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ACCEPTANCE

This dissertation, EXPLORING THE EPISTEMOLOGICAL VIEWS OF ADVANCED STUDENT WRITERS DURING THE RESEARCH PAPER PROCESS, by JUDITH KAY ROMANCHUK, was prepared under the direction of the candidate's Dissertation Advisory Committee. It is accepted by the committee members in partial fulfillment of the requirements for the degree Doctor of Philosophy in the College of Education, Georgia State University.

The Dissertation Advisory Committee and the student's Department Chair, as representatives of the faculty, certify that this dissertation has met all standards of excellence and scholarship as determined by the faculty. The Dean of the College of Education concurs.

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ABSTRACT

EXPLORING THE EPISTEMOLOGICAL VIEWS OF ADVANCED STUDENT WRITERS DURING THE RESEARCH PAPER PROCESS

by
Judith Kay Romanchuk

The strong hold of the research paper on the English curriculum over the past fifty years has created instructional and learning challenges that call for innovative solutions. Although concerned educators have developed creative variations to spark student interest and promote critical thinking, research has revealed little change in curriculum design or student performance on the research paper, even with advanced ability students (Ford, 1995; Moulton & Holmes, 2003). The purpose of this qualitative study was to explore how students' perceptions of the knowledge task presented by a literary analysis research paper related to research and composing strategies for five twelfth-grade advanced students. Social constructivism (Creswell, 2003; Vygotsky, 1934/1986) and phenomenology (Schutz, 1967; Seidman, 1998) served as theoretical frameworks for the study. Three questions guided the research: 1) How might students' epistemological views be described as they initiate the research paper process? 2) How do students' epistemological views relate to the choices they make during the research and composing processes? 3) How do students' epistemological views relate to the final research product?

Data collection and analysis occurred over an eight-month period. Data sources included an epistemological questionnaire (Schommer, 1989), four in-depth phenomenological interviews (Seidman, 1998) conducted with each student at drafting stages, member checking, discourse analysis of free responses and essay drafts, and a researcher's log. Constant comparative in-case and cross-case analysis (Glaser & Strauss, 1967; Miles & Huberman, 1994) were used to analyze data. Holistic and four-dimension rubric scoring (content, organization, style, conventions) was used to analyze and evaluate the final essays. Trustworthiness was established through methods that ensured credibility, confirmability, dependability, and transferability (Lincoln & Guba, 1985).

While participants expressed strong beliefs in complex knowledge and demonstrated high levels of reflective thinking, they differed in their views towards certain knowledge, which resulted in variations in composing strategies and essay quality. Significant relationships were indicated between knowledge views and concept formation, knowledge views and composing strategies, problem solving and the research experience, and reflective thinking and academic challenge. Prior knowledge, motivation, and gender also contributed to different outcomes. Results suggested important directions for research paper design and instruction in the language arts curriculum.

EXPLORING THE EPISTEMOLOGICAL VIEWS OF ADVANCED STUDENT
WRITERS DURING THE RESEARCH PAPER PROCESS

by
Judith Kay Romanchuk

A Dissertation

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Atlanta, Georgia
2007

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ABBREVIATIONS

ADHD	Attention Deficit/Hyperactivity Disorder
EE	Extended Essay
CLC	<i>Contemporary Literary Criticism</i>
F	Freewrite
GHP	Governor's Honors Program
GPA	Grade Point Average
I	Interview
IB	International Baccalaureate
IBO	International Baccalaureate Organization
LD	Learning Disabilities
LLD	Language Learning Deficiencies
Q	Questionnaire (Epistemological)
RJI	Reflective Judgment Interview
SAT	Scholastic Aptitude Test
TOK	Theory of Knowledge
ZPD	Zone of Proximal Development

CHAPTER I

INTRODUCTION

Statement of the Problem

Since the 1960s, the traditional research paper has produced almost universal lament among educators across subject domains at both secondary and university levels. Instructors typically express dismay over endless hours of preparation and class time spent trying to spark a thrill of exploration in reluctant learners, followed by additional time grading largely dull and voiceless essays produced even from high-achieving students (Ford, 1995; Moulton & Holmes, 2003). From the perspective of the learner, students dread a tedious search for sources they do not understand and seemingly endless lists of formatting procedures that appear to lack purpose. As a result, students who do not succumb to temptations of plagiarism tend to plod along and submit mediocre products, while only a few highly motivated students approach the research assignment enthusiastically and produce high quality papers.

Having spent twenty-three years in secondary education, I can intimately identify with the published concerns and frustrations surrounding teaching and evaluating the research paper. The majority of those years were spent teaching junior and senior level high school English at both regular and advanced levels, where the research paper was a required part of the curriculum. In spite of constantly implementing new ways of teaching the process and incorporating numerous creative and innovative approaches, the end results were usually disappointing at best.

In my current position as director of an International Baccalaureate (IB) Magnet Program for a large metropolitan school district, I am responsible for promoting high standards of learning and achievement across the prescribed curriculum of the IB Diploma Program, which includes six core subject areas plus three areas outside the core. One of the requirements outside the core curriculum is a research paper called the “extended essay,” which provides the diploma candidate with the “opportunity to investigate a topic of special interest and acquaints students with the independent research and writing skills expected at [the] university” (International Baccalaureate Organization, 1998, p. 2). Students select a topic from within one of the 24 available subject areas, formulate a research question, identify and gather resources, analyze data, document sources, and write a 4,000-word research paper. The end products are submitted to international examiners for evaluation. Examiners, who are usually associated with a United States or international secondary school or university in the subject area of submission, score the essays according to general and subject specific evaluation criteria established by the International Baccalaureate Organization (IBO).

Although the magnet program that I direct boasts an overall 99% diploma pass rate compared to the worldwide rate of 79%, scores on extended essays have been low compared to local students’ scores on subject examinations, which typically rank well above worldwide averages. Even literary analysis essays, which have usually produced higher average scores than essays submitted in other subject areas, still remain low in comparison to both local English examination scores and global extended essay scores. Even though IB students in the local program are all advanced and highly trained in composition and literary analysis starting with the ninth grade, the senior research

component in the program has reflected the same inconsistencies and decline as the national trend.

Overall, widespread concern with both the research paper process and student products has had little if any significant impact on the inclusion or direction of research paper instruction within the English curriculum nationwide. District, state, and national standards continue to retain the research paper or research project as a requirement with little alteration in expectations or implementation (Hillocks, 2002). Such policies reflect a long-standing philosophical affinity with formal composition and scientific inquiry, which has surfaced in a prescriptive focus on writing instruction and conventions like that found in traditional research paper instruction (Ballenger, 1995; Hillocks, 2002).

The educational climate surrounding research paper instruction has been further complicated by expanded definitions of literacy that stretch well beyond surface level reading and writing skills. Increased expectations for student engagement have paralleled growing diversity within the modern classroom (Dyson & Freedman, 1991; Moll, 1994; U. S. Department of Education, 1998). Students no longer represent a homogenous group of learners but reflect varied backgrounds that bring diverse expectations, attitudes, cultural views, and preparation levels to the educational table, thereby further complicating an already complex educational landscape (Hillocks, 2002; Moran & Ballif, 2000). A new wave of literacy concerns that appeared in professional journals in the late 1900s singled out composition deficiencies relating to independent writing assignments such as the research paper (Ford, 1995). However, academic attention primarily took the shape of laments over weak content and lack of student voice rather than research studies that sought to explore the nature of the problem.

In addition, starting in the late 1960s, the impact of the writing process movement on composition theory and pedagogy led to emergence of style as a primary focus in evaluation of expository writing. The new emphasis on personal voice (variously identified as style, register, tone, or commentary) in expository writing reflected a dramatic shift from the formalist concerns that had dominated much of composition's early history in American colleges and secondary schools and that had given birth to the research paper concept and form. Consequently, as the new focus took shape, it came into sharp contrast with the emphasis on form and format typically associated with research paper instruction (Ballenger, 1995).

The fact that the research paper has become firmly entrenched in the English curriculum with relatively little alteration in design and delivery for over 130 years of existence raises questions that run deep, as essential issues that relate to the overall purpose of the paper and the rigidity of instructional method and form confront the diversity issues that challenge classroom instruction. Given the long history and basic stability of the research paper within the English curriculum, pedagogical variations become mere isolated attempts to solve surface problems unless they are examined within the context of the broad rhetorical landscapes through which the research paper has passed and within which the assignment currently resides. In addition, the fact that expert writers all too frequently produce essays that lack depth and engagement reinforces the need to examine the student perceptions that guide performance, as well as the strategies students employ as they compose their own expository texts using primary and secondary source texts.

Rationale for the Study

Although theoretical and pedagogical journal articles have increased awareness of the research paper problem and provided practical guidelines for instruction, such perspectives have largely emerged from innovative classroom practices rather than actual research studies. Research studies pertaining directly to research paper issues at secondary and university levels have historically been scant (Ballenger, 1995; Ford & Perry, 1982; Nelson & Hayes, 1988). In addition, they have focused primarily on gathering data about types of assignments or investigating overall usefulness rather than exploring the research paper construct relative to its historical and theoretical roots or examining how learners negotiate the complex processes of the research task. As a result, the foundations of the problem have remained largely hidden beneath the surface of the more visible research paper deficiencies (Berlin, 1984; Kitzhaber, 1990; White, 1997).

It is significant that the research paper appeared and took hold in American education during the precise time period when a composing style that focused on exposition, convention, and detached writing dominated the rhetorical scene (Berlin, 1984; Kitzhaber, 1990). It is also significant that concurrent with the rise of the rhetoric that spawned the research paper following the Civil War, democratic ideals, commercial interests, and new academic directions in the colleges served the social advancement of an expanding middle class (White, 1997). When traditional rhetoric began to be questioned in the 1960s, major political, economic, and social changes were again occurring that resulted in new challenges, as academic institutions originally established to serve middle and upper class students were suddenly faced with shifting and highly diverse student populations. Finally, when traditional forms and instructional patterns no

longer served student needs, the role of the traditional research paper within the modern English curriculum became both tenuous and problematic at best (Ballenger, 1995; Ford, 1995).

It is also significant that overall problems with writing have attracted national attention to the extent that writing has been labeled “the neglected ‘R’” by the College Board’s National Commission on Writing (2003). In addition, systemic deficiencies have been noted in study results from the National Assessment of Educational Progress (U. S. Department of Education, 1998), which reported that only 22% of high school seniors produced writing at the proficient level. However, the overall deficiencies in writing noted in national studies do not provide a full explanation for the multiple problems related to the research paper, since student writers who demonstrate the ability to produce quality work on other writing assignments frequently perform poorly on the research paper (Moulton & Holmes, 2003). Studies in discourse synthesis relating to students’ composing from sources have indicated that student views of knowledge and impressions of the task environment influence individual student processing (Many, Fyfe, Lewis, & Mitchell, 1996; Spivey & King, 1989). These observations are also supported by studies on learning in complex domains and studies on epistemology and learning, which suggest that the particular knowledge views students adopt when they confront a given task inform the depth of learning that takes place as they engage in the process (Schoenfeld, 1983; Schommer, 1989, 1990, 1994; Spiro, Feltovich, & Coulson, 1996).

Purpose of the Study and Research Questions

Since educators at all levels have already proposed numerous innovative ways to teach and structure the research paper (Ford, 1995), with only sporadic reports of

improved results (Larkin, 1995b; Williams, 1988), exploring students' epistemological views as they relate to the research paper assignment and composing process opens a new avenue of inquiry into the complex problems that plague research paper instruction. Therefore, the purpose of this study was to explore students' epistemological views as they relate to the numerous choices that students make within the joint research and composing arena of the research paper process. While most of the recent research studies that have examined effects of students' epistemological views on learning and achievement have been largely quantitative (Braten & Stromso, 2004; Cano, 2005; Schommer, 1990, 1994; Schommer & Dunnell, 1997; Schommer-Aikens, 2006), this study followed a constructivist theoretical framework and explored in-depth how individual students negotiated the research paper process in light of their epistemological views towards research and composing when using both literary and secondary sources.

Since the primary research focus for this study concerns how students' perceptions of the knowledge task presented by the research paper relate to their research and composing strategies, guiding questions for this inquiry include:

- § How might students' epistemological views be described as they initiate the research paper process?
- § How do students' epistemological views relate to the choices they make during the research and composing processes?
- § How do students' epistemological views relate to the final research product?

