). When students find it easier to compose, moreover,
they are more likely to engage with the assignment.

A reason that prewriting for knowledge may be more helpful to writers than knowledge acquired from a text book or other sources is that it combines the development of topic knowledge with practice developing verbal knowledge. Likewise, translating personal ideas into consensual language primes the mind for writing on the subject. As students put their thoughts into words, undertaking the difficult task of translating personal symbols into consensual ones, they build a library of consensual symbols that are readily available as they write further on the subject. Not only are these symbols available in thought form, but they are also available in print for student writers to return to as they write. Thus the students’ cognitive loads will be lightened and presumably text quality will increase as they develop greater familiarity with the task’s rhetorical requirements and the subjects about which they write.

The Value of Developmental Prewriting

In many ways, the blog assignments and reflections on them can be thought of as “prewriting,” by which I mean specifically that students are always writing in preparation for future assignments, regardless of whether or not they are writing with that particular intention. Indeed, the assignment sequence supports and facilitates extensive prewriting, for it directs students to begin seriously thinking and writing well in advance of a formal assignment. While classroom discussions of the writing process typically place some focus on the planning process, often using the term “prewriting” to describe it, the term can mislead students into thinking that this part of the process takes place before any actual composition. To the contrary, thorough planning begins with a great deal of writing. In fact, a significant amount of planning is done before exact arguments can be articulated in a thesis statement or an outline. Especially in non-writing classes, such as my examples of a literature course and the Human Resources program, the class blog should serve as planning space for upcoming papers. While the blogs are certainly not to be treated as early versions or pieces of future papers, they should be used as sketchpads where ideas begin to take shape. Using writing to restructure thought is the general purpose of the blog, and this purpose also serves as the first stage of planning for formal assignments. The act of reflecting on and writing about previous writing helps students to understand their thinking in new ways as they reprocess previous ideas and retranslate them into consensual language. By spending time each week writing freely on an interesting subject, and
then by reflecting in writing on their own lines of thought, students transcribe ideas they will eventually
need to expand upon in their papers, and this practice can give them a cognitive head-start by providing
them with translated knowledge stores at their disposal.

An additional benefit to the exploration that occurs in the blog posts is exposed by the reflections
over time. Students who reflect on their assigned texts will have a rich library of reflections on past reading
and thinking that can be mined for an interesting paper topic. When students are then asked to reflect back
over a series of blogs, they should begin to see a train of thought emerging. Even if they have written very
broadly on a general topic, certain common themes will begin to stand out to them as they continue
thinking about the process of their thinking. These reflective pieces can help students to refine their own
ideas for a paper topic, which is a significant challenge for many students but is a goal of many professors.
The development of paper topics is a typical practice in advanced literature courses, but students often find
it difficult to identify and expand an interesting or appropriate idea.

An important caveat is that upcoming formal papers will need to be well-defined far in advance of
the assignment so that students can tailor their blog posts and developmental reflections accordingly.
Continuing the example of the Human Resources course in ethics, students will know from the syllabus that
their first paper will be one in which they are asked to describe and analyze either an ethical dilemma they
have witnessed in their own place of work, or a current event that they believe poses an ethical dilemma in
the greater business world. Students who have been brainstorming in their blogs about the ethical issues
they face in the workplace or applying theories to hypothetical situations will have a store of personal
information from which to draw their paper topics. For example, a student working at the World Bank
began blogging about where the Core Values put forth by her company’s Office of Ethics and Business
Conduct overlap with the ethical theories she has been learning in class, such as Kant’s Categorical
Imperative, Utilitarianism and Altruism theories. For her formal assignment, she began writing about a
personal ethical dilemma she was facing about changing positions within the company without informing
her superiors, a topic that she had mentioned but had not fully explored in her blogs or developmental
reflections. Her previous blog posts served her well in this paper, however, for not only had she already
analyzed and explored the theories she would have to apply in her graded assignment, but she had also
begun thinking about the specifics of her own company and could immediately translate much of her
previous thinking for use in a new rhetorical situation.

**Prewriting versus Outlining**

With the blog serving as a space for extensive free writing, developmental reflections are designed
to help students become more specific as they narrow in on a set of questions for a paper, yet the reflections
remain far broader than outlines tend to be. In the early stages of composition, where ideas are being
cultivated prior to being organized into a formal rhetorical space, broad written planning is preferable to
detailed outlining. Kellogg cites a 1992 study which finds that “outlining decreased the number of new
ideas that emerged when writers later drafted an essay relative to the number that emerged when writers
immediately composed a rough draft” (131). This is likely due to the writers’ reliance on the previously
created outline, which limited their ability to search for new ideas. For this reason, prewriting that is
focused on the topic but that is mostly unrestricted can be an important method for generating and
developing the eventual contents of an outline. After widely exploring topics in their twice-weekly blog
posts, students will expand on them in their developmental reflections, organically generating a plan for
organization as they write.

Extensive prewriting can also lighten the cognitive load for the student writer when the official
drafting begins. Writing a formal assignment is highly demanding, for the “four operations of collecting,
planning, translating, and reviewing” that make up the writing process necessarily interact during writing,
but when they do they can “overload the writer’s limited intentional capacity” (Kellogg 69). For example, a
student in a Human Resources class who is writing on best practices in recruiting might have difficulty
organizing and incorporating her sources with her own personal discussion of the topic, which represents
an interaction between the planning and translating stages. Therefore, encouraging students to engage in
preparatory practices, separating the four operations on paper before having to consider them together, can
help them to have greater control over them by giving them fewer things to consider simultaneously. The
Human Resources student will find the writing process much easier if she has examined her sources in
writing on the blog and teased out their significance and relationship to her argument before she attempts to
write the formal paper. She will have done so, moreover, in the low-stakes environment of the blog prior to
engaging in the much more complicated rhetorical situation of a formal assignment, which would help prevent a crisis during composition.

Helping students develop cohesion is another benefit of prewriting. This is related to the planning process in that it refers to local, sentence-level cohesion and organization, coupled with the slightly more difficult global cohesion of the entire text. Many writing scholars consider organization and cohesion to be significant indicators of text quality, and most readers would probably agree (Kellogg 58). This cohesiveness is achieved at the sentence-level when writers utilize “local ties” which act as “links between adjacent sentences,” and at the paragraph-level with “remote ties,” which serve as “links between a sentence and an earlier, nonadjacent sentence such as a topic sentence” (58). We know these ties as words like “therefore,” “similarly,” and “however,” which less-experienced students seem to understand as words that give an air of scholarliness to an essay.

In English classes, students are frequently taught specifically about how to incorporate these transitional words and sentences into their essays. Unfortunately, focusing primarily on the textual aspects of these links may obscure their true purpose: to make an idea more comprehensible to a reader by making logical and smooth connections between ideas in the form of sentences and paragraphs. The relationship between mentally defining the connections between the thoughts they are expressing and using linking words and phrases to express these connections is cyclical. To know how to properly use these linking words and phrases, students must first understand how their ideas relate to each other, yet it is often through writing – testing various connecting words and phrases and reviewing to determine whether the meaning as stated matches the writer’s intent – that writers first articulate these relationships for themselves. Students need to know that their writing can be provisional and fluid until they arrive at what they mean to say.