Conceptual Framework and Methodological Overview

The constructivist perspective that frames this study focuses on how individuals shape meaning as they engage with their world (Creswell, 2003; Lincoln & Guba, 1985,

2000; Schwandt, 2000; Vygotsky, 1934/1986). In addition, the social constructivist theory of transactional rhetoric locates truth within a discourse community that consists of the interactive elements of writer, language, audience, and text, which includes students' own expository texts as well as primary and secondary source texts. As an essential part of the transactional construct, language becomes a mediating agent that not only impacts development of concepts and thought processes but also structures an individual's response to the material and social world (Berlin, 1982). Cognitive theories of concept formation, integration of speech and thinking, and the role of cognitive mediation and dialogic inquiry in cognitive development also provide psychological support for the instructional design of transactional rhetoric (Vygotsky, 1934/1986). Thus, the expanded view of rhetoric represented in the transactional or epistemic model recognizes the complexity of the writing process as both personal (Elbow, 1973, 1998) and social (Hillocks, 1995), as well as interpretive (Kent, 1999; Vygotsky, 1934/1986), particularly as it functions within the context of the research process.

Prior research studies relating to composition have included both quantitative and qualitative looks at data. Early quantitative studies on the writing process were mainly concerned with syntactic structure (Hunt, 1964; Marzano, 1975), the effects of grammar (Elley, Barham, Lamb, & Wylie, 1976; Kennedy & Larson, 1969), sentence combining (Bateman & Zidonis, 1964, 1966; Mellon, 1969), and revision (Bridwell, 1980; Faigley & Witte, 1981). Foundational qualitative studies provided additional insight into individual composing processes through think-aloud protocols and case studies (Berkenkotter, 1983; Emig, 1971; Flower & Hayes, 1980; Perl, 1979; Sommers, 1980). Later studies also combined quantitative and qualitative methods in an effort to track

trends using large samples plus provide in-depth looks at individual experiences (Cote, Goldman, & Saul, 1998; Gregg, Coleman, Stennet, & Davis, 2002). Although quantitative studies provide valuable information relating to frequencies and comparative numerical data, their strong focus on products in studies concerning composition reflects the more prescriptive methodology and verifiable, objective view of a reality promoted by Current Traditional Rhetoric (Berlin, 1982).

As research paper instruction has remained heavily focused on form and product over process and idea, the quality of students' research papers has continued to decline (Ballenger, 1995). The prescriptive approach of typical research paper instruction, with requirements that include outlines, note cards, bibliography cards, and surface coverage of multiple sources, suggests a strong positivist epistemology inherent within the research paper itself. As students confront the knowledge position suggested by a particular instructional focus and form their own epistemological views of the learning process as they make choices during the research process, their individual knowledge claims need to be examined to determine their support or rejection of the knowledge position represented by the form of instruction. In addition, research studies need to look more deeply into students' cognitive and composing strategies as they specifically relate to students' writing processes. Consequently, an emergent design was used in this study to reflect the more complex, socially constructed view of the research and writing process, as outlined by the conceptual framework of transactional or epistemic rhetoric (Berlin, 1982; Glaser & Strauss, 1967). This focus is supported by inquiry into how students' views of knowledge and learning do or do not inform specific choices such as topic

selection, use of primary and secondary sources, and composing and revising strategies throughout the research paper process.

The setting selected for the study is an International Baccalaureate Magnet Program in a large school district in the southeast. All IB diploma candidates are required to write and submit a 4,000-word research essay on a topic of choice within one of 24 available subject areas. While data were collected for the 12 diploma candidates who chose English/literary analysis as their IB extended essay subject area, results were reported for five key informants, who were purposefully selected to represent unique perspectives, a range of knowledge views, depth of response, and varied approaches to the research process. Student responses on freewrites, epistemological questionnaires, and four in-depth, phenomenological interviews conducted at key stages in the research and composing process provided data on student reactions to knowledge statements, as well as students' perceptions of their own views of knowledge and learning. Additional data sources included field notes from classroom observations, document analysis of student drafts (including the final draft), and the researcher's journal. Interviews were also conducted with the teacher mentors selected by the students to serve as instructional guides through the largely independent research project.

The constant comparative method was used in in-case and cross-case analysis to maintain an emergent open-ended design throughout the study and to expand the possibility of discovering new relationships (Glaser & Strauss, 1967). This approach was supported by accurate representation of multiple data sources, thick description, logical and documented procedures, member checking, and peer debriefing to ensure credibility, transferability, and confirmability (Lincoln & Guba, 1985). Cross case analysis was also

used to identify general patterns in student beliefs and practices. In addition, the study examined the subjective meanings that students made of their experience while writing a literary research paper and how individual student voice took shape in the varied constructs of student designs.

Limitations and Significance of the Study

Some form of research paper is typically assigned in most junior and senior English classes at all levels. In addition, research papers are often included in various courses within the social studies curriculum and occasionally in modified form even in mathematics, science, the arts, and foreign language. Although all of these subject domains and levels would provide a rich environment for in-depth research on the research paper process, the focus of this study was limited to advanced students who chose a literary analysis research topic. In addition, the participants were selected from a particularly strong academic program that provides a published framework of international guidelines and standards while it also affords students considerable independence, flexibility, and choice during the research process. The IB extended essay model is designed both to tap student interest and to provide the student researcher with an opportunity to experience original research, since the process must be conducted primarily as an independent project and cannot be taught as part of a designated research class. As a result of this design and students' prior experience with writing multiple literary research papers, actual classroom instruction on the extended essay as a research paper is minimal, focusing instead on the specific guidelines for inquiry associated with the separate subject domains defined by the International Baccalaureate Organization (1998).

This study was not designed to examine specialized problems that may surface within various content domains other than literary analysis or to draw conclusions that span multiple subject areas. Although discourse synthesis studies have shown that high reading ability usually results in more integrated structure and higher holistic quality ratings in student writing (Spivey, 1984), concerns about research paper quality have not been limited to low-performing students. In addition, within the IB program, students who have had strong preparation in literary analysis as well as the research process have still struggled with the extended essay. Therefore, focusing in depth on the knowledge views and composing strategies of advanced students was designed to highlight unique perspectives already isolated from the mainstream and therefore permit a concentrated focus on factors that inform student decisions during the research paper process. However, even though this study focused on advanced students and limited examination to students engaged in literary research, the primary goal of the study was to illuminate knowledge views that guide student engagement and thereby add to a broad understanding of instructional practices that might increase student learning and engagement in inquiry during the research process across subject domains and student achievement levels.

Chapter Two, the literature review, first explores the theoretical and rhetorical underpinnings that have shaped the history of the research paper within the English curriculum. The two concluding parts of the literature review focus on the nature of expository writing as it relates to the research paper, including cognitive and composing processes and discourse synthesis, and the nature of knowledge views as they relate to learning and achievement. The literature review is followed by Chapter Three,

Methodology, which outlines the design of the study by discussing the context of the study, the participants, and the researcher's role, followed by explanation of the data sources, data collection, and data analysis procedures used in the study. Chapters Four through Seven, the results chapters, relate findings based on students' epistemological views as they initiated research for the extended essay, made choices during the research and composing processes, and produced the final research paper. Chapter Eight, Discussion and Implications, concludes by examining similarities and differences across the participant group, as it also situates the study within existing research and suggests directions for future inquiry.

CHAPTER 2

REVIEW OF THE LITERATURE

Since research studies pertaining directly to research paper concerns at secondary and university levels have been limited (Ballenger, 1995; Ford & Perry, 1982; Nelson & Hayes, 1988), the literature review for this study explores related areas that provide a context for understanding the complexity of the issues surrounding the prescriptive nature of the traditional research paper construct, with its focus on form over content. The first part of the literature review discusses theoretical and rhetorical movements with their epistemological underpinnings that have allowed the traditional research paper to continue to occupy a prominent place in the English curriculum at both high school and university levels in spite of widespread resistance and reduced outcome. The next section of the literature review provides an overview of studies directly concerned with composition theory and pedagogy that relate to expository writing, as well as the cognitive and composing processes involved in discourse synthesis, as students read and write using source texts. The final literature section outlines research studies that have explored students' epistemological views as they relate to learning and achievement, providing an overview of the importance of personal epistemology within the learning process.

Theory and Pedagogy of Research Paper Design

Over the past fifty years, as traditional instructional forms and patterns have become increasingly challenged by changing literacy needs, the role of the traditional

research paper within the modern English curriculum has become tenuous and problematic at best. Widespread concerns about research paper issues have produced a large number of journal articles addressing various problems associated with both process and product. However, these articles have primarily represented practical approaches targeted for classroom instruction rather than research studies that explore theoretical and pedagogical aspects of the research paper process.

The emergence of over 150 ERIC documents alone between 1980 and 2001 addressing research paper issues (Moulton & Holmes, 2003) attests to the growing level of interest and concern in academic circles. At one extreme, Ballenger (1995) and Tuso (1995) represent a few educators who have proposed totally abandoning the traditional research paper because of negative experiences with freshman English classes and declining literacy test scores. However, most journal articles have focused on innovative problem-solving methods in an attempt to retain the positive exploratory purpose of student research without negating the need for formal presentation (Ford, 1995; Williams, 1988).

In *Teaching the Research Paper: From Theory to Practice, from Research to Writing*, Ford (1995) summarizes prominent educator responses from the 1960s to the 1990s in the first book-length treatment of theoretical and practical perspectives directly related to research paper instruction. For example, Watt (1995) presents a simple defense of research writing as a preparatory framework for improving writing and thinking processes in general. Larson (1995) proposes a comprehensive design that uses the research process to build analysis and inquiry skills within all academic disciplines, while

Glaze (1995) advocates a process approach using Macrorie's (1988) I-Search concept as a prerequisite to actual research.

Other educators have devised practical approaches designed to lead students away from viewing the research paper as a tedious exercise in information gathering towards seeing the experience as an opportunity for exploration. Some instructional designs have involved relatively minor changes, while others have encompassed major alterations. For example, Ford's (1995) model for library research moves systematically from general to specific and includes a well-defined list of subject-organized sources, indexes, and directories for student use. Before students start the research paper, they submit a documented background study describing their procedure for identifying and narrowing a general topic and formulating a thesis. Eschholz (1980) reports success using models of prose pieces that cover multiple disciplines, as students anticipate problems and develop ideas, purpose, a sense of language, and organizational patterns by imitating and analyzing models. Within this design, Eschholz stresses the importance of permitting students to discover their own writing style prior to introduction of prose models, in order to reduce emphasis on form over content. Larkin (1995a) outlines a practical research model with sequential exercises designed to train students to distinguish three types of rhetorical structures in research writing: facts; facts connected by transition; and authorial commentary that extends and evaluates facts. Students demonstrate understanding of the three elements by identifying them within a sample passage prior to embarking on their own papers.

Advocates of more extensive reforms propose rhetorical, process, and epistemic approaches designed to stretch student thinking through the research paper process.

Strategies advanced by Lauer (1980), Noe (1995), and Gaston, Smith, and Kennedy (1995) challenge student writers to engage in high levels of thinking and processing. Lauer (1980) maintains that writing is “an art that can be taught” (p. 53) through a combination of experiential, process, and transactional methods. Students start with a problem-generated sense of dissonance or urgency that leads to questioning and inquiry, as they explore subjects from various perspectives in order to expand perception and promote insight. Noe (1995) requires that high school students study general discourse methods along with Aristotelian rhetoric and then apply classical concepts of rhetoric and argument to current rhetorical situations. For example, Noe’s students identify the classical components of constituents, exigence, audience, and rhetor (speaker/writer) as they engage in original research. Gaston, Smith, and Kennedy (1995) propose an epistemic approach by having students recognize the tentative and fallibilistic nature of human knowledge as they examine beliefs formed from data, plus rational interpretation of evidence through observation, hypothesis, and interpretation. Although these complex designs provide alternative approaches to research paper instruction, the high level of thinking and processing involved in carrying out most of these reforms limits application to advanced students.

As Larkin (1995b) observes, since the problems associated with the traditional research paper construct are more systemic than minor amendments in approach can correct, innovative pedagogical designs have typically provided momentary rather than lasting solutions to the research dilemma. However, they have also served as stepping stones for more serious exploration into the field by calling attention to the major historical trends and knowledge systems that have spawned and nourished the research

paper as a core construct within the language arts curriculum. In order to provide insight into the many spokes of the design web that shape research paper instruction and student perceptions of the process, the following sections of the literature review will trace the development of rhetoric in America and then examine related research studies on cognition, discourse synthesis, and the effects of students' epistemological beliefs on comprehension.

The Early Growth of Rhetoric in America

In order to understand the complex relationships suggested by knowledge claims, language, reading and writing processes, and curriculum issues surrounding the research paper in its current form, it is first necessary to situate the traditional research paper in its historical setting. Key events in the development of rhetoric in America led to inclusion of research in the English curriculum, while powerful political and social forces retained the research paper as a dominant feature in American language arts instruction for over a century (Berlin, 1984; White, 1997).