The structure of the blog assignments provides an excellent platform for students to define and articulate some of the meaning of their texts prior to writing the final paper. Students should be taught to use the blogs and their reflections on it as a place in which to work through their ideas to make them cohesive and comprehensible. While individual blog entries may be less focused and more exploratory, a series of entries will likely yield one or several common threads of thinking that can be identified and
explored in greater detail in the reflection or in later blog posts. As they develop their ideas, they will need to ensure that they express their thoughts cohesively at the sentence level, where “each sentence elaborates the one that precedes it” (Kellogg 75). Their short, one- or two-topic blog posts are an excellent space for developing this process, for they will have a minimal amount of information on which they must focus and can devote their attention to ensuring that each sentence connects the thoughts of the ones preceding and following it. Likewise, they will work to increase the quality and sophistication of their essays as a whole in their developmental reflections, where they practice articulating how a series of ideas relate to each other in an extended piece (Kellogg 76). In their reflections on the blog, they will practice identifying and explaining something they have been thinking and writing about, while keeping the global purpose of the text in mind.

**The Value of Consistent Writing**

Like many other activities requiring sustained effort to gain expertise, attaining syntactical and lexical knowledge as a writer, including appropriate and varied sentence structures, phrasing and organization, requires substantial and “deliberate practice” (Kellogg 83). If they are writing on the blog throughout the semester, students have far more opportunities to actually practice writing than they would in a course that only requires a few major papers. Not only will they gain familiarity with the subjects about which they write, but they will also practice crafting sentences about them, and in so doing will also gain familiarity with the act of writing itself. The blogs give them experience with the difficult task of putting thoughts into words and constructing coherent sentences, as well as opportunities to experiment with different ways of saying things. Ideally, they will find themselves making use of self-talk as they write, perhaps most importantly as they synthesize past thinking into the more formal reflection. This most basic practice is of utmost value to any course, and is a fairly simple way to provide students with structured writing practice.

As students put their thoughts into words, they practice forming sentences to express a series of ideas. Then, as they rearticulate these thoughts more concisely and more purposefully in a reflection, particularly if these reflections are direct preparation for a specific writing assignment, they gain experience meeting the demands of particular rhetorical situations, developing their discourse knowledge. Also called
verbal knowledge, discourse knowledge refers to “knowledge about language and its uses,” and although it is not found to significantly lighten cognitive effort, it does typically increase the overall quality of the text. Unlike his studies of content knowledge, which found that students with greater content knowledge devoted less cognitive effort to writing tasks but wrote essays that were equal in overall quality to those of students who were less familiar with the writing topic, Kellogg found that students with greater verbal knowledge wrote better quality essays. Greater discourse knowledge corresponds to higher quality in terms of “style, language usage, punctuation, mechanics, rhetorical skill, sentence complexity, textual cohesiveness, and the like” (Kellogg 74). In sum, Kellogg writes, “Style quality is more at issue in the case of verbal knowledge, whereas the content of a document is more affected by topic knowledge” (93).

The blog helps develop both content and verbal knowledge, however, as the formal reflections on the blog can be used to instruct students in verbal knowledge through both writing practice and frequent peer and teacher evaluation. It is recommended that teachers evaluate and use formal reflections as indications of students’ verbal knowledge. Furthermore, teachers may indicate the grammatical mistakes in developmental reflections, even if they are not graded. The reflections should be posted to the blog so that students can respond to their peer’s ideas in written comments, but the teachers should print and mark up the reflections, returning them to students as evaluated but ungraded products of writing. Developmental reflections are a stepping-stone on the way to formal assignments. Instructors should expect few grammatical and punctuation errors and no typos – clear evidence of significant proofreading. While written evaluations of the developmental reflections should focus primarily on the ideas themselves, instructors may also take off points for careless editing and may use their students’ genuine errors as opportunities for instruction on particular rules of grammar and style, such as parallelisms and number agreement between nouns and verbs. A teacher may find that many students have difficulties with similar stylistic issues, and may decide to hold a workshop focusing on these specific errors. Because these pieces are short enough that each student should be able to carefully edit each sentence, they provide the teacher with insight into the mistakes that have not been merely overlooked, but require additional instruction. The instructor may choose how much of the grade is a result of the ideas in the piece and how much relates to grammar and style, but it is important to give students real practice and instruction on creating polished
writing before the final paper, where the pressure of a grade may deter students from deeply exploring their topics. As students develop their verbal knowledge through the blog and reflection on it, they will learn to craft more stylistically sophisticated essays.

As students gain verbal knowledge and understand the demands of an essay more clearly, they will also be experimenting with different ways of expressing ideas. They will explore related ideas over the course of several weeks and then reflect on what they have written, and in doing so will be able to see how they expressed something once and how it could be expressed differently -- either to an alternate effect or simply stated more clearly or appealingly. Unlike a draft where the main goal is to complete a document, pieces of developmental reflection should focus primarily on ideas -- identifying them, summarizing them, and recognizing and explaining, both to the writer and to the teacher, a line of thought. Practice expressing ideas gives students past experience to draw on when they undertake formal assignments. Why did a particular way of writing something work in a certain situation? How does it differ or resemble another situation they have encountered in the past? Can they apply anything they have learned from their own past writing to a current assignment? One of the most significant abilities of expert writers, according to Flower and Hayes, is the ability to flexibly apply past knowledge and problem-solving strategies to a variety of situations (Kellogg 87). The blog and reflective writing on it allows student writers to develop and experiment with these strategies. This topic will be explored further in the following chapter.
CHAPTER IV

Constructive Reflection: Metacognition on the Writing Process

The variables in the writing process are so numerous that it is immensely difficult to distill them down to create a curriculum for teaching writing. With limited writing experience, students often hold the misconception that much of the writing process cannot be learned. They assume one is either a “good” writer or not, just as one can be a good artist or a poor one. It is easy to see artists as people who operate almost entirely on natural skill. While it is true that there are authors who nearly everyone would agree have artistic talent beyond that of their peers, the basic act of writing, communicating through consensual symbols in the form of text, is universal. Anyone can, with practice, develop an understanding of the act of writing, learning the habits of effective writers and employing them strategically. Similarly, we know that those from whom beautiful language and thoughts flow must also put in immense thought and effort into how they are to complete their writing, as is evidenced by the writing on process of so many famous authors. However, these writing journals also tell us that the writing process is so complex and individualized that we should not even hope to identify a formula through which anyone could successfully produce text.

How, then, do we teach the writing process? How can we help students understand how to write when we do not have a proper theory of how to write well? To answer this, we must realize that writing truly is a process, and that although many people do find similar strategies helpful, each individual’s process will likely be somewhat specific to him or her. We need to teach students that after and during the writing process, they can think about what they are doing in order to identify what works best for them. We know that students’ brains are largely the same, so it is likely that all students will benefit similarly from strategies such as outlining and planning. What is less certain is how, when, where, and why each student implements a particular strategy. We need to teach students that by reflecting on how they write and on their writing processes over time, they can strategize their approaches in the future. They will learn that while there is no shortcut to good writing, it is possible to train oneself to become a better writer by theorizing about what strategies and techniques were successful in the past. Students who theorize their own writing processes can learn to maximize the effectiveness of their effort, giving them immense
flexibility and control over how and what they write. By teaching them to be aware of their own writing processes, we empower students to create self-theories of writing that can guide them in future compositions.

The purpose of reflecting on the composing process is to increase students’ awareness of the techniques and habits they follow as writers, teaching them to develop metacognitive awareness of the actual process of composing. When students take their own composing processes seriously and learn which practices that serve them well, they can create working schemata of how they write that they may stretch and revise to apply to other writing situations. These schemata serve as ready-made guides for understanding how to approach a particular problem, and can include personal practices as well as individual approaches to interpreting a prompt and determining appropriate strategies. Furthermore, greater self-knowledge gives writers increased control over the actual execution of their individual approaches. In monitoring their writing habits, they are able to change course if they encounter a problem with the assignment, such as a difficult source or an idea that no longer makes sense in light of something discovered during the writing process.

Reflection on the process of composing differs from developmental reflection in that here students are asked to think specifically about how they write, with less focus on how they negotiate content into a particular context. In this way, reflection on process is much like Kathleen Blake Yancey’s notion of constructive reflection. In the classroom, students can be taught to reflect on how they compose, to write down these reflections, and to discuss them with each other. When students understand their writing as thinking through self-talk and reflection over time, they can be taught more specifically about the writing process because they will be open to the idea that with practice, they can improve their writing skills. They will see that all writers attempt to do the same thing – translate their ideas into the consensual language of the written word. To do so requires effective strategic practices, and writers who take the time to cultivate such self-knowledge will be better able to structure such practices.

Reflection on the composing process puts students at any skill level in charge of their own learning by helping them gain metacognitive awareness of their own habits and strategies. Yancey’s notion of “constructive reflection” offers a model of what part of this process would look like as it asks students to
begin to “generalize across rhetorical situations” and then to reflect on those generalizations (51). In this way, they can create “prototypical models” of their own composing practices, recognizing strategies that might work in a number of situations (Yancey 50). Through constructive reflection, students learn about themselves as writers. Yancey claims that this learning “happens more often than we think, once we start asking…questions about what happens inside and outside and between and among the drafts” (56). Flower echoes Yancey when she writes that when “students observe their own learning, their reflections can be forged, tested, and reconstructed in the resistant context of experience” (Construction of Negotiated Meaning 235). We can take even greater advantage of this by asking students to reflect on how they compose their formal assignments and their developmental reflections on the blog, and to ask them to identify how the situations are similar or different.

By making the process a focal point for student examination, students learn that the techniques that are encouraged by writing teachers of all kinds, such as brainstorming and outlining, are more than just busywork. In fact, these often under-explained supplemental activities are part of the successful execution of an essay. However, if students do not understand the reasoning behind them, they may be reluctant to invest in them and therefore do not get the full benefits of these practices. Emphasizing reflection on the writing process forces students to recognize how they think while they write, and the important role that planning strategies play in the writing process. In this manifestation of reflection, student writers think about the broader choices they have to make, such as generating content, defining larger goals, determining organizational structure and so on. They will ask themselves what they are doing on the page and why, gaining awareness of their own processes. Instead of leaving our students to discover successful techniques strictly through trial and error (which is often graded), we can instruct them in developing metacognitive awareness of their own processes and then bringing those insights to class to discuss and cultivate individual working theories of composing.

**Metacognition**

It is certain that everyone who writes has some general idea of how to go about approaching the task, such as initial brainstorming, compiling research and notes, and possibly outlining a structure for the piece. The level to which students engage in these practices surely has an effect on the success of the
project, yet student writers with little experience may not know which of these practices are worth the
investment of their time and effort. Furthermore, they might not take the time to consider the best way to
write a paper until they are staring at a dauntingly blank Word document days before an assignment is due.
Because each writer is different and the writing process is so complex, there is no set list of actions a writer
must take to be successful. Instead, a writer must learn about him or herself in order to evaluate which
practices would be most beneficial to his or her process. As such, metacognitive awareness is an enormous
benefit to any thinking and learning, and it is the goal of reflective writing. In addition to being aware of
their own thoughts as they write, students should be conscious of their writing processes. Researchers from
many fields are studying metacognition for its possible benefits for memory and learning. Its significance,
according to Tim Perfect and Bennett L. Schwartz in *Applied Metacognition*, lies in the practitioner’s
ability to know him or herself. When students are aware of their own writing processes, they have greater
active control over the choices they make in composing. Perfect and Schwartz note that “the more
knowledge one has about different strategies and their potential applications, the easier it will be to select
the optimal strategy and modify it to meet the demands of a particular task, and monitor performance,
changing the strategy if necessary” (21). Like the active metacognition of self-talk that gives students
access to their thoughts as they write, metacognition on the process prompts students to pay attention to
their individual writing habits. This affords them, according to Perfect and Schwartz, “the ability to judge
successfully [their] own cognitive processes,” as well as “the ability to use those judgments to alter
behavior” through increased control (15). Though this definition applies to every form of reflection
couraged here, I am particularly interested in the possibilities of control afforded by metacognition on the
composition process.

To see these benefits, we can look to Kathleen Yancey’s experience of having her students reflect
on their own processes. First, Yancey writes, students realize things about their processes that had been
previously unconscious and unrecognized. She claims, “in the process of recording the process, students
learn: about the myriad of methods they use to recall, remember, re-create. And they have a *record* to
which they can return” (28). Secondly, students learn that they have the authority to speak about their own
writing. They learn to know their writing and their habits better, and in so doing gain expertise on their own
learning. They discover “how [their writing] works when it works, as well as about how it doesn’t” (Yancey 28-29). Here we see that increased awareness of the process, enhanced by written reflection on it, is highly beneficial to student writers.

**Self-theories of Writing**

Metacognitive monitoring of the writing process is highly valuable in that it provides the structure needed for a writer to evaluate his or her own habits. Yancey explains this using Donald Schon’s concept of “reflective transfer,” which is “the procedure that enables us to learn from and thus enhance our practice” (Yancey 126). By paying careful attention to their habits and practices, and by evaluating the level of success accompanying them, students are able to diagnose their own needs. This practice allows students to become experts on their own writing habits, and gives them confidence that the ways in which they proceed have value and are dependable. Past experiences become sources for current self-understanding. Reflecting on the composing process, students identify and determine how to solve problems that arise, and in so doing begin to build working theories that they can then adjust and apply to future situations. For example, if a student is having difficulty generating content for a research paper, he or she may look back on previous process descriptions to see what has been helpful in the past. He or she may realize that rereading or taking more notes on a source helps to jumpstart his or her thinking. Perhaps the student will notice that in the past, such a block in thinking has occurred in response to an undiagnosed problem in the organization of the piece that requires some restructuring. These personal schemata for how to compose are already at least unconsciously in place for every student who attempts to write a paper, involving input from “both general, prototypical knowledge and specific instances” of writing (Flower, *Construction of Negotiated Meaning* 271). Through active reflection and reflective transfer, students bring these schemata to conscious awareness and can intentionally adjust them to fit the needs of any assignment.

This technique puts the power and authority in the hands of the student. Although particular habits and strategies are often encouraged by teachers or suggested by peers, it is ultimately the individual student who determines his or her course of action. Students are likely to resist any changes in their writing routines, but if they make these changes while carefully monitoring their practices, they will understand the value and success or failure of each habit and will have greater ownership over the process. Asking
students to monitor and purposefully alter their strategies is giving them a significant but ultimately beneficial challenge. Flower writes, “It is saying in essence: abandon your well-learned strategies for summary and response and reconsider some of your old relations to source texts and even to authority” (Construction of Negotiated Meaning 265). All students use strategies to write papers, but most of these they develop through trial and error, with error often making up the majority of the experience. If they are asked to focus on the process and to make wise choices on how to write based on metacognitive reflection coupled with discussion with their peers and teachers, students will be far more likely to use strategies that are effective for them. Flower argues that students have their own go-to set of strategies, and they might be resistant to changing them based solely on the suggestion of the teacher. Instead, teachers can foster the development of more successful personal working theories of writing by teaching students to reflect on their own processes. Furthermore, by explaining the reasoning behind the techniques used by expert writers, students understand why they might also want to attempt to employ them.