Building on Kitzhaber's 1953 dissertation on American rhetoric, Berlin (1984) emerges as a primary spokesman on the history of rhetoric in America, as he recounts the historical shifts that removed literary studies from classical rhetoric and redefined rhetoric as writing. In *Writing Instruction in Nineteenth Century American Colleges*, Berlin (1984) examines the epistemological history of the compositional setting that produced the research paper. By tracing basic assumptions about reality and dominant rhetorics from the seventeenth through the nineteenth centuries, Berlin provides a singular and thorough examination of rhetorical trends in America. His outline of rhetorical history adds significantly to an understanding of the intellectual climate that

surrounds the roles of composition and the research paper within the American language arts curriculum.

In general, the American version of rhetoric took shape both in imitation of and in contrast to the classical rhetoric associated with the aristocratic universities of England, where language mastery and familiarity with the literature of Greece and Rome served to limit access to the power structure and enable the ruling class to conserve power. Berlin (1984) reports that early American education focused primarily on memorization and recitation, reflecting the influence of a religious mindset that privileged select principles as absolute and essential. The dominant seventeenth century rhetoric of ornamentation (defined largely by the use of metaphorical language for effect) was influenced by reform theories that opposed the Aristotelian rhetoric of European universities and appealed to disestablished religious sects in Europe and America. Consequently, the amended form of American rhetoric that emerged in the seventeenth century abandoned Aristotelian invention and arrangement in favor of an emphasis on style, memory, and delivery backed by grammar and mechanics (Bizzell & Herzberg, 2001). This early rhetoric defined a writer's dual role as representing a reality that could be empirically verified through its existence in the material world and then persuasively conveying that reality to a religious audience.

The need for this modified version of classical rhetoric increased and continued to dominate much of the eighteenth century, as the art of persuasion became essential in order to address political issues leading up to the Revolution (Kitzhaber, 1990). Berlin (1984) outlines the parameters of this altered form of classical rhetoric as rational, dialectic, logical, deductive, and politically conservative. Although this form of rhetoric

still relied on a finite set of truths contained in a defined body of knowledge that all educated people were assumed to possess, it took more of a political than a religious shape during this second phase. However, thought and word continued to be viewed as separate entities brought together in a language sign system through persuasion for the purpose of conveying absolute truths to an audience.

After the Revolution, as the late eighteenth century mindset began to move further away from Aristotelian syllogistic logic toward the empirical logic of the new scientific era, new rhetorics emerged. In the first half of the nineteenth century, Scottish Common Sense Realism promoted a rhetorical view based on a positivistic epistemology that sought to discover reality by inductive means, with language functioning outside the realm of inquiry and serving merely as a transcribing device (Berlin, 1984). Towards the middle of the century, the varied views of knowledge and rhetoric held by Campbell, Blair, and Whately offered diverse approaches that ultimately merged into a single rhetorical tradition. Campbell (1776/1963) presented a view of nature that was orderly and immutable, with laws that could be rationally discovered by deductive logic outside of linguistic terms. Therefore, Campbell continued a focus on persuasive rhetoric and forms of discourse, defining rhetoric as a study of how discourse achieves effect (Kitzhaber, 1990). Blair (1783/1965) emphasized a stylistic approach to rhetoric that was learned through studying examples of effective writing in literature, while he also supported Campbell's view of language as "a mechanical sign system, separate from thought" (Berlin, 1984, p. 38). Finally, Whately (1826/1963) promoted a practical dimension in providing guidelines for developing rational arguments and principles for various emotional appeals. His composing process defined the primary writing stages

later found in composition and research textbooks, including topic selection, narrowing the topic, outlining, use of concrete language, and rewriting (Kitzhaber, 1990).

In the last two decades of the nineteenth century, the synthesis of the varied influences of Campbell, Blair, and Whately resulted in the formation of Current Traditional Rhetoric, which was based on an objective view of reality located in the material world and verified empirically by scientific inquiry (Berlin, 1984; Bizzell & Herzberg, 2001). During the long reign of Current Traditional Rhetoric, the component disciplines of classical rhetoric that held sway in the previous century further separated into exposition as composition (Whately), persuasion or oratory as speech (Campbell), and imagination and emotion as literary studies (Blair). When literary studies formally separated from composition, the composing process became even more restricted, objective, and detached, with reporting rather than interpretation defining the purpose of writing, and language and style functioning solely to translate experience. Until about 1870, the dominance of Current Traditional Rhetoric resulted in an emphasis on mental discipline, rigorous drill, a required curriculum, and instruction by recitation as a means to strengthen memory (Kitzhaber, 1990). In actuality, the forms introduced by these late eighteenth and early nineteenth century rhetorics have continued to influence English instruction well into the modern era, particularly as applied to the forms of the traditional research paper.

Such was the rhetorical scene when Johns Hopkins University opened in 1876 with a curriculum design based on the German model of lecture/research/report, which provided an alternative approach to the more unified classical model while giving birth to the research paper from within the Current Traditional rhetorical construct (Berlin, 1984).

As the German research and writing model was adopted by other public and private colleges, the research paper became marginalized in the other disciplines and increasingly entrenched within the English curriculum (Moulton & Holmes, 2003). The ironic and unfortunate consequence was that English instructors trained primarily in literary studies rather than in composition instruction inherited sole responsibility for both research and writing (Berlin, 1984). As a result, even though the changed political scene following the Civil War challenged American education to move toward a more democratic ideal in the late nineteenth century, composition remained conceptually associated with reporting, thereby leaving instruction largely positivistic and mechanistic (Berlin, 1984). The research paper thus became a key element within the evolving rhetorical construct that was designed to serve middle class students.

After the Harvard Reports of 1891 determined that instruction in composition consumed an inordinate amount of time at the college level, the primary responsibility for basic writing instruction (with its emphasis on surface conventions and usage) moved to the secondary schools to build readiness for college entrance and college-level composition (Kitzhaber, 1990). Although for a time the research paper was retained within the exclusive instructional domain of college English departments, especially as part of freshman composition, the paper also gradually accompanied other composition requirements to the secondary level (Moulton & Holmes, 2003), though not without sparking ongoing discussion concerning both placement and merit (Ford, 1995; Moulton & Holmes, 2003).

By the end of the nineteenth century, the rise of numerous composition textbooks served to reinforce even further the writing emphasis on forms of discourse, usage and

grammar, study of models, and stylistic elements of unity and coherence (Berlin, 1984). Consequently, well into the twentieth century, Current Traditional Rhetoric remained ingrained in American education, even as classical concepts of the poetic and rhetoric became reinstated but in distinct forms. Literary criticism (the poetic) became defined as the intellectual discipline in which to explore new ideas, while composition (rhetoric) retained its eighteenth century positivistic and mechanistic focus, which resulted in further removal of the research paper from a contextual identity within multiple disciplines to a basic report status within a positivistic and mechanistic rhetorical system. Thus, as Berlin (1984) concludes his overview of the rhetorical developments leading up to and into the twentieth century, he notes the virtually unchallenged hold of Current Traditional Rhetoric on the curriculum until the 1960s, with the research paper firmly entrenched within its framework.

The Modern Rhetorical Landscape

With the advent of a more democratic ideal following the Civil War, American colleges moved away from a classical curriculum toward a practical curriculum and elective system. However, they curiously retained rhetoric in its prescriptive form as the primary required course, which mirrored to some extent its central, though at times nominal, educational position throughout modern American rhetorical history (Berlin, 1984). As examination of issues related to composition as a whole and the research paper in particular increased in the twentieth century, educators explored the rhetorical systems and epistemologies of the nineteenth century to search for new approaches.

The two rhetorics that emerged with the greatest impact on twentieth century theory and pedagogy were the expressionist and epistemic, both of which shared

Emerson's view of truth as "dynamic and dialectical," as opposing elements interact and as language plays a central role in negotiating the relationship between individual and experience. Berlin (1984) views Emerson's epistemology as a forerunner of process pedagogy and transactional rhetoric, which began to take shape in the twentieth century. For Emerson, individuals must socially construct reality from the visible material world, which in turn provides evidence of the unseen. The construct takes shape through the medium of language, with metaphor providing a verbal "fusion of idea and matter" (Berlin, 1984, p. 47), a blend of subjective and objective experience operating within the composing process itself. As a result, a new epistemic rhetoric took shape, locating truth in the interactive elements of the rhetorical situation, with the important difference that language emerged as an essential part of the transaction by actively joining all participants in shaping knowledge as part of the communication process (Berlin, 1982). This dramatic shift in the role of language contrasts sharply with the pre-twentieth century view of language as a sign system or transcribing device and leads the way to movements such as the writing process movement, which began to impact composition theory and pedagogy in the late 1960s.

In the early twentieth century, literary studies at pre-university levels also moved to incorporate philosophies and pedagogical methods associated with social constructivism (Berlin, 1984). Against the backdrop of the emerging popular emphasis on textual analysis in New Criticism (the literary parallel to Current Traditional Rhetoric), Louise Rosenblatt (1938/1995) proposed that a reader's unique experiences actually inform understanding of a text such that a printed text takes shape only as it is transformed to meaning through the reader's engagement within a transactional process.

While still denying the objectivity of text, Stanley Fish (1980) added a more analytical, critical dimension to the reader response concept by supporting dissection of grammatical and syntactical forms as evidence of the dynamic process that unfolds in the reader's experience of language within interpretive communities. Between 1975 and 1978, additional reader response publications, including David Bleich's *Readings and Feelings* (1975), Norman Holland's *Poems in Persons* (1973) and *Five Readers Reading* (1975), and Louise Rosenblatt's *The Reader, the Text, the Poem* (1978), ensured the popularity of a transactional reading approach well into the 1980s.

However, composition instruction sought to establish a separate identity under the name of rhetoric by tenaciously holding to the prescriptive designs of the Current Traditional model (Berlin, 1984). Patricia Harkin (2005) speaks strongly of the impact of that separation on the ultimate success of reader response even within the reading community, precisely because of the removal of composition from the transactive environment. Although she claims that the removal was initiated by compositionists' attempts to "professionalize," the unfortunate result for the learning community as a whole was exclusion of composition from the very components of English instruction that support learning, mainly the vital language connections that naturally exist in a blended curriculum of reading and writing.

In examining the "conflicted relations" between composition and literary studies in the United States, Harkin (2005) further argues that populist efforts that initially led reader response to blend with identity theory and embrace diverse readings actually led to making reader response theory commonplace. The result was separation of reader response from the more academic theoretical stances with which it was initially aligned

during the “theory boom” of the 1970s. In other words, more complex and elitist theories, such as deconstruction, structuralism, and psychoanalytic analysis, became accepted as part of the academic community, while the more pragmatic reader response became associated with pedagogy rather than theory. This association led in turn to the primary alignment of reader response with pre-university rather than university level literary studies. Harkin further notes that compositionists followed suit by again centering their attention on the rigors of rhetoric as defined by Classical Traditional Rhetoric and rejected reader response for fear that an association with a maverick literary theory would “taint” composition’s new identity as a discipline.

Reflecting similar trends toward isolation of disciplines within reading instruction, explorations into reading research reveal that specific instruction in reading had also largely confined itself to a limited concept of reading as sequential word identification. Concerned about such a myopic and “largely atheoretical” view of reading, Goodman (1994) sought to study oral language in the context of language studies and written language in the context of a transactional “literacy event.” Seeking to change what he called a “technology of instruction” with its “shallow theoretical base” (p. 1096), Goodman differentiates between a *multidisciplinary* approach, which simply recognizes diverse responses, and *interdisciplinary* objectives, which actually relate disciplines. Consequently, Goodman expands the concept of language connections within a transactional construct to include reading as “receptive written language” and writing and speaking as “productive or generative” processes where “text is generated (constructed) to represent the meaning” (p. 1100).

Additional voices have continually been raised in support of a renewed joining of the separate disciplines of reading and composition within language arts. In “Through the Looking Glass: A Response,” Jane Peterson (1995) advocates just such a blend, calling for extensive discussion about how readers interact with multiple genres, how belief systems shape interpretations, and how interpretive awareness impacts writing. Peterson reports that a 1987 English Coalition Conference explored the specific benefits of reuniting reading and writing within the English curriculum as a means of meeting the diverse demands of a pluralistic society, as well as a means of opening the way for a focus that is “learning-centered instead of student-centered or context-centered” (p. 317). Peterson also suggests that, since views of “textuality” have changed, incorporating discussion about the interpretive nature of reading itself to include readers’ interaction with print and nonprint texts in the construction of meaning would enhance students’ writing abilities as well as inform the reading process.