An important aspect of these working theories is that they are necessarily conditional and provisional. Each situation of writing differs greatly depending on the context, the teacher, the medium, and so on. With a flexible theory of how he or she writes, a student can be confident that he or she will be able to analyze the situation and successfully apply a personal theory. Furthermore, the more the student reflects on his or her processes in many different situations, the broader, more flexible and widely applicable his or her theories will be. Indeed, Flower claims that “when learners have conscious access to and control of their own knowing, when knowledge is no longer welded to the situation in which it was learned,” they “achieve the flexibility that is the hallmark of higher intelligence” (Construction of Negotiated Meaning 227). Flower also writes of the confidence and self-knowledge of the writer as a problem-solver that having a working theory of composition can provide. Flower writes, “Constructing this image involves negotiation with a teacher’s instructions and feedback, with the writer’s own history and favored strategies, and with other students’ ideas, all of which may foreground different criteria, different advice, different moves” (Construction of Negotiated Meaning 270). Learning to create individual theories also helps students recognize the changing nature of writing according to the assignment. They will begin to understand that they cannot simply approach every writing assignment in the same way and expect to achieve the same
results. Instead, they can evaluate and reinterpret their schemata in order to meet the requirements of the particular writing situation.

For example, a student in a composition course may have enormous success on the “personal narrative” assignment because, like many students, she finds it easy to write about her own life. In this assignment, she may have been asked to describe a time when she overcame a great challenge. To write this paper, she would have brainstormed a variety of challenging past experiences, and after selecting one in particular she may have proceeded in a number of ways, including outlining, free-writing, list-making, and so on. As she would also be reflecting on her process, she would have created a record of her actions including the techniques that worked for her and those that did not. When she finds herself having difficulty with the next assignment, writing a profile of a community leader, she can return to the self-theory she has developed through the previous assignment for clues on how to proceed. She may find that the some of the same techniques she used for the narrative, such as brainstorming, are useful in different ways. Here, she may need to brainstorm only to determine which community leader she would like to interview. Outlining and other organizational techniques may prove to be more important in the profile piece than in the personal narrative, for the student will have to analyze and structure a great deal of new information. By reflecting on and recording her process, the student has a clear way of seeing each task and approaching it according to the habits and techniques she has tried in the past.

The Value of Control

The second benefit of metacognition is increased control over the writing process, and it is this control that facilitates and expands the possibilities of writers’ working self-theories of writing. With greater awareness of the process, writers are afforded more precise control, which allows them to make use of specific strategies and tactics. If they are actively reflecting on what they are doing and thinking, they will better understand their own processes and will begin to make conscious choices about which techniques work best for them.

Flower emphasizes this control in her discussion of the “two levels of metaknowing” (Construction of Negotiated Meaning 226). She writes that the first level of cognition, “the in-process acts of regulating cognition,” is “a process of regulating or controlling other cognitive acts” (226). Just as
“Readers engage in such metacognition when they interrupt fluent reading to monitor a failure in comprehension, to reread, to try to form a gist, to clarify a momentary source of confusion,” writers, too, can pause throughout the process to actively reflect on the writing in process and the process of writing (226). This reflective practice enables the writer to control his or her own approach more effectively, engaging in “planning, detecting, and diagnosing problems” and using the “control strategies that let writers monitor and guide cognition” (226). Flower notes that a “limited form of storable metacognition is clearly tied to successful performance. It is often referred to as the ability to mention as well as use, to recognize, or to access one’s strategies” (227). In encouraging direct reflection on the composing process, we are also directing students to identify and articulate their own habits, and in so doing gain access to and control over the individual actions they take as they write.

**Putting it into Practice**

In order for students to be able to reflect on their writing habits, they must write frequently. This is possible thanks to the assigned writing on the blog. In addition to using the blog to think through ideas and to develop verbal knowledge, the blog also serves as a rich body of writing experience from which students may develop theories of themselves as writers. At the start of a semester, a useful in-class assignment involves asking students to assess how they see themselves as writers. This is not only to ask about their past writing experience, as in what kinds of writing they are familiar with, but also for them to begin creating working theories of their own practices – how they approach writing tasks and what their practices are as they complete writing assignments. In the diagnostic reflection, which may be a single-page essay, students are asked if they have ever thought about what they do while they write. Do they use an outline, brainstorm, research, use notes, etc.? Have they ever thought about the fact that they do these things? How does each student characterize him or herself as a writer in the act of writing? A preliminary self-diagnosis helps students to eventually see change and growth as they continue self-reflection throughout the semester.

An important thing to keep in mind with reflection on process is that the more specific the writer is able to be, the more effective his or her process reflection, and therefore knowledge, will be. Students must be specific about how they approach and complete an assignment, and they should be aware that their processes may change according to the task. With this knowledge, they will begin to see which habits are
common for all writing, such as outlining, and how these habits might change depending on the nature of
the assignment. Flower insists that reflection on process should be more than an account of time spent
planning or a record of personal preferences of where to sit while writing. Instead, it “is a complex,
intentional, time-taking act of reflection” on each part of the process from analyzing the prompt to
developing a plan of execution (Construction of Negotiated Meaning 228). She provides the following as
an example of a student’s possible approach:

   a student writer might review the state of her topic knowledge…and then go on to consider the
discourse conventions or even ideology of communities who assign (and apparently like to read)
such texts. Facing a new task, reflection might lead her to think about the assumptions, values,
goals, and strategies that are informing her present act of composing. (Construction of Negotiated
Meaning 228)

   This focused reflection is intended to give students the insight and meta-awareness of their own
habits they need in order to develop their own personal theories of writing. Indeed, “To operate at this level
of reflective metacognition calls for both a heightened awareness (beyond that needed to regulate
cognition) and for a language (beyond self-talk prompts) to talk about, evaluate, and manipulate that
knowledge” (228). In each reflection, students should be thinking deeply about what they do while they
write with the express purpose of being able to modify their practices as needed in the future.

   A good model of what these reflections should be comes from Kathleen Yancey’s description of
what Jeff Sommers calls a “Writer’s Memo” (Yancey 26). A Writer’s Memo is a formal process description
written after completing an assignment or draft in which students examine and then describe the process
they followed as they composed the accompanying assignment. In a class using developmental reflections
as semi-formal precursors to essay assignments, Writer’s Memos could be assigned with developmental
reflections as well as with the essays. By producing a written account of their habits and practices,
“students begin to know their own processes, a first and necessary step for reflection of any kind” (Yancey
27). If students do not stop and take stock of their habits, they will have little awareness of what they
actually do. By combining the reflection necessary to produce the Memo with reflection on the contents of
the Memo itself, students begin to develop images of themselves as writers. In their reflective blog entries,
students will look back on what they did as they wrote their papers – what specific actions did they take and why? Did this strategy work? How? Why or why not? Will they approach their next paper similarly? Would the approach they took with this particular paper work for the next assignment, or was there something specific to this paper?