Clifford and Schilb (1985) also propose that when writing is viewed as a recursive process of discovery and literary study as a dynamic transactional event, a synthesis can “help students build and revise their visions of meaning” (p. 45). Early reader response theorist David Bleich (1975) envisioned a reading-writing blend as well, since “knowing” literary works depends on language. Students write their interpretation of what the poem means in their own words and then describe their responses to the text while returning to reading to increase awareness of perceptual differences and develop individual identity. John Clifford (1980), Rosenblatt’s former student, proposes written responses before, during, and after reading to “create a more explicit, ordered context for . . . encounters with literature” (p. 96). Ann Berthoff (1986) also distinguishes between reading for

meaning and writing to “make meaning,” calling for students to develop a critical attitude through written reflective questioning and insight notes, while also engaging in self-inquiry. White (1997) adds a political perspective by viewing the “suppression” of rhetoric in its full form (encompassing both composition and literary studies) as highly problematic. He notes that not only does the separation of literature from its rhetorical context typically result in a reduction in both comprehension and literate writing, but also that the separation occurred historically at the very time when democratic ideals should have logically supported a blend.

Thus, as powerful political and institutional forces served to separate composition and literary studies and as literacy needs increased, the schism between demand and supply in the educational environment widened rather than decreased. In addition, while composition and literary studies still remain largely separated within the English curriculum, the research paper, especially the literary analysis paper, requires complex integration of multiple cognitive, reading, writing, and language skills.

Discourse Synthesis

Studies in the area of discourse synthesis focus on how readers and writers select and organize information from sources when they compose new expository texts (McGinley, 1992; Spivey, 1984; Spivey & King, 1989). The research paper process involves a specialized type of discourse synthesis, since students must read multiple source texts and compose synthesis texts that reflect an interpretive fusion of reading and writing through language. When the research involves a blend of literary research and literary analysis, the cognitive demands of the reading/writing blend are further

compounded, since students have to select and organize information from both literary and informational texts in the process of composing new expository texts.

When the writing process movement began to impact composition theory and pedagogy in the late 1960s and early 1970s, writing and evaluation measures reflected a dramatic shift from the formalist concerns that had dominated much of composition's early history within American colleges and secondary schools. In her now classic "Writing as a Mode of Learning," Janet Emig (1977) stresses that "higher cognitive functions, such as analysis and synthesis . . . develop most fully only with the support system of a verbal language – particularly . . . written language" (p. 122). She distinguishes between writing, as both "originating and creating a unique verbal construct that is graphically recorded" (p. 123), versus reading, which creates or recreates but does not originate or graphically record. Consequently, she views writing as actually requiring higher cognitive processing in the realm of learning over reading, talking, or listening, since writing is a deliberate act that involves the repeated mediating processes of analysis and synthesis in order to take shape. The ability to record thought for future processing through conscious and deliberate reevaluation is unique to writing as one of the generative parts of learning.

In addition, advocates of transactional reading theory do not deny the crucial role of student writing as a requisite companion process for thinking and formulating reactions and conceptualizing responses and observations (Probst, 1988; Rosenblatt, 1938/1995). For example, initial free responses may be used to generate and stimulate discussion and exchange of ideas in the classroom, as well as form the nucleus of more structured and developed texts that the writer and others in the learning community can

revisit and reformulate to reach higher levels of cognition. In such a construct, text, reader, writer, language, and sociocultural dimensions engage in a dynamic, dialogic exchange that builds cognitive development at all levels. The result is a “distributed cognition” (Wink & Putney, 2002, p. 154) that is mediated in the process of constructing language within an advanced form of writing to achieve a type of unity that includes diverse worldviews that intersect within a transactional community.

Bereiter (1980) suggests that epistemic writing, defined as the type of writing that emerges when reflective thought is integrated with unified writing, “represents the culmination of writing development, in that writing comes to be no longer merely a product of thought but becomes an integral part of thought” (p. 88). In such a way, within a transformational construct, writing itself becomes part of the advanced cognitive experience that involves not only the writer but also includes instructors and peer writers, who may serve as mediators in the process of cognitive development.

From a cognitive perspective, Vygotsky (1931) provides insight into the function of written language in the process of developing academic concepts. He distinguishes between the concrete tools of speech used to solve problems in the environment and the use of signs and symbols in written language as tools of speech to solve communication problems involving ideas and events (Dixon, 2002). While words function as “internal devices used to signify external things in the world” (Dixon, 2002, p. 41), speech functions as a signifier of higher psychological processes, permitting humans to communicate even in the absence of an object and to speculate about abstract concepts. Vygotsky (1934/1986) also asserts that concept formation must be initiated by a problem and then developed through verbal thinking. As the first product of verbal thought, word

meaning (denotation) represents the most elementary level of the cognitive process, while word sense (connotation) incorporates social and cultural expression to move beyond basic conceptual levels into the higher psychological levels of concept formation (Wink & Putney, 2002). Consequently, when an idea becomes grounded in understanding, it can then develop linkages and gather multiple words around the thought, thereby raising the overall cognitive level of thought processing. When students research source texts, they must develop such linkages and use high levels of thought processing to assimilate new information within their prior knowledge base and then transform the new level into written language.

Vygotsky (1934/1986) also points out that even speech does not simply “mirror the structure of thought” but actually “comes into existence” through thought (p. 218). When a word as a sign becomes a symbol and when linkages transform signs to signifiers of meaning, thought again moves to a higher psychological level, with each thought making further connections and establishing relationships, thereby achieving greater unity. However, when thought moves to speech, the conceptual unity of the thought impression must be translated and transferred into separate units of the word/speech format and developed successively to convey thought impression, a complex transfer that calls for even higher cognitive processing.

When oral speech becomes written speech, direct exposure to the spontaneity, expression, and gesture of the reference situation is no longer available to expand meaning beyond the limitation of words; instead, written speech must produce understanding only “through words and their proper combination” (Vygotsky, 1987, p. 272). Just as internalization of speech transforms and reconstructs thinking processes,

writing “transforms thinking processes into written signs” (Zebrowski, 1994, p. 160), which further serve to enhance concept development. Such extensive functions within conscious meaning making attest to the highly advanced cognitive skills required as part of any writing process. When a function requires a synthesis of multiple processes such as reading and writing, cognitive complexity increases.

In addition, texts themselves invite a transactional response involving reader, text, and language as “conveyors of meaning” within a discursive community (Lotman, 1988, p. 37). As such “generators of meaning” within the discursive community, texts become a “semiotic space in which languages interact, interfere, and organize themselves hierarchically” to engage text, situation, writer, and society (Lotman, 1988, p. 37). In this context, a written text evolves, in Lotman’s terms, as “a thinking device” that activates consciousness within a culture to examine multiple ways of seeing. In such a way, a transactional theory of rhetoric builds on the concepts developed in Vygotsky’s construct of cognitive development, involving concept formation, integration of speech and thinking, and cognitive mediation that incorporates dialogic inquiry. Vygotsky’s psychological theories concerning the learning process provide substantial insight into the cognitive complexity inherent in discourse synthesis.

Vygotsky (1931) also stresses that academic concepts, as distinguished from everyday concepts, cannot be mastered through simple memorization or straightforward learning. Instead, they must be stimulated by the presence of a problem that cannot be processed without the application of abstract thinking, since all movement toward development of complex concepts requires that thinking undergo alteration in order to rise to a higher level. Prior to Vygotsky’s observations, factual information was taught

under the assumption that concepts as well as facts could be mastered by simple memorization and acquired in a finished state, so that the student would then naturally assimilate associated concepts and procedures. However, Vygotsky (1934) points out that not only is concept formation nonlinear, but also that viewing instruction as a direct process, in the sense of “the shortest distance between two points” with an emphasis on memorization and factual transmission, actually interferes with the process of higher level psychological development (p. 358). In other words, academic concept formation cannot advance in a prescriptive environment but requires a focus on problem solving and idea processing. Academic concept formation is thus enhanced when individually generated response (oral and written) forms part of the educational process, requiring learners to reorder information and ideas within a cohesive whole. These cognitive concepts become significant in light of the prescriptive focus of traditional research paper instruction, as students are expected to engage in advanced cognitive skills that require comprehending and transforming large amounts of information from multiple sources into a cohesive text.

One of Vygotsky’s main psychological concepts is the role of proximal development, which is defined as “the distance between the actual developmental level, as determined by independent problem solving, and the level of potential development, as determined by problem solving under adult guidance or in collaboration with more capable peers” (Vygotsky, 1935/1978, p. 86). Within the zone of proximal development (ZPD), in order to help students move toward independent problem solving and higher level cognitive processing, Vygotsky held that involvement in the interactive construct of cognitive mediation or scaffolding enables reasoning to advance through collaborative

forms of thinking towards increased performance and higher conceptual levels in both the academic and spontaneous realms of thought. In examining the instructional implications of a gap between potential and actual development levels, Vygotsky concluded that instruction should focus more on the potential than the actual development level.

In a 1984 study, Spivey compared the performance of “able and less able comprehenders” at the university level in their construction of informational text in a quantitative look at the blend of reading and writing in discourse synthesis. The two groups were compared in the areas of composition products (consisting of organization, connectivity of the textual structure, content, and holistic quality), synthesis process (based on visible planning, revision, and time spent on task), and information selection. Compared to non-proficient readers, proficient readers included more source material and demonstrated greater sensitivity to importance in the hierarchy of text, greater connectivity and more integrated structure, as well as higher holistic quality ratings, indicating a positive relationship between reading ability and the ability to achieve discourse synthesis. Spivey also found little evidence of retranscription in composing, thereby supporting revision studies, which had also reported that most changes occur at the surface rather than the substantive level (Faigley & Witte, 1981; Sommers, 1980).

In a follow-up study of accomplished and less accomplished sixth-, eighth-, and tenth-grade language arts students, Spivey and King (1989) examined students’ informational reports generated in response to three source texts. The quantitative study measured student writing first by text (quantity, organization, connectivity, and holistic quality) and then by task (planning, retranscription, and composing time). Analysis revealed significant differences related to grade level and reading ability, with older

students and better readers more likely to include more source content and to include content that was important intertextually. Better readers also showed more connectivity between ideas and organization of content, while less accomplished readers included larger proportions of their own content. Again, the findings supported earlier revision studies that reported low percentages of whole-text planning and/or substantive revising (Butler-Nalin, 1984; Emig, 1971; National Assessment of Educational Progress, 1977; Pianko, 1979; Sommers, 1980). As a result, Spivey and King (1989) encouraged viewing discourse synthesis within the larger context of rhetoric and raising additional questions about task and cognitive factors that might also affect performance as students read and respond to informational texts.

In viewing reading and writing as different ways of knowing, McGinley and Tierney (1989) underscored the importance of learner initiative in developing multiple ways of “seeing” and being able to traverse or “criss-cross” the “conceptual landscape” of a particular unit of study (p. 250). In an interesting reference to the blend of oratory and invention in classical Aristotelian rhetoric, the authors promote a conceptual framework in which reading and writing operate as separate “lenses” with which to conduct topical inquiry that leads to new learning beyond the achievement level of the separate functions.

Tierney, Soter, O’Flahavan, and McGinley (1989) explored the effects of writing in combination with reading versus reading alone on levels of critical thinking in a study of 137 undergraduate students. Participants were randomly assigned to treatment groups with conditions that included or did not include an introductory activity, a reading condition, and a question condition, followed by a writing activity and responses to

debriefing questions. Defining critical thinking in terms of reevaluation of position as evidenced in content revision, the researchers concluded that reading and writing in combination produced higher levels of critical thinking over reading alone or reading in combination with knowledge activation and responding to questions.

In a 1992 study on the role of reading and writing while composing from sources, McGinley addressed several areas of interest that emerged from previous research, including the functions of different reading and writing activities in composing from sources and the relationship of reading/writing/reasoning activities on final products. Using a multilevel qualitative approach, McGinley examined think-aloud protocols, writing sessions, written products, and debriefing interviews for seven undergraduate education majors of comparably high academic ability. Two of the seven were also selected for additional case-study analysis based on their contrasting approaches to composing from sources. Results indicated the recursive nature of composing from sources and an increase in metacommenting, use of schema, and questioning as students moved through the process of composing from multiple sources. The case-study profiles revealed different processing methods that were reflected in varied product quality. McGinley concluded by stressing the need to situate future studies in authentic contexts and to include more students in order to provide a more comprehensive understanding of similarities and differences.

Many, Fyfe, Lewis, and Mitchell (1996) also examined the cognitive and composing patterns apparent in the reading-writing-research processes used by 27 eleven- and twelve-year-old students as they investigated a topic using secondary source texts. Data collection consisted of interviews (structured, unstructured, and debriefing), field

notes, videotapes, and photocopies of student work and source texts, in addition to the teacher's curriculum outline and researcher field notes on discussions with the participating teacher and meetings of the research team. The study identified three main student approaches to research and writing. Students who viewed research as *accumulating* information tended to proceed linearly by gathering material and adjusting planning webs to include information that was interesting, even if unrelated to the research focus, while tending to copy verbatim. Students who viewed the task as *transferring* information tended to plan "purposeful" searches for relevant materials (usually one text at a time) and used varied recording strategies, such as rewriting source material sentence-by-sentence or using a strategy of "read/remember/write." Finally, students who viewed the task as *transforming* information engaged in extensive planning, as well as frequent review and monitoring of the coverage of information, while maintaining an awareness of audience. Students in this group demonstrated a level of discourse synthesis by selecting, organizing, and connecting content while working across multiple sources. Overall, the researchers observed that students appeared to plan prematurely before they had gathered sufficient topic information and therefore might have profited from understanding the benefits of recursive rather than linear planning. The researchers also pointed out that students' beliefs, perceptions, and interpretations of the task affected writing and thinking as much as the context in which the research occurred.

Several additional studies have focused on the passage from knowledge-telling to knowledge-transforming from different perspectives. Singer and Bashir (2004) explored the cognitive and processing strategies students use as part of the writing process by

examining perceptual and composing differences among writers in a study of students with language-learning difficulties (LLD). Their rationale involved examination of language-learning difficulties for the purpose of illuminating the multiple demands involved in the writing process as a whole by separating out the components that appear to cause difficulty for some learners and by suggesting essential relationships that often remain hidden within the processes for all writers.

In order to visualize the vast complexity of the composing process, Singer and Bashir (2004) proposed a model/metaphor of writing as construction, such that written texts are envisioned as “structures of discourse” that writers both plan and build. The structural underpinnings or foundations (the first floor of the structure) that prepare the way for writing processes (the top floor of the building) consist of a blend of thought patterns and skills, defined specifically as graphomotor, cognitive-linguistic, and social-rhetorical abilities, as well as beliefs and attitudes based on writer perceptions of self and purpose. Singer and Bashir report that noted deficiencies in any of the foundational areas, such as verbal conceptual ability, prior content knowledge, language fluency, written versus oral text generation, graphomotor (including both writing and keyboarding) skills, and/or concepts of self, typically create an overload for working memory and result in reduced writing proficiency.

The top floor or process portion of the Singer-Bashir (2004) model draws primarily on the multiple protocol analyses conducted by Hayes and Flower (1980) and Flower and Hayes (1980, 1981). They identify planning, organizing, generating, and revising as processes central to composing that occur in a recursive manner directed by the student’s individual “executive functions” and “self-regulation” strategies. Singer and

Bashir report that the ability to organize ideas in writing depends on the writer's ability to visualize the shape of the text; for students with LLD, inability to visualize the shape of a text results in a "knowledge telling approach to composition" (p. 564). In addition, knowledge of linguistic units, which enables text generation and the ability to transcribe ideas in the form of the written symbols of language, requires simultaneous functioning that severely taxes working memory for LLD students. Singer and Bashir report that even minor deficits at any of the foundational or processing levels impact a student's ability to coordinate the multiple functions required during the composing process, causing what Levine (2003) calls "dysfunction at the junctions" (Singer & Bashir, 2004, p. 561). The study concludes that "writing is influenced by the writer's world knowledge, motivation, beliefs, and attitudes" and that students with language-learning disabilities (LLD) lack "an inner voice to mediate their written language production" (p. 559).

The primarily qualitative studies conducted by Hayes and Flower (1980) using protocol analysis to identify the organization of the writing process provide the basic conceptual model for the top floor processing portion of the Singer-Bashir model. For each protocol, Hayes and Flower collected verbal transcripts, researcher notes, and final essays. Writer comments about the writing process led to dividing the protocols into segments relating to generating, organizing, and translating text. Hayes and Flower then used raters to examine text in order to test three hypotheses relating to the form of the written materials within each segment, the degree to which content statements reflect the distribution of processes in each segment, and the role of the generating process within each of the sections of the protocol. Looking at writer interjections, metacomments, and content statements in the protocols, the researchers observed a non-linear, recursive

composing process with generating predominant but interrupted by editing (as an added process) in the first segment, organizing interrupted by both editing and generating in the second, and translating interrupted by editing and generating in the third.

In a related study with both qualitative and quantitative elements, Bereiter and Scardamalia (1987) provided instructional intervention to “promote a shift from a knowledge-telling to a knowledge-transforming process in composition” (p. 299). The researchers rejected the idea of reflection as internal dialogue between writer and imagined reader on the basis of lack of support from the think-aloud protocol research of Emig (1971) and Flower and Hayes (1981). Focusing instead on composing as problem-solving, Bereiter and Scardamalia explored immature writers’ use of primarily linear, nonreflective processes (knowledge telling) in writing about the selected topic, compared to more expert writers’ use of reflection involving the interaction of two problem spaces, content (idea production) and rhetoric (text production), replacing a speaker-listener conversation dialectic with a knowledge statement dialectic in writing. Bereiter and Scardamalia’s study explored whether elementary-age children could “sustain reflective processes in composition independently” (p. 300). Frequent modeling and cues that stimulated self-questioning during composition planning were used with an experimental sixth-grade class. Think-aloud planning protocols were coded following Hayes and Flower’s 1980 study. Although the majority of comments related to content generation, reflective statements increased from a pretest mean of 3.67 to a post-test mean of 5.17, while control student scores dropped. In addition, when essays were rated on a nine-point global scale ranging from knowledge telling to reflective, the control group averaged 3.35, while the experimental group averaged 5.43. The researchers concluded from both

protocol and essay evaluation results that elementary children could independently sustain reflective processes in writing, with associated exchange between content and rhetorical space. Although movement toward knowledge transforming in the study was limited to individual rather than central ideas, the researchers viewed student progress toward a reflective stance as significant.

In an exemplar study on analysis of written discourse, Cote, Goldman, and Saul (1998) conducted two experiments with fourth- and sixth-grade students from four classrooms in a public elementary school. Think-aloud protocols were used while students read two texts on relatively unfamiliar topics at different difficulty levels to determine what students do when they try to “construct meaning in knowledge-lean situations” (where reading is a means of acquiring new information). A global reading approach was used to score student reports generated from memory. Students used a variety of active, meaning-constructive strategies, including reasoning, paraphrasing, rereading of easier passages, and drawing on prior knowledge to explain the text and problem solve. The study confirmed that students who elaborated on the presented information by creating cross-sentence connections and using prior knowledge to resolve comprehension problems created more coherent and integrated representations. This study also revealed that when students engage in reading informational texts about topics in relatively unfamiliar domains, comprehension depends both on the quality of the text base and on the student’s ability to use prior knowledge and make cross-text connections. In an earlier study on the role of prior knowledge in students’ success in text search and extraction of information, university students’ prior exposure to related course material resulted in greater success in locating informational material (Symons & Pressley, 1993).

Conceptual knowledge was also associated with university students' speed in locating textual information in a 1992 study by Byrnes and Guthrie.

Using the lens of corpus linguistics, Gregg, Coleman, Stennet, and Davis (2002) explored the discourse complexity of college writers with and without disabilities. The study examined the co-occurrence of specific linguistic features (not errors) most frequently used in academic, expository writing across four groups of college writers, three of which had identified disabilities including learning disabilities (LD), attention deficit/hyperactivity disorder (ADHD), and combined LD and ADHD. Using structural equation modeling and computerized corpus-based analysis to investigate discourse structures beyond word and sentence levels, the researchers first ran frequency counts to determine the dimensions of the linguistic features represented in the participants' academic writing.

The second part of the Gregg et al. (2002) study examined the relationships of specific linguistic features to the verbosity, quality, and lexical complexity of the writing samples. In order to evaluate overall ability, cognitive processing, oral language, achievement, and socio-emotional functioning, both quantitative (results from standardized tests and informal assessment measures) and qualitative (case histories, clinical interviews, and previous records of learning problems) data were used. Participants completed an expository writing task, which was scored holistically using the four-dimension (content/organization, style, sentence structure, and conventions) Georgia High School Writing Test rubric. On holistic scoring for quality, the non-disability group scored significantly higher, with the lowest quality scores occurring in the dual disability group, thereby indicating their increased risk for producing quality text. As might be

expected, no significant differences on verbosity or a type/token ratio (the number of different word forms in relation to the number of different words) were identified between disability groups, but significant differences were noted between the disability and non-disability groups. The final analysis of frequency of linguistic features associated with expository discourse complexity revealed quantitative rather than qualitative differences, indicating a consistency of latent traits across groups. The study also suggested that verbosity, quality, and lexical complexity are not separate constructs but co-occurring functions within the writing process. The researchers concluded that, since writers with and without disabilities do not differ in terms of the dimensions of writing represented in expository text, instructional techniques should focus on enhancing linguistic structures for all learners.

Studies within the broad framework of discourse synthesis have revealed essential relationships between reading and writing that impact the research paper process. Multiple literacy studies also support students' active, self-directed engagement with extended reading and writing activities (Gage, 1986; Langer & Applebee, 1987; Marshall, 1987; Newell, 1984). Such varied looks at the benefits of reading and writing within the context of composing from sources and the implications for enhancing critical thinking from exposure to the process certainly provide a strong rationale for involving students in the research paper process. They also suggest the need for more in-depth research that explores the individual perceptions that shape student involvement and composing processes throughout performance of such a complex task.

Epistemological Studies on Comprehension and Academic Performance

As an area of philosophy that focuses on the nature of knowledge and justification of belief, epistemology (or the theory of knowledge) has experienced a long history that has fostered multiple analytical positions and perspectives. Although Plato's three-part condition for knowing as "justified true belief" has historically formed the basis for evaluating propositional knowledge claims, epistemological theorists have developed widely diverse views concerning the internal and external justification of belief both within and beyond Plato's "justified true belief" (Dancy, 1985). For example, *foundationalists*, such as Descartes (1596-1650), view knowledge as justified by a set of basic, self-evident (foundational) beliefs that give support or justification to other beliefs (Cottingham, 1992). C. I. Lewis (1952), also a foundationalist, held that "unless something is certain, nothing else is even probable" (quoted in Dancy, 1985, p. 54). In contrast, *fallibilists* maintain that knowledge certainty is impossible and that all knowledge claims contain the possibility of being false, even though fallibilists do not insist on abandonment of belief based on uncertainty (Feldman, 1981). Another position, *skepticism*, takes fallibilism one step further by focusing on the limitations of knowledge and adopting an attitude of extreme caution and doubt concerning all knowledge assertions, claiming that "no one *does* know, because no one *can* know" (Dancy, 1985, p. 8). *Reliabilism*, another main justification type, views knowledge beliefs as justified by the reliability or consistency of the cognitive processes in which the beliefs originate, including perception, introspection, memory, and reason (Goldman, 1967). Focusing on the beliefs that individuals actually hold rather than on all possible beliefs, *coherentists*

base justification of belief on the coherence or agreement of beliefs within a system of beliefs that are connected by logical or rational consistency (Alcoff, 1996; Sellars, 1973).

These and other methods of justifying belief have formed the foundation for epistemological studies that have developed in academic circles outside of the philosophical realm. For example, psychologists have explored a branch of epistemology known as personal epistemology, which is primarily concerned with how knowledge perspectives relate to understanding and learning. While reflecting the various philosophical positions held by key epistemological theorists, rather than focusing on how individuals justify their knowledge claims, personal epistemology examines how individuals form and use their knowledge beliefs to understand their world, especially the academic world of thinking and reasoning (Hofer & Pintrich, 2002). In addition, with its foundation in the constructivist theories of Piaget (von Glasersfeld, 1995), personal epistemology has largely evolved into a concern with ill-structured problems that can only be resolved in the context of socially-constructed problem solving (King & Kitchener, 2002). As the field of personal epistemology has commanded increasing interest from the educational community, a growing number of studies have focused on examining students' knowledge views and how those views affect comprehension, achievement, and discourse in the classroom (Cole, 1996; Hofer, 1997; Radigan, 2002). In describing and categorizing student knowledge views, personal epistemologists have focused largely on a continuum of student belief from certain knowledge to reflective thinking, which generally recalls the two philosophical justification positions of foundationalism and fallibilism, with fallibilism considered to be the more mature academic position on the continuum. In addition, aspects of reliabilism, with its focus on

cognitive processes, and coherentism, with its focus on the logical consistency of beliefs within a belief system, have also been reflected in the research approaches that have been used to evaluate student beliefs as they relate to academic learning and comprehension.