In addition to the reflecting on process after each semi-formal or formal assignment, students can also be asked to reflect on past process reflections in order to begin recognizing aspects of the writing process that have been successful and to theorize about what to try in the future. These reflections on process over time are quite similar to the developmental reflections discussed in the previous chapter. Though they differ in focus, they are essentially identical in form and they overlap in purpose. While a writing course might devote more time to focusing on writers’ self-theories, any course can incorporate short reflections on the writing process after every formal or semi-formal assignment. By the middle of the semester, students should have at least two or three of these reflections, including their initial projection. At least at midterms and with their final papers, students should write a reflection as a way of constructing a broader theory of themselves as writers. Students should write more broadly about themselves as writers in these reflections over time, instead of focusing on a specific paper.

**Using Cognitive Strategies: Planning**

When students are able to use their working theories of writing and metacognitive control to direct the writing process, an excellent area to begin putting this into practice is the planning process. While it is certainly not the only important aspect of the writing process, an area of frequent student neglect that is almost always vital for successful completion of writing assignments is the planning and structure-development that should occur before and throughout the writing process. Part of planning is being able to see the assignment as a whole – to interpret and understand what is being asked and to imagine what will be involved in the final product. Developing this broad knowledge is a large part of constructing working theories of composition.

Planning is essential not only in advance of writing, but also throughout the process. As students write, their purpose and content transform, which often requires a change in the structure of the paper as a whole. Students can learn to make structured yet flexible plans for their essays, and to revise them as
needed during the process. Bereiter and Scardamalia write of beginning writers’ inability to see beyond the immediate, “local” needs of a paper to view the project as a whole (70). On the contrary, advanced writers should be able to consider the project on many levels of significance. The benefit of writing is that they do not need to hold all of these areas in mind simultaneously; instead, they can write out their plans and their reflections on these plans during the challenging yet productive period of heavy planning.

To do this requires students to consider what the ultimate goals of their papers are: as specified by the prompts and as developed by the individual writer. Bereiter and Scardamalia find that children use a “serial strategy” to plan their essays (76). This means that they attend to a problem only as it arises as they write, putting aside other constraints until they absolutely must be dealt with. The problem with this strategy is that without an end goal or a broad working plan in mind to consider a number of the task’s significant constraints, the writer may eventually encounter a problem that is too large or tangled to solve without major structural difficulties. Instead, students who use the “simultaneous strategy” must invest more effort throughout the process, but they are more likely to reach a satisfactory conclusion (76).

This process is so difficult because of the transformation of thought that continues to happen throughout the writing process. Executing a paper by taking it from its beginnings as a collection of notes through a plan involving an outline and broad structure and finally into a cohesive series of sentences requires a radical transformation of information. Like the transformation that occurs due to tuning, this also helps students become the knowledge-transformers that Bereiter and Scardamalia identify as expert-like writers. Students can take advantage of this benefit and employ it in a way that fits with Bereiter and Scardamalia’s definition of expert planning by “working through a task at an abstract level” on the blog and developmental reflections “in advance of working through it at a more concrete level” in the form of an outline (21). Students should receive direct instruction on developing broad, yet specific structures for their papers, and this can be done using the developmental reflections they write in preparation for formal papers. An instructive in-class exercise could involve students imagining a paper they might write based on their developmental reflections, and writing an outline of what the paper might look like. Students can be asked to justify in a sentence why each topic is located as it is, and to articulate in writing how the ideas relate to one another. This would not need to be graded, but teachers may wish to give feedback about any
issues or flaws in logic they may notice in these outlines.

The Cognitive Benefits of Planning

As students practice creating outlines, they should also be taught about why planning is so useful. In addition to facilitating greater control and organization, planning at its various stages also makes sense for the way it lightens the cognitive load of the writer. One of the most important things students can do to free up mental space is to plan their papers in as much detail as possible, creating an outline for themselves before they begin to write the actual paper. Kellogg notes that an outline can take many forms, but ultimately it “must provide both a linear and a hierarchical plan for drafting the text. This assumes that the outline serves as a guide for generating the text as opposed to a device for developing and structuring ideas alone” (123). “Theoretically,” Kellogg claims, “outlining helps writers to retrieve and apply knowledge” (129). Like the broad planning done as prewriting, outlining facilitates a separation of the sub processes of writing. In so doing, outlining allows “writers to concentrate on translating because they have already generated and organized ideas before composition” (Kellogg 129).

Like prewriting, furthermore, outlining helps students to organize their essays and therefore their thoughts, thereby making the writing process itself easier. Kellogg writes that “the hierarchical structure of an outline helps writers to retrieve (certainly) content and (perhaps) other knowledge when it is needed during composition. That is, organization as well as concentration may account for the benefits of outlining” (129). Outlines are more specific than broad planning, and therefore they are more explicit when it comes to the knowledge needed to continue writing. An outline can help students keep these thoughts organized as they deal with a text, helping not only to maintain the text’s coherence, but also to keep the writer focused. “For example,” Kellogg writes, “creating an outline during prewriting yields a linear, hierarchical document schema that the writer can rely on as a knowledge retrieval aid during composition of a first draft. The organization of the topics to be covered should facilitate retrieval of relevant, domain-specific knowledge” (69). Students determine in advance a sketch of how the paper will be written – what ideas will go where and why and what each paragraph will both say and do. Creating a flexible working outline of the idea and the form it will take in the paper plays a major role in the paper’s ultimate structure and organization. The outline is not an arbitrary list of what is in the paper, but is essentially the writer’s
placeholder of his or her metacognitive view of the text as a whole. A true working outline allows the writer to frequently assess where he or she is in the paper, as well as where the paper is going. As students take time to reflect on the broad structure of the paper, they will be better able to focus each paragraph and section to their purpose, and as their thinking changes, so they will change their outline to reflect the new direction of their thinking.

It is important for students to keep in mind that their outlines must remain flexible, able to be modified as the composing process necessarily transforms their thoughts. Outlines are only beneficial to transformative writing if they are easily transformed along with the writer’s thinking. In fact, planning can foster transformation of thought by giving the writer a different level of awareness of his or her work, leading to necessary reorganization. As Kellogg continuously reinforces, these transformations of thought occur as a result of changes in schemata caused by the negotiation of content and rhetorical demands. By permitting the boundaries of their plans to become “fuzzy[,] …allow for ambiguities and inconsistencies in ideas” (Kellogg 27). Indeed, Kellogg writes, “Planning allows the writer the freedom to explore ideas in a tentative fashion, without the need to commit prematurely to a particular line of thought or style of expression” (27). Aided by an outline, students may resolve any “ambiguities…later in the processes of composing sentences and revising” (Kellogg 27). With an outline as a safeguard for organization, students can allow their emergent text to be messy, literally “thinking” it through. Regardless of how changes in thinking modify their plans, they would retain control over the paper as a whole.

Reflecting on the process of writing allows students to have control over all aspects of composing and is an important lynchpin in a cognitive approach to writing. While self-talk and developmental reflection give students access to the writing process in terms of the content they are generating, reflection on the writing process shows students what they do physically and mentally to construct a text. In understanding their own processes, students can effectively use planning strategies, and they will be able to determine under what circumstances they wish to use them. If they find that developmental reflection or any other novel strategies become important components of their composing processes, they will take this self-knowledge with them into any other instances of writing and will maintain control, even if they are asked to write something wholly new to them.
CHAPTER V

Reflection on Product

Although reflection happens most frequently on writing that is in-process, students also need to learn to reflect on their writing as a product. Through this kind of reflection, they will learn how to read their own papers as another reader might. What situations can we create that give students the opportunity to see themselves as writers and to read their own work as an outside reader might? In a reflective classroom, students will understand the importance of continued revision during prewriting and through self-talk, and they will also benefit from direct instruction on how to reflect on their own finished writing, as well as that of their peers. They will serve as readers for their peers by critiquing each other’s developmental reflections, and in so doing will become familiar with what an outside reader needs to comprehend a text. As they read through their own completed drafts, students will learn ask themselves if an independent reader would be able to understand their papers, and if not, what changes in organization or distinctions of terms need to be made.