In a landmark study, Perry (1968/1999) examined and labeled college students' emerging epistemological beliefs according to nine intellectual stages, which can be summarized as a four-step range from dualism (knowledge is right or wrong, with authority figures knowing answers), to multiplicity (differing points of view are equal), to relativism (knowledge correctness may vary by context), to commitment (one must choose from multiple possibilities for knowledge). Although Perry views the stages as stable but not static, his developmental theory essentially depicts the growth of knowledge complexity from a system of set beliefs, similar to foundationalism, to a position of uncertainty, as suggested by fallibilism, that in turn challenges the student to make a choice or commitment. Using an adaptation of Perry's questionnaire to examine the relationship between Perry's knowledge stages and comprehension, Ryan (1984) found that students with dualistic views used fact-oriented standards for comprehension, while students with relativistic views used context-oriented standards. Although Perry's schema provided valuable insight into students' views of knowledge and learning, his classification of students' epistemological positions as linear and one dimensional has not always been supported by subsequent studies, especially when related to students' comprehension. For example, when Glenberg and Epstein (1987) used Ryan's scale to predict comprehension, they found little variance in students' views.

Gender issues also emerged in response to Perry's design, since participants in the Perry study were primarily male college students. Belenky, Clinchy, Goldberger, and

Tarule (1986) analyzed 135 in-depth interviews that explored women's ways of knowing. From their research, they defined five ways of knowing that included silence (blind obedience to authority), received knowledge (others as authorities), subjective knowledge (authority within self), procedural knowledge (including both separate knowing as a detached objective approach and connected knowing that builds on personal experience to gain access to the views of others), and constructed knowledge (based on inquiry and more open and circular ways of knowing). Although the ways of knowing defined by the Belenky et al. (1986) study roughly mirror the Perry (1968/1999) stages of epistemological development, they focus less on individuals' views of the nature of truth and knowledge and more on women's "conceptions of themselves as knowers" (Clinchy, 2002, p. 64), thereby suggesting more of a personal than a philosophical approach to epistemology. In an article designed to revisit the perspectives outlined in *Women's Ways of Knowing* (Belenky et al., 1986), Clinchy (2002) stresses the complexity of development within any defined knowledge domains, as well as the tendency of individuals to alter their perceptions of truth and thus move in and out of domains depending on the particular experiences at hand.

Many, Howard, Cardell, and Lewis (2002) also examined gender differences as younger students (11- and 12-year old Scottish students) selected topics and completed research projects associated with World War II. Results revealed that males focused on more objective and historical topics, with an interest in the military, aircraft, weapons, and artillery taking shape as themes related to power, authority, and global war issues. Female topic selection focused more on children and everyday lives. Female students also displayed more concern with individual experiences during war, with special

attention to restrictions on freedom and treatment of women. The researchers concluded that the young women reflected some of the stages identified in the Belenky et al. (1986) study and suggested that “gendered ways of knowing may impact students as they construct their own perceptions of the world through the content they study in school” (p. 210).

However, in spite of issues with gender and linearity, Perry’s (1968/1999) scheme has provided the primary model for much of the subsequent research on epistemology and learning. Building on Perry’s model, Beers (1984) argues that a student’s view of knowledge largely determines the type of information that a student selects for inclusion in a paper, as well as how and to what degree the information is interpreted. Using the summarized version of Perry’s hierarchy, Beers ranks student writing as expressions of dualism, multiplicity, relativism, or commitment. Beers theorizes that student essays that are mainly collections of unrelated pieces of information reflect a belief that knowledge consists of absolute truths transmitted by authorities, typical of the least intellectually mature students at the dualistic level. Dualistic students may also view the process of writing as a rigid application of rules and procedures, without concern for content. As multiple versions of reality are admitted, students with a multiplistic orientation may perceive different theoretical perspectives and may express personal opinion but will not enter into a mature, sustained analysis, since they may view opinions as options but still consider truth as absolute. When a student reaches the level of relativism, which admits that multiple versions of truth may not be equally valid, formal writing rules may be somewhat ignored in favor of presentation of ideas and arguments, evidence of revision, and presence of student voice. Finally, at the commitment level, students make reasoned

and personal choices with clarity, coherence, and voice. Beers' main point is that writing instruction will be "filtered" through students' epistemological assumptions and that a teacher must work within a student's frame of reference during the writing process in order to effect improvement in writing. Beers offers guidelines for tapping a student's thought base to enhance writing strategies and improve products.

Berlin (1982) also maintains that differences in approach result from diverse views of the composing process, as well as how reality is defined, known, and communicated. He denies that approaches to teaching composition differ only in the degree of emphasis given to the elements of writer, reality, audience, and language. Instead, Berlin examines the knowledge construct from four perspectives and stresses the importance of writing teachers becoming aware of the significance of each approach to avoid conveying contradictory or faulty advice that could lead to confusion and inconsistent outcomes. Rejecting Classical, Positivist, and Neo-Platonic rhetorics as locating knowledge within a static, permanent repository (whether mind, sense impressions, or individual apprehension), Berlin supports New Rhetoric, where "truth is dynamic and dialectical, the result of a process involving the interaction of opposing elements" (p. 774). Berlin's main point, that a mere emphasis on process over product is not sufficient to provide students with a meaningful view of reality, suggests the importance of guiding students in writing activities that enable them to address real problems as part of the composition process.

Gage (1984) examines the epistemological assumptions underlying the main pedagogies for teaching composition and the basic message that teaching methods convey to students about the nature of knowledge and its relation to rhetorical tasks.

While rhetoric designed to communicate unknowable or extra-linguistic ideas tends to be persuasive in nature, rhetoric used as a means of discovering and validating knowledge tends to be more dialectic in nature. Gage's analysis suggests that approaches to writing instruction that focus on a dialectic approach have the potential of fostering greater engagement by students. Teaching methods that prescribe formal models assume a practical approach to writing based on non-propositional knowledge. Although Gage does not specifically address the research paper as a separate entity, his analysis of the impact of epistemological perspectives on methods of teaching composition suggests the possibility that a focus on discovery rather than pattern might positively influence the quality of the end product.

Building on Perry's (1968/1999) study, Marlene Schommer (1990) conducted a pivotal study in which she examined how students' beliefs about knowledge affect the comprehension of complex and uncertain information. In the first of two sequential experiments, Schommer tested the concept that epistemological beliefs are actually a system of independent beliefs, as she explored education and background factors that might influence students' adoption of certain epistemological stances. Schommer designed and administered an epistemological questionnaire to 266 college students to determine their views across five knowledge domains, including omniscient authority, simple knowledge, certain knowledge, innate ability, and quick learning. The questionnaire included the seven dualism items from Perry's (1968/1999) research that were also used by Ryan (1984) and created additional items to explore dimensions other than dualism. Results of factor analysis excluded omniscient authority as a primary factor, leaving the remaining four factors to account for a majority of the variance.

Students' backgrounds and education were also shown to correlate with their epistemological belief system, with increased exposure to advanced knowledge correlating with more "tentative" views of knowledge.

In the second experiment, students completed a cued recall test and wrote concluding paragraphs for two reading passages that contained conflicting information. Multiple regression analysis was used to study the relationships between epistemological belief factors and comprehension measures; the written conclusions were then related to the epistemological beliefs. The study concluded that when students with strong beliefs in knowledge certainty encounter tentative material, they tend to distort information and interpret inconclusive information as certain knowledge in order to be consistent with their beliefs. Students who believe that learning is quick or not-at-all are more likely to write oversimplified conclusions, as well as perform poorly on comprehension measures and inaccurately assess their own level of comprehension. Schommer's broad spectrum analysis of the impact of student knowledge perceptions on comprehension also leaves open the possibility of perceptual shifts occurring with different tasks. Such shifts might help explain the discrepancies in approach that seem to occur when students engage in literary analysis with and without reference to secondary sources. The question might be raised whether students' perceptions of knowledge take different shapes as they confront sources that they consider more authoritative than themselves.

In a 1994 study, Schommer offered a summary and conceptualization of epistemological beliefs and their role in learning based on prior research studies. Moving away from Perry's (1968/1999) sequential stage theory, she suggests that "personal epistemology is a system of more or less independent dimensions" (p. 27) and that beliefs

are best depicted by frequency distributions determined by individuals' concepts of the certainty of knowledge. She classifies individuals with sophisticated beliefs as viewing a few things as certain, some things as temporarily uncertain, and most things as unknown or evolving. She predicts that individuals who hold a sophisticated knowledge belief will read critically by maintaining a questioning stance as they approach presumed knowledge statements. Schommer also classifies naïve learners as individuals who fail to read critically because they view most knowledge as absolute and therefore expect experts to find answers to uncertain knowledge.

In two additional studies, Schommer (1993) and Schommer and Dunnell (1997) explored relationships between epistemological development and academic performance among secondary students. Again using an epistemological questionnaire and factor analysis, the 1993 study investigated the development of student beliefs about the nature of knowledge and learning and how those beliefs influence academic performance. Belief in simple knowledge, certain knowledge, and quick learning decreased with years in school. A gender component in the study revealed that girls were less likely to believe in quick learning and fixed ability. In addition, there was an inverse relationship between belief in quick learning and students' GPAs. The 1997 Schommer and Dunnell study examined the epistemological beliefs of 69 gifted high school students and how their beliefs related to problem solving and academic performance. The study confirmed that gifted students vary in their epistemological beliefs. The more students believed in innate ability, quick learning, and certain knowledge, the more likely they were to suggest overly simplistic and unchanging solutions to problems. In addition, gifted students performing below academic expectations were more likely to believe in innate ability,

suggesting that epistemological beliefs may play a part in underachievement among gifted students.

A number of researchers have modeled epistemological studies after Schommer's 1990 study, using a modified version of her epistemological questionnaire and repeating the factor analysis. Braten and Stromso (2004) explored epistemological beliefs and intelligence theories as predictors of achievement goals in a study of 80 teacher education students in Norway. Findings revealed that epistemological beliefs about the speed of knowledge were better predictors of goal orientation than theories of implicit intelligence. Students who believed in quick learning and passively received knowledge were less likely to adopt mastery goals and more likely to adopt performance-avoidance goals, since persistent effort might be perceived as advertisement of an inability to learn. Using an epistemological questionnaire, factor analysis, MANOVA, and ANOVA, Cano (2005) explored the change in epistemological beliefs and learning approaches for 1600 secondary students in Granada, Spain as they progressed through their studies. Results showed that epistemological beliefs and learning approaches changed as students advanced, while the relationship between epistemological beliefs and academic achievement appeared to be mediated by approaches to learning.

In an interesting application of epistemic beliefs about learning to complex learning situations, Spiro, Feltovich, and Coulson (1996) examined the effects of underlying beliefs in oversimplification on student performance in complex knowledge domains. The purpose of the study was to identify individual "prefigurative schemas" and explore how the schemas affected performance in complex, ill-structured situations. Sixty medical students were given an epistemological inventory that contained polar opposites

reflecting reductive versus expansive world views. Results revealed that beliefs constrain understanding by categorizing knowledge and defining its means of acquisition. Factors that might lead to failure in complex learning domains might also generate success in structured domains. For example, while a reductive world view might be beneficial in introductory learning environments but harmful in complex or ill-structured domains, an expansive world view might be beneficial in complex domains but harmful in simple domains. The researchers suggest that their findings should be replicated in different contexts to check for individual and domain consistency. Focusing on “a clear pattern of deficiency in advanced learning in complex, ill-structured domains” (p. 52), this line of research suggests important directions for exploration, especially considering the complexity associated with independent research paper assignments.

Conclusion

Problems associated with the research paper at both secondary and university levels raise questions that invite exploration into multiple theoretical and pedagogical arenas. Since the complexity of the process involves reading and writing joined in a symbiotic relationship, studies in the area of discourse synthesis provide insight into the reading/composing blend. In addition, the act of composing itself has traditionally been viewed as part of a linear process that reflects the historical ties of rhetoric with oratory and the “irreversible” nature of speech, where change remains an “afterthought” (Barthes, 1977). Modern theorists who depict the composing process as primarily linear, variously expressed as prewriting-writing-rewriting (Rohman & Wlecke, 1975) or conception-incubation-production (Britton, Burgess, Martin, McLeod, & Rosen, 1975; Jakobson, 1960), basically imply a sequential progression from motive to thought to shaped thought

to inner speech to word meaning and “finally to words” (Vygotsky, 1934/1986).

Consequently, linear composition theories frequently reveal themselves in completed essays that lack coherence, as students either record informal thought progression in written form or follow prescribed writing steps without concern for the larger thought patterns that lend organization to content. Studies have also shown that students often perceive revision as a singular act that is done only after the essay is near completion and not as a recursive process that continues to shape thought as part of cognitive synthesis that takes place with both reading and writing (Bridwell, 1980; Faigley & Witte, 1981; Sommers, 1980).

In addition, the results of epistemological studies have consistently revealed relationships between students’ views of knowledge and learning and academic performance. Since ability measures do not always correlate with student achievement, as evidenced in studies of advanced students (Schommer & Dunnell, 1997; Spiro, Feltovich, and Coulson, 1996), exploring students’ epistemological views as they relate to the multiple components of the research paper process holds forth the promise of illuminating hidden perceptions that inform student engagement and achievement. Existing literature in the areas of rhetoric, composition, discourse synthesis, and epistemology suggests a need for further exploration into student perspectives and the role of those perspectives in the learning process. Since the research paper process places so many skill and cognitive demands on student learners, with the result that even high-achieving students frequently fail to produce quality work, the research construct offers a rich environment for further epistemological exploration. Thus, this study is designed to explore the broad landscape within which students’ epistemological views intersect with

cognitive and composing processes, as part of the complex operations involved in negotiating the research process, analyzing findings, and translating discovery into meaningful composition.

CHAPTER 3
METHODOLOGY
Research Design

This qualitative study explored the epistemological views and composing strategies of selected twelfth-grade advanced students as they moved through the process of researching and composing a 4,000-word literary research paper. Although quantitative studies on epistemology and learning have revealed significant correlation between students' epistemological stance and academic achievement (Schommer, 1993; Schommer & Dunnell, 1997), widely varied performance on independent research even among advanced students suggests a complexity that invites additional qualitative exploration. As a result, a focus on examining the views of five key informants as they engaged in research and composing processes permitted in-depth examination of unfolding perceptions and strategies of individual students, as well as identified areas of commonality reflected in the composite views and processes of the students as a group (Stake, 1995). An emergent design was selected to allow exploration and discovery of patterns that might exist beneath the surface as students composed using primary and secondary sources. The study was also phenomenological in that the individual student interviews focused on how student perceptions of knowledge and learning informed each student's topic selection and composing processes, as well as on how each student interpreted the extended research experience, the phenomenon of the study.

The primary purpose of this study was to explore how students perceived the knowledge task presented by the research paper assignment and how that perception related to the numerous choices made as part of the research and composing processes from topic selection to final draft. Guiding questions for the inquiry included:

- § How might students' epistemological views be described as they initiate the research paper process?
- § How do students' epistemological views relate to the choices they make during the research and composing processes?
- § How do students' epistemological views relate to the final research product?

The beginning of this chapter introduces the context of the study, a description of the study participants, and a statement of the researcher's role. The concluding section includes an explanation of data sources, collection and data analysis procedures, and credibility and trustworthiness measures.

Context of the Study

The Research Setting

The research was conducted at a large, diverse suburban high school near a major southeastern city. The highly transient student body (about 50% within a given school year) of approximately 2400 students reflects the diverse population of the district as a whole, with 45% African American, 34% Caucasian, 14% Hispanic, 5% Asian, and 2% other. Over sixty dialects are spoken, and just under 50% qualify for free and reduced lunch. However, the school was named a Georgia School of Excellence in 2000 and one of the top schools nationwide in the *Newsweek* rating in 2004 and again in 2006. In addition, the school hosts the district's only International Baccalaureate Magnet Program,

which enrolls approximately 300 students from 22 different middle schools across the county. Eighth-grade students must apply and go through an extensive and competitive application process in order to be considered for admission for the ninth-grade year. Consequently, the student body within the magnet represents highly motivated and high achieving students in grades nine through twelve, at the same time that it maintains a high level of diversity without repeating the high transiency rate of the regular student body.

The school as a whole operates on a four-by-four block schedule, with students taking four courses each semester for a total of eight courses per school year. In advanced programs, core ninth- and tenth-grade classes are offered on a four-by-four block schedule, while all junior and senior classes are scheduled on an alternating-day block plan. This means that upper secondary classes, such as Advanced Placement and International Baccalaureate, meet for 90-minutes every other day throughout the school year in order to provide continuous instruction leading up to formal examinations, which usually take place in May,

The International Baccalaureate (IB) Program

The International Baccalaureate Organization in Geneva, Switzerland bases the Diploma Program on the concept that upper secondary level education should encompass a broad range of subjects in order to accommodate diverse student interests while consistently adhering to high academic standards. The core curriculum offers a sequence of accelerated and advanced courses designed to ensure that the math/science-oriented student becomes knowledgeable about language and culture and that the humanities-oriented student explores advanced levels of mathematics and science. Consequently, as part of the five-subject core, students are required to take advanced level coursework in

English, social studies, foreign language, math, and science throughout the four high school years. In addition to the core curriculum, sixth subject options require advanced study in non-core areas, such as economics or visual arts. Classroom study is further extended through critical reflection on theories of knowledge and participation in extracurricular activities and community service. In addition, all students enrolled in a Diploma Program must complete in-depth independent research on a subject of choice and submit a 4,000-word research paper, the “extended essay,” which is externally evaluated by IB examiners associated with leading secondary schools and universities worldwide.

The International Baccalaureate Organization writes curriculum only for junior and senior instructional levels, leaving the local school to customize a preparatory curriculum for the ninth- and tenth-grade years. Since the program represented in this study is a four-year diploma-only magnet program, curriculum design is unusually rigorous and embeds Advanced Placement classes throughout the program to provide additional academic challenge and pre-IB examination opportunities. All students in the magnet program receive strong academic preparation in the four English classes leading up to the senior year, including a freshman foundations class in literacy and research, advanced American Literature, advanced British Literature, and IB World Literature. The senior English course focuses on genre study and close reading of selected literary texts, while continuing the strong program emphasis on developing analytical skills and building critical thinking through individual engagement with literature and group discussion. Students write frequently and receive constant feedback, so that all students become expert in displaying an unusually high level of writing expertise by the time they

complete the four-year program. As part of the IB pre-examination requirement in English, diploma students must submit two World Literature essays and two audiotaped oral presentations, designed as opportunities for students to demonstrate close analysis of selected texts. All of the essays and taped presentations are evaluated or moderated by international examiners. In addition, two two-hour essay examination sessions require extended analytical response to previously unseen literary selections.

All students in the IB magnet program receive detailed instruction in the research paper process in English and history classes from ninth through twelfth grades. Therefore, the general research paper process is not formally reviewed as part of classroom instruction for the extended essay; instead, brief instruction focuses on specific guidelines for inquiry and submission in selected subject areas as defined in a published document on the extended essay from the International Baccalaureate Organization (1998). Students receive specific subject guidelines for the extended essay as part of their introductory IB Theory of Knowledge (TOK) course on epistemological perspectives in the spring semester of the junior year. IB guidelines present the extended essay as an independent project designed to provide students with the opportunity to explore an area of interest and to apply the research skills that they have acquired in the instructional part of the program. Therefore, students receive only limited class time to discuss topic selection and explore sources during the spring semester, with the expectation that they will continue to work independently over the summer and finalize the paper during the fall semester of the senior year. Although students are required to submit essay drafts in the Theory of Knowledge class, the role of the TOK teacher is only to monitor submission rather than instruct or evaluate. Throughout the extended essay process,

students are expected to initiate contact with their teacher mentors, who are available for counsel at student request to provide guidance relating to domain-specific research methods and academic expectations.

Extended essay rough drafts are submitted in stages, with the first preliminary draft of 1,500 words reflecting initial content formulation due by the end of August, a total of 2,500 words by the end of September, and final 4,000-word drafts with revisions due in mid-November. During between-draft times, students are expected to meet with teacher mentors and, at mentor direction, may be asked to produce additional drafts. In addition, individual mentors may permit subsequent revisions beyond the November classroom submission date but prior to the March date for formal submission to IB examiners. All students are expected to meet general evaluation criteria that include a research question and abstract, appropriate resources, data analysis, and documentation. In the area of literary analysis, assessment also includes approach to the literary topic, analysis and interpretation, argument and evaluation, formal presentation, knowledge and understanding of the literature, reference to secondary sources, personal response justified by literary judgment, and use of language appropriate to a literary essay (International Baccalaureate Organization, 1998). All literary essays in English submitted from one IB school are evaluated by the same examiner within a given examination year.

Duration of the Study

The major portion of this study took place over a period of approximately eight months extending from May of the students' junior year through December of the senior year. Preliminary data collected during a pilot study conducted at the end of the junior year included freewrites on students' views of knowledge and learning, epistemological

questionnaires, classroom observations during instruction on guidelines for the extended essay, and an initial student interview on epistemological views, topic selection, and initial research strategies. Intensive data collection and analysis conducted during the fall of the students' senior year included three additional student interviews following each major drafting stage, copies of student essay drafts, mentor teacher interviews, and a researcher journal. Table 1 provides a timeline of the dates and activities for data collection and analysis (see Table 1).

Participants

Student participants were selected from students enrolled in a district magnet International Baccalaureate Diploma Program as they began the extended essay process during the spring semester of the junior year. The teacher mentors the students selected also participated in interviews to give their insight on student progress through the essay. Although the freewrites and epistemological questionnaires for the entire class of 60 students were briefly examined for insight into the overall views of the target class as part of the preliminary portion of the study, only the 12 students who elected to submit extended essays in the literary analysis category continued as participants in the full study. Also, although essays submitted in domains other than English often follow the same troublesome patterns as research papers in general, this study was limited to students who chose to write the extended essay in the area of literary analysis. In addition, IB essays submitted in the category of literary analysis have typically received overall higher scores from the international examiners, while they have also represented a wide range of scores from high to low, providing a rich field for study. Consent forms were obtained from all student and teacher participants prior to conducting both the

Table 1

Data Collection and Analysis Timeline

Dates	Activities
4/06	Designed initial epistemological questionnaire Planned initial interview questions
5/06	Completed classroom observations during research paper instruction Collected free responses on views of knowledge and learning Distributed, collected, and analyzed epistemological questionnaires Conducted first in-depth interviews with all literary analysis participants Transcribed portions of audio tapes; added researcher memos Started initial data analysis
9/06	Conducted second in-depth student interviews on research methods and early drafting; followed up with member checking Transcribed portions of audio tapes; added researcher memos Collected and analyzed first rough drafts Continued data analysis Met with peer debriefer to discuss process and emerging themes Restructured interview questions for second interviews, as needed
10/06	Conducted third in-depth student interviews on research methods and writing process; followed up with member checking Transcribed portions of audio tapes; added researcher memos Collected and analyzed second rough drafts Continued data analysis Met with peer debriefer to discuss process and emerging themes Restructured interview questions for third interview, as needed
11/06	Conducted fourth student interviews on research findings and revision process; followed up with member checking Transcribed portions of audio tapes; added researcher memos Collected and analyzed final drafts Continued data analysis Final selection of five key informants Met with peer debriefer to discuss informant selection and themes Started writing findings and results
12/06 – 2/07	Continued data analysis and writing Met with peer debriefer for final look at emergent themes Completed final member checking Completed writing and submitted research report to committee

preliminary pilot study and the primary research (see Appendix A for sample consent forms).

Although the 12 students participating in the study were all advanced students in the senior class of the International Baccalaureate Program, they represented a wide range of interests, as evidenced by their varied subject choices within the prescribed curriculum. In addition to the required high level literature and history classes, participants selected areas of specialty across the curriculum that included biology, chemistry, physics, statistics, calculus, high level math, economics, art, Spanish, and French. Of the nine females and three males, nine were Caucasian, two Asian American, and one African American. The participants also represented a wide range of ability within the program, even though magnet students typically cluster at the top of the grade point average (GPA) scale. Overall GPAs ranged from 3.572 to 4.677, producing an average GPA of 4.143 on a 4.0 scale. Averages in excess of 4.0 are possible because of additional quality points that are added for courses with advanced content, which describes the majority of courses for all students in the IB Program. The participants also ranged in class rank from 113/456 to 1/456. The student ranked number one in the class also received a perfect score of 2400 on the College Board Scholastic Aptitude Test (SAT) I in the junior year.

As themes emerged during the recursive processes of data collection and analysis, five key informants were purposefully selected from the original participant group using theoretical sampling as part of the emergent design to provide an in-depth look at students' knowledge views and processing strategies (Glaser & Straus, 1967). The key informants were selected first based on variation in their range of knowledge views as

expressed through the freewrites, epistemological questionnaires, in-depth interviews, and essay drafts (Glaser & Straus, 1967). The five students also demonstrated considerable depth in their responses, as they were able to articulate their perception of the knowledge task presented by the research process, providing not only varied but unique perspectives, which were enhanced by the large amount of detail they included when they expressed their knowledge views and offered explanations of their composing processes (Merriam, 1998). In addition, the students represented a variety of ability levels that roughly mirrored the range in the overall participant group, with GPAs ranging from 3.572 to 4.656, producing an average GPA of 4.218 on a 4.0 scale and ranging in class rank from 113/456 to 2/456. They also selected a wide range of topics for their extended essay, including analysis of a single modern poem, a single novel, a Romantic poem in comparison with another Romantic poem and a metaphysical poem, two plays representing different cultures and time periods, and a Greek tragedy in comparison with a graphic novel. This range in topic selection provided a rich field for the study of genre selection relative to students' views of knowledge and learning. As a result, each key informant provided distinctive looks at individual knowledge views and composing processes.