Knowledge Transformation and Revision

Revision is important if students are, as is our goal, achieving knowledge transformation through writing. When knowledge is transformed through schema changes as it is encoded in text, the text must change as well. Knowledge-transformers are always revising, always finding new ways to arrange a paragraph or adapting previously written sentences to fit with newly identified goals. Indeed, certain aspects of revision are expected to be an always-ongoing process. As all who have written anything of significance know, the exact purpose and structure of a text often changes during the process; thus it is almost impossible to write a complete draft with no in-process revision. This revision is monitored through self-talk, as was previously examined. Through self-talk, student writers monitor the transformation of thought that comes from writing, which often helps them uncover their precise ideas. This is a central tenant in a cognitive view of writing, and C. Day Lewis sums it up nicely: “We do not write in order to be understood; we write in order to understand” (Bereiter and Scardamalia 22). Students who recognize their writing as thinking and who are metacognitively aware of it through self-talk are always aware of the possibility and method of in-process revision.
In keeping with this assumption, Ronald T. Kellogg reports that experienced writers are far more likely to make changes to their text at any point during composition. He writes that in a study of “texts revised by college freshmen, advanced college students, and expert adult writers,” it was the “advanced students [who] made the most changes” (88). Unlike the expert writers, who primarily made changes to meaning, advanced students not only made the same average number of changes to meaning, but they also made “nearly twice as many nonmeaning changes” (88). The less experienced college freshmen made hardly any changes to meaning, focusing almost entirely on “mechanical corrections and word choice” (88). Experienced writers seem to have developed an ability to use the transformation of knowledge that comes from writing, regardless of whether or not they have made it explicit. The experts demonstrate continued use of this practice, and are also able to avoid the technical errors of less-experienced writers. Through practice, novice writers can be taught to make changes in meaning, while older students can learn how to make better changes and can gain experience correcting technical errors.

Based on their own research, Bereiter and Scardamalia developed a simplified model of how revision takes place. The “CDO cycle” is the method by which students evaluate and revise their writing (267). The first step, COMPARE, occurs whenever a student reflects on his or her writing at any level of awareness and “detects a mismatch” between the intended text and the product in process. The student must then DIAGNOSE the mismatch to determine the source of the error. Is there a lapse in logic or local cohesion between two sentences? Is there a redundancy? Is not enough information given in a particular sentence or paragraph? Once the student has diagnosed the issue, he or she must select a tactic and execute the change, which are the two components of the OPERATE phase of the cycle. After making the change, the student can choose to continue writing or to implement the CDO cycle again to validate the change or to revise other already-written text. This cycle may take place with any level of awareness, and it may occur many times throughout the composing process (267).

There is, however, some disagreement as to what extent revision should be considered during the composing process. Indeed, there is no consensus as to whether it is more beneficial for students to revise at any time during the writing process, after completing a draft, or in various forms at certain times. Some argue that student writers might get bogged down with in-process revision. Indeed, Mike Rose cites
“premature editing” as a significant cause of writer’s block (Writer’s Block 72). Although he accepts that every writer, “to some degree, edits from first thought to final sentence,” his studies reveal that a large number of students hinder their own fluency by being overly cautious of the words they choose or the structures of their sentences (72). Rose recommends that students use strategies to circumvent premature textual editing, such as marking recognized errors to return to them later so as not to interrupt the flow of ideas (73). This is a good suggestion, but students will also understand revision-in-process as changes made to meaning, not necessarily to the text at the surface-level. They understand that they will write more than a single draft of their essays, which allows them to put off surface editing until a later draft. As they write, they will not be overly concerned with grammar and punctuation, which should be attended to primarily as they reflect on their writing as product. Again, as is the case with prewriting and planning, students benefit by separating the tasks involved in the writing process. Reflection on product serves as the final evaluation of the text, which enables writers to ignore technical errors during the drafting process.

Although their experiment is far more structured than actual writing situations, in a study of direct instruction in revision techniques, Bereiter and Scardamalia attempt to settle the debate over whether revision should take place during or after the writing process. However, they find benefits and drawbacks to both options. Writing a short essay responding to the question, “Should children choose the subjects they study in school?”, students in the group that revised during composition paused after each sentence and were asked to consider whether to keep each sentence as is, delete it, or alter it in a number of specified ways. Students who revised after composing did not make alterations until after they wrote the entire essay, but they also considered each sentence using the same specific options provided to the students who revised as they wrote. The in-process students benefited from the “forward-acting effects such as suggesting additional things to write,” by making them reflect on text, but had difficulty “keeping plans for future text in mind while pausing to reconsider text already written” (272). On the other hand, those who revised after composition were able to maintain their text’s focus, but their revisions were “more constrained, since revisions must be fitted to following, as well as to preceding, text” (272). While the shortness of the essay is certainly a significant difference between something a college student would typically write, we can expect the benefits and difficulties of each method to be similar.
Thus it is that revision during the writing process is highly useful for keeping the writer’s thinking open, and it is for this reason that the prewriting process is crucial. Revision according to and through self-talk works most efficiently, however, when the writer has a working, flexible outline to prevent mental overload leading to disorganization. The planning and structured prewriting of the blog and constructive reflection can help writers to maintain focus and “reduce executive control problems” in spite of their revisions (273). Ideally, revision during the writing process occurs naturally, often in the form of self-talk, and students who are using the blog will have extensive experience with this type of revision.

**Direct Instruction on Revision**

While it is our goal that students be able to incorporate the revision process naturally in the way that works best for them, students often avoid it in composition (Bereiter and Scardamalia 267). Thus it is that direct instruction, similar to that given to the students in Bereiter and Scardamalia’s studies, can help students learn to develop methods for revising their texts, either during or after the composing process. Although Bereiter and Scardamalia find revision to be “a cognitive process that is new for most children,” it can be expected that more experienced writers of any level would have some access to the revision process, even if it is unstated (269). However, direct instruction that forces students to reflect on this process brings it to consciousness and can then be strategically employed by the student writers.

Direct instruction on how to approach revision may be especially conducive to workshops done in class. This particular articulation of a possible workshop is adapted from the method of instruction Bereiter and Scardamalia utilize to conduct their many studies on revision in children. These instructional methods can be further modified to fit the purposes of any course. In their studies, although the results varied, Bereiter and Scardamalia found continued success with direct instruction on using the “CDO process” instead of leaving it “to occur spontaneously, sporadically, or perhaps not at all,” as is frequently the case for inexperienced writers (268). While college or graduate students would be much more likely to utilize a form of the revision process than the 4th-12th grade students from Bereiter and Scardamalia’s studies, given the positive results of their direct instruction, similar practices should also benefit older learners. Unlike the children, it is expected that more experienced writers would be able to learn these techniques and then carry them out independently during future writing. Indeed, Bereiter and Scardamalia report that several adults
stated that continued direct instruction during composition would be distracting and limiting (283). For this reason, a detailed workshop and classroom practice is an excellent way to teach students to be more conscious of the revision process and to then employ it independently as needed.