Bridget describes herself as a strong humanities student with special interests in French and English, as she views the humanities as “more personal and in touch with everyday life than the sciences and math” (I-1, p. 1). In the IB areas of choice, Bridget has focused on IB Math Studies (with an emphasis on statistics rather than calculus), Chemistry, Visual Arts, and high level French. She likes to play the violin, eat at French restaurants, draw and paint, and watch cooking shows on television. Throughout high

school, she has remained involved in numerous activities and clubs, such as orchestra, peer mediation, National Honor Society, French Club, and Quiz Bowl. Currently Bridget is interested in pursuing journalism or foreign affairs at either Yale or the University of North Carolina. She is ranked second out of 456 in the class with a GPA of 4.656. Her combined SAT score was 2340, with a perfect score of 800 on the writing portion.

Fred's favorite subject is literature because he enjoys reading. However, he also loves sports, including cross country and rugby. Fred's IB areas of choice include IB Math Methods (with a calculus focus), Biology, Economics, and Spanish. He was one of the top delegates on the Model United Nations team. Fred plans to attend either the University of Georgia or Emory but is unsure about either a major or a career, other than an interest in liberal arts. As a student in the IB program, Fred has not been happy about the rigidity of the schedule and the amount of work that is required. He is ranked 113th out of 456 in the class with a GPA of 3.572. His combined SAT score was 1870, with a 700 in math as his highest individual score.

Megan is attracted to literature and art, because there is no "busy work or memorization" (I-1, p. 1) in either of those subjects. Similar to Bridget, Megan's IB areas of choice include IB Math Studies, Biology, Visual Arts, and high level French. Her main extracurricular interests are tennis and French Honor Society. She would like to pursue international business law and possibly learn Arabic at either Georgetown University or Boston University. She definitely would like to travel, especially to the Middle East and North Africa. Megan is ranked 16th out of 456 in the class with a GPA of 4.355. Megan's combined SAT score was 2040, with a 740 in critical reading as her highest individual score.

Paul has multiple academic interests in science, literature, philosophy, history, and mathematics. He reads historical fiction, all types of nonfiction, and scientific (not science) fiction, which he describes as based on actual scientific data. Paul's IB subject choices include Higher Level Math (advanced calculus, plus statistics), Chemistry, Economics, and Spanish, with regular electives in drama. Paul is interested in attending either Georgia Tech or Reed College. If he attends Reed, he would like to pursue a double major in creative non-fiction and Spanish language. Although he might want to be a college professor, his dream occupation is writing as a full time career. Paul is ranked 49th out of 456 in the class with a GPA of 4.009. Paul's combined SAT score was 2200, with basically balanced scores of 730 and 740 across all three categories of critical reading, math, and writing.

Shauna's favorite subjects are literature and history. Shauna commented that she especially loves literature, because it is "so interpretive, and I love seeing how it can be viewed in different ways" (I-1, p. 1). She also stated that she finds literary features and analysis fascinating. Shauna's subject area choices include IB Math Methods, Biology, Economics, and high level French, with additional electives in journalism. Shauna's official extracurricular activities include National Honor Society and ballet three nights a week and on weekends, but she also enjoys spending time reading poetry, swimming, shopping, exploring nature and the mountains, and spending time with her family. She thinks that she will probably major in English, with a possible minor in dance, and is considering attending Boston University, Columbia University, Smith College, or the University of Georgia. Shauna is ranked 11th out of 456 in the class with a GPA of 4.489. Shauna's combined SAT score was 2080, with a 720 in writing as her highest score.

For the purpose of this study, it is significant that all participants had taken the first of two required Theory of Knowledge courses prior to starting the extended essay research. It is also significant that the course sequence focuses on philosophical issues surrounding the nature of knowledge and knowledge claims, not on the domain classifications identified with psychological studies relating epistemology to learning, which were used as part of this study. The International Baccalaureate Organization considers the Theory of Knowledge course to be central to the educational philosophy of the IB Diploma Program. Its goal is to challenge students to reflect critically on diverse ways of knowing and to consider the role that different knowledge claims play in a global society. The two-semester course contains three main areas of emphasis, which include knowers and knowing (the nature of knowing, sources of knowledge, and justification of knowledge claims), ways of knowing (including perception, language, reason, and emotion), and areas of knowledge (including mathematics, natural sciences, human sciences, history, the arts, ethics, and politics). Students are required to keep a reflective journal of free responses to class focus questions, evaluations of readings, and commentary on class and supplementary activities. In addition to assigned short arguments, reflections, and commentaries, students must submit two essays each six weeks on prescribed topics. Essays are assessed on the basis of quality of analysis, breadth and links, structure and logical coherence, support, and factual accuracy. Instructors are selected on the basis of a background in philosophy plus specialized IB training. The course follows a seminar format as it encourages students to become aware of themselves as thinkers and knowers, to explore the complexity of knowledge and knowledge claims, and to develop a critical perspective.

Role of the Researcher

My role throughout the study has been that of participant observer. Although I taught high school English for over 16 years, I currently serve as director and coordinator of the IB program, with responsibilities that include recruiting students, implementing the curriculum design outlined by the international program, maintaining high quality instruction throughout the six major subject and elective areas of the program, evaluating teachers, administering the international exams, and supporting student learning. The position permits regular interchange with students and teachers, with the result that I am frequently involved in direct classroom observation, as well as in conferences with individual students. It is not unusual for students to schedule appointments with me to discuss study skills, problem-solving, and quality of work. Students and teachers are therefore generally quite comfortable discussing academic issues with me in both formal and informal settings. Although students and parents often approach me as an advocate when they have concerns, I do not hold or assume any direct jurisdiction over student grades in any of the classes. In addition, even though I typically conduct parent conferences, the program policy is firmly established in requiring any conflicts over grades to be handled through negotiation involving the teacher, student, and parent. As a result, even though I work closely and cooperatively with the students and teachers in the program, my role as director of the program still separates me to some extent, which allowed sufficient detachment for the purpose of observation and analysis during the study.

However, since part of my role as program director is to assist students with their academic needs within the program, as I met with students during the study, I remained

sensitive to insights that might help young researchers engage in more advanced problem solving throughout their research experience and therefore shared suggestions in the capacity of a second mentor. These suggestions are noted as general suggestions under mentor involvement in the report of the findings. The role of participant observation, which was already in place prior to the study, has afforded meaningful access into the academic culture of the extended essay and, as Schwandt (2000) has stated, functioned as “a way of knowing.”

Data Sources and Collection

The data collection and analysis methods used in this study followed a constructivist theoretical framework in order to permit in-depth exploration of how advanced students negotiate the research process and how that negotiation is guided by epistemological perspectives (Creswell, 2003; Vygotsky, 1934/1986). Since the social constructivist theory of transactional rhetoric locates truth within a discourse community consisting of the interactive elements of writer, language, audience, and text (including students’ own expository texts, as well as primary and secondary source texts), each of these elements was examined for evidence of students’ epistemological views and assumptions (Berlin, 1984). Multiple data sources were used to permit a broad view of student perceptions and choices throughout the research paper process and to improve the credibility of the findings and interpretations. Data sources, including free response writings, an epistemological questionnaire, four in-depth student interviews, classroom observations, mentor interviews, document analysis of essay drafts and final papers, and a researcher journal, were linked to each of the three research questions as part of the emergent design and constant comparative approach for the analysis (see Table 2).

Table 2

Research Questions and Data Sources

Research Questions	Data Sources
1. How might students' epistemological views be described as they <i>initiate</i> the research paper process?	Classroom observations Freewrites Epistemological questionnaires In-depth student interviews Researcher journal
2. How do students' epistemological views relate to the choices they make <i>during</i> the research and composing processes?	In-depth student interviews Student drafts Mentor interviews Researcher journal
3. How do students' epistemological views relate to the <i>final</i> research products?	In-depth student interviews Student drafts and final essays Mentor interviews Researcher journal

Although all forms of data were collected for all 12 participants, only the data sets for the five key informants were used in the analysis for this dissertation study. A focus on the constructed epistemologies of the five key informants as they formed subjective meanings of their research experience was reflected in the interpretive nature of the inquiry with its focus on in-depth phenomenological interviewing combined with the responses on the epistemological questionnaires and document analysis (Glaser & Straus, 1967; Lincoln & Guba, 1985; Seidman, 1998).

Observations

During the spring of the students' junior year, initial classroom observations of approximately 20 minutes each were conducted in each of the four Theory of Knowledge classes during research paper instruction and early source exploration. The purpose of the

classroom observations was to clarify the type of information that was given to all students about the research process in general, as well as the specific directions for the extended essay, in order to understand the level and type of instruction that students received immediately prior to beginning the research paper process. Field notes were recorded during each observation.

Free Response Writings and Epistemological Questionnaires

The first data sources collected during the spring of the junior year as part of a pilot study included students' free written responses on the topic of "How would you define knowledge and learning?" and answers to an epistemological questionnaire modeled after the questionnaire developed by Schommer (1989). The freewrite was assigned by the Theory of Knowledge teacher as an initial in-class journal writing prior to a unit of study focusing on knowledge domains and justification of belief. On the follow-up epistemological questionnaire, which was also completed as a classroom assignment and designed primarily as a preliminary tool within the research study, students were asked to indicate their views of knowledge and learning by selecting a number on a five-point Likert scale that reflected a continuum from strongly disagree to strongly agree for each of the 50 knowledge and learning statements on the modified questionnaire (see Appendix B). Students were instructed to check all responses that they thought reflected their views of knowledge and learning. Both the freewrites and epistemological questionnaires provided initial data on student perceptions of knowledge and learning prior to students' concentrated engagement in their own research process that took place over the summer and fall. Both items were designed to be preliminary data sources to open up dialogue during the follow-up interviews.

The epistemological questionnaire used in this study as part of the preliminary data was based on the second version of the epistemological questionnaire from the Schommer (1989) study, which consisted of 63 knowledge statements arranged in random order. For the purposes of this study, the questionnaire was modified by changing the wording of several of the statements to achieve greater clarity and by eliminating 13 of the statements that appeared repetitive or likely to produce reactive responses (see Appendix B). In the original study, the five primary knowledge domains (certain knowledge, omniscient authority, innate ability, simple knowledge, and innate ability) did not contain an equal number of individual questions, which was carried over to the current study. In addition, several of the questions spanned multiple domains, such as “learning definitions word for word is necessary to do well on tests,” which was categorized as part of the simple knowledge domain on the Schommer (1989) questionnaire. However, since a similar statement was already included within the simple knowledge domain and since factual information can be viewed as certain knowledge as well as simple knowledge depending on student perspectives, the definition statement was placed with certain knowledge on the modified questionnaire. In addition, as the following examples illustrate, many of the knowledge statements from the original questionnaire that were also included in the modified questionnaire contained wording (italicized for emphasis) that was ambiguous or vague, leaving them open to multiple interpretations:

- § *Truth* is unchanging (Certain Knowledge).
- § Being a good student *generally* involves memorizing *facts* (Simple Knowledge).
- § *Successful* students *understand* things quickly (Quick Learning).

§ Scientists can ultimately get to the *truth* (Omniscient Authority).

§ The ability *to learn* is innate (Innate Ability).

However, since the questionnaire was primarily used in the current study to spark discussion during the interviews and since analysis focused on student interpretation of the questionnaire statements, the discrepancies did not play a significant part in the results of this study. Instead, the ambiguity within the statements actually provided multiple opportunities for students to discuss their initial reactions to the questions, as well as to elaborate on the contrary thought patterns that the statements generated, as both the statements themselves and students' responses were explored during the subsequent interview sessions.

Interviews

Four sets of in-depth, semi-structured phenomenological interviews (Seidman, 1998) were conducted with each of the 12 study participants, including the students who were ultimately selected as key informants, in order to explore students' knowledge views relative to research and composing choices as they processed through an extended literary research paper (see Appendix C for sample interview questions). Since the purpose of both the freewrites and the epistemological questionnaires was to initiate participant discussion of individual views towards knowledge and learning prior to beginning the research and composing processes, as indicated by the first research question, the first interviews were designed primarily to focus on exploring students' perceptions of the questionnaire items and clarifying the rationale for their responses. This follow-up was particularly important, since questionnaire responses indicated discrepancies in epistemological stance within and among the items relative to the five

Schommer (1989) knowledge categories. The free responses and questionnaires also served as guides for developing follow-up interview questions for individual participants during the subsequent drafting interviews. Although the first interviews focused heavily on more direct exploration of the knowledge views students had expressed through the freewrites and epistemological questionnaires, they also explored how students selected their essay topics and how they planned to initiate the research process.

As students proceeded through the drafting stage, the remaining three sets of in-depth, semi-structured interviews were designed to continue to examine individual students' epistemological views as they related to student choices throughout the research and composing processes