It is useful to begin the workshop with a discussion of the importance of revision. Students can reflect briefly in writing on their current understanding and use of revision to establish a baseline of knowledge. Do they see revision strictly in terms of spelling and grammar checks at the completion of an essay? What are their typical habits? If self-talk has been introduced and utilized, perhaps some students will recognize it as an in-process form of revision. The benefits and difficulties of in-process revision and post-composition editing, as noted by the students and as described by Bereiter and Scardamalia, can help prime students for learning specific techniques.

To begin direct instruction, students will be given thirty minutes to compose an essay of about a page in which they are asked, in an example from a literature course, to explain the use of foreshadowing, symbolism or irony in Shirley Jackson’s “The Lottery,” or any other work of literature, according to the class. Each student will be given a set of cards, quite similar to those used in Bereiter and Scardamalia’s studies. These questions force the COMPARE operation of the CDO process, asking students to consider each sentence using critical prompts such as, “People won’t see why this is important,” “People may not understand what I mean here,” “I’m getting away from the main point” or “I think this could be said more clearly” (270). They will also have the choice of positive evaluations such as, “This is a useful sentence,” or “This is good” (270). To directly facilitate the OPERATE function, students will have the choices, “I will leave it this way,” “I need to include an example,” or “I need to say more,” and so on (271). Unlike Bereiter and Scardamalia’s studies, however, instead of being specifically directed to use the cards either during or after composition, students will be encouraged to incorporate them as they see fit. They must, however, by the completion of the exercise, be able to offer justification for the inclusion and placement of each sentence.

The purpose here is to teach students to be conscious of the choices they make in composing, and to suggest specific ways to consider their texts. Following the exercise, students will discuss their experiences using the cards. Did they find them helpful? Was it more difficult to write while they were
concerned with other questions? How did they deal with these added difficulties? Do they anticipate that such a practice could be helpful to them during future independent composition? Students will evaluate their own revision processes in light of these suggestions, adding to their own self-theories as writers and to their repertoires of composing strategies.

Revising for Coherence

Interestingly, Bereiter and Scardamalia find in their studies that even with direct instruction, younger students make beneficial alterations to their texts but are unable to improve their texts’ overall quality. This is likely due to the fact that these young writers have limited experience in making successful revisions. They may recognize a problem but have little idea of how to improve it. More experienced writers, contrarily, will likely have experience problem-solving in the face of errors from their years of education. A more significant challenge to young writers, perhaps, is the fact that they were typically “concerned with small units of language…and they evaluated these only in relation to local context” (276). While experienced writers likely pay more attention to the broad, global goals of their texts in addition to word- and sentence-level problems, they, too, may need instruction on ensuring global cohesion of their texts. Above all, students must understand their own arguments and be able to state clearly what it is their reader should be learning, and must then be able to modify their texts to match these broad goals.

Thus, to develop global understanding and coherence of their texts, students will have to reflect on the product of their writing, taking a meta view of it as if they are encountering the paper for the first time. This type of reflection is difficult to do well without practice because a writer’s knowledge or intentions can fill gaps in the paper’s logic that would confuse an outside reader. The notion of an outside reader does not suggest that writers actually create for themselves an image of a specific reader. In fact, Bereiter and Scardamalia find that as the age of the students in their study increased, the more the students shifted “the proportion of reader-related criticisms,” such as “People may not believe this,” to increased focus on how the text met the personal intentions of its author (277). This suggests that successful readers of their own texts read for overall global cohesion, as someone first approaching the text would, but they do not directly imagine a critical reader. Successful writers, then, are able to maintain “top-down control” of the revision process, reading with the global cohesion in mind even as they deal with local-level alterations (283).
These writers have an idealized text in mind as they have planned and set goals for it, and they are able to compare the text as they have written it to what they originally had in mind. Successful revision, then, first requires an assessment of what the local and global goals of the piece are, as well as how well each individual sentence and paragraph helps meet these goals. Here, as elsewhere, extensive planning and prewriting helps to facilitate this controlled revision.

**Peer Revision: Being an Outside Reader**

To gain experience reading as an outside reader might, students will reflect on writing as product through their readings of their classmates’ developmental reflections. These pieces, as discussed in chapter three, are less formal than graded assignments might be, yet are intended to be students’ best efforts at developing and explaining the ideas they explore in their blogs. When the teacher chooses to implement this exercise, after developmental reflections are posted to the blog, students can be asked to select (or may be assigned) one of their peer’s reflections for review. As each student examines a classmate’s two-page essay, he or she will focus on how well he or she is able to follow the focus of the piece, as well as how well each part serves the text’s overall cohesion. Students should consider and explain the adjustments they would make were they the writer of the piece, including any additional information they would need to complete the argument. Was there anything they were unable to understand and if so, why? This exercise gives students practice reflecting on completed writing before they submit their formal graded assignments. Because they will not automatically understand what the writer is explaining, they will be better able to point out flaws in logic or gaps in explanation. In class, these critiques may be used during peer workshops as preparation for an upcoming paper. If the student writer does not agree with the criticism of his or her peer, the writer can attempt to justify the sentence or paragraph in question. Thus students will model and practice the internal debate that must occur as they each reflect and revise their own essays. Not only does this practice provide experience with overall revision, but it can also help students clarify their thinking in preparation for upcoming papers, as this is part of the purpose of the semi-formal developmental reflections.

**Self-Revision: Reading One’s Own Text**

Peer review may occur as frequently as desired throughout the semester, but students also need
direct instruction on how to revise their own texts. While the in-class instruction provided in the first workshop deals primarily with the local problems of the text, students may also benefit from instruction on how to maintain global coherence. Like sentence-by-sentence reflection and revision, the practice of reflecting on each paragraph can be done both during and following the drafting process. In this exercise, students will use one of their previously-written developmental reflections, preferably one that has not been critiqued by a peer. This can also be highly useful for evaluating and revising rough drafts prior to final submission. Students will apply the questions from the sentence-level workshop to each paragraph, evaluating the purpose of each one. What does each paragraph do to support the overall goals of the text? If they find a paragraph that does not fit with their purpose, they should attempt to diagnose the problem and suggest a solution in writing. Should the paragraph be moved? Do sentences need to be reordered, removed or rewritten? Should the paragraph be deleted entirely? Students will put these evaluations in writing, and the teacher may also choose to have them officially undertake the revisions, particularly if the subject text is a draft of an official paper.

This assignment works well as homework, perhaps taking the place of a blog post, on the day the in-class workshop takes place. Even for classes in which writing is not the primary focus, students will learn that they can have conscious control over the contents of their texts, molding each paragraph to fit the overall purpose of the paper. Just as control over each sentence requires careful and extensive consideration, so it is that successful global cohesion of a text can be ensured only by devoting significant attention to each part. Because this can be difficult or even overwhelming, using the short reflections on the blog offers an excellent way to gain experience in a controlled, low-pressure space.

Benefits of Structured Revision

Although the students in Bereiter and Scardamalia’s studies found the structured and ongoing revision process to be difficult, “Seventy-four percent…declared that the procedure made the whole process of writing easier” (273). Indeed, this revision instruction facilitates metacognition on the text in progress, much as self-talk aims to do. One student found that “You can use the cards to realize what you’re saying” and astutely recognized the goal of automatization of the practice: eventually “you wouldn’t have to use the cards but could get it in your head and it would be faster” (273-274). It can be expected that
direct instruction for college students would primarily serve to remind them of habits they know or have used in the past, and that they would easily incorporate the practice into their own writing processes.

In spite of the workshop’s benefits, we cannot expect that this particular process served by these questions is the only way that students will find success with revision. Indeed, Bereiter and Scardamalia acknowledge that “The CDO process is conceived of as a very general one that may respond to any kind of perceived mismatch from a doubtful spelling to a general feeling that an essay is not turning out quite right” (268). These clues to the “correct” form of an essay depend in large part “on the availability of relevant rhetorical knowledge” (268). This rhetorical knowledge is developed through practice writing, and is refined through teacher and peer evaluations, as well as through a lifetime of reading and exposure to the writing of others. Bereiter and Scardamalia observe that “the consciously available rules will normally serve as an aid in discovering the source of intuitively sensed inadequacies. Thus they serve as powerful tools in diagnosis” (286). The blog with its regular writing requirement, then, as well as focus on the writing process itself, will enable students to be better critics of their own work. As always, students will have to take responsibility for understanding their own process and for identifying and implementing appropriate problem-solving strategies. Students will practice the basic problem-solving skills needed for in-process revision, as learned in the workshop and class discussions, through their blogs and their developmental reflections on them. Not only are these reflections beneficial for learning, but they also serve as moments where revision is occurring (from the blog to the reflection) and which can be evaluated by the teacher and by classmates.

**Reflection on Formal Assignments**

In addition to focusing on the text in-process and verifying the success of the global cohesion of the text, students should also understand the importance of reflection on their actual graded compositions, those determined to be complete and ready for submission after much extensive writing and reflection. Kathleen Blake Yancey has two methods for reflection on formal assignments; one that takes place immediately after submission, and one that occurs after a graded assignment has been returned. These reflections work well as in-class assignments, and Yancey formalizes them as “Talk-Tos” and “Talk-Backs.” It is Yancey’s intention to not only instruct students on how to “think about their text quite
explicitly from diverse perspectives,” but also to “begin to de-mystify how [the teacher goes] about reading and evaluating a text” (32). Though these pieces may prove unpopular with students who would rather forget their papers entirely after submitting them for a grade, both methods of reflection are important for helping students cultivate their understanding of the products of their writing.

In the first instance, Talk-Tos are written in class just after students submit their final drafts of formal assignments. Students are directed to reflect on their completed papers, adopting two opposing views of it – first, they write as if they “believe” that their papers are the best they have ever written, and then they “doubt” that they are any good at all (Yancey 32). With this approach, students are guided toward acknowledging the successful elements of their papers and identifying where they struggled with the assignment. Finally, they “predict” what they think the professor’s response to it will be (32). This prompts students to see their writing from multiple perspectives, helping them to be readers of their own essays and to understand that while no paper is perfect, there are often many positive aspects to flawed texts.

Talk-Backs, on the other hand, are documents students compose in response to a professor’s comments on a paper. After their papers are returned, students are asked to restate what the teacher was trying to say through the comments, and to talk about whether they agree or disagree with the teacher’s evaluation (Yancey 37). This provides an excellent platform for students to evaluate their own papers and to contrast them with the teacher’s perspective to see where improvements could be made. Contrarily, if they disagree with a teacher’s view, they will take ownership of their ideas and be able to explain the choices they make, encouraging increased awareness of the entire writing process and its product.

Talk-Tos and Talk-Backs force students to stop and assess their papers as a whole in terms of coherence and clarity. Their focus is not limited to questions about editing, like “Did I use commas correctly?” but about revision, asking, “How well did I get my point across? What could I do differently?” Furthermore, the formal reflections on product are excellent pieces of information for students and teachers to consider during meetings following paper submission. To facilitate ongoing improvement across drafts, teachers can make efficient use of their time during workshops if they already have an idea of the students’ assessments of their own papers, as well as insight into how the students interpret the teacher’s assessment. These responses provide a helpful starting point for discussing student work.
Although revision takes place throughout the writing process, when students reflect on their finished compositions, they step back from their writing to assess their texts as complete thoughts. They will have taken their ideas from their fragmented forms on the blog, transformed them as they wrote and reflected on them, and crafted them into complete, coherent texts. Because writers become intimately familiar with their subjects, it can be difficult for them to approach their essays from a detached perspective. In order to assess the coherence and logic of a piece of writing, as well as its stylistic suitability, a writer must be able to read his or her own work as if it were an independent, unfamiliar thought. Through structured reflection on writing as a finished product, both their own and their peers’, students will learn how to put the finishing touches on their texts – the final articulations of ideas long in development.
CONCLUSION

The most significant claim of this argument is that writing is thought transcribed, and that this transcription changes thought. In understanding that thinking and writing are mutually dependent and affective elements, we discover that which fuels transformation of thought, which is at the heart of the cognitive benefits of writing. To get students not only to become better writers but also to reap these benefits, they need to develop this understanding of writing as thinking. Utilized independently or together, the practices described in this project promote such understanding. Through a habit of reflective writing, students can become knowledge-transformers, deepening their understanding of the subjects about which they write and of the practice of writing itself.

A radical difference that students will notice with this approach to writing is that the end product of a formal essay is not their sole, or even their primary, focus. Indeed, the writing-in-process and what is occurring in the mind of the writer take precedence throughout most of the composing process. This is not because formal writing is unimportant – to the contrary, the visible goals of this method are polished, coherent and well-developed essays. This method focuses on the process because it is here that students construct the foundations of their essays; it is during the process of composing that their thinking develops. By teaching students to use their thinking and writing processes together, with each supporting the other, and to be metacognitively reflective throughout the process, we are teaching them how to make the most productive use of the steps that are already a part of the writing process, including freewriting, brainstorming, outlining and even writing the essay itself. This project in no way claims to be the only method for developing knowledge-transformers, however. Many excellent writers likely do not make their metacognitive reflection on text explicit, although it most likely occurs at some level of consciousness. However, novice writers can speed their transition to transformative writing by actively and explicitly thinking through their texts. The method for guiding them to do so that this project represents is highly structured, but ideally it will enable students to make independent use of these habits after they leave the classroom.

A significant reason for teaching this method to college students is that their scholastic experiences with writing will likely set the stage for their future involvement with and attitudes toward
writing. If students graduate from college knowing what it takes to compose a thoughtful, coherent
document, they will be able to make use of these skills as needed in any future educational or professional
situation. More important, however, is what writing could come to mean for them. If they are able to use
writing to organize and clarify their thinking, they will recognize it as a valuable human tool that can be
personally beneficial in a variety of situations. Though this method requires a great deal of effort on the
part of the student writers, ideally they will recognize this effort as time and energy well utilized. Students
will thoroughly understand the actions that make up the writing process, and they will be adept at using
them to their advantage. Moreover, they will recognize the mental benefits of writing, for they will witness
their thinking and understanding of their subjects deepening as they write. As such, they will be able to
harness this benefit by making conscious use of writing to think and reason.

This universality of the writing process is possible because although the restraints of any particular
rhetorical situation change the nature of the writing to be produced, the mental processes involved remain
extremely similar. Students who have a cognitive view of writing will have a dual understanding of its
product: as malleable, half-solidified recorded thought in their drafts, and as the consensual translation of
complete thoughts in their final products. Although this practical view of writing does not take the “art” of
writing into consideration, the creative process is surely transformative, and creative writers use some of
the same mental habits of writing. For this reason, teaching writing in this way first meets the writing
requirement of most universities, which is to enable students to produce coherent arguments in polished,
formal writing, and secondly it opens students to the idea that writing is not exclusively an unattainable art.
They will see that it is also a habit of mind, and that if they make conscious effort and practice writing
reflectively, they, too, can successfully make use of this amazing human technology.
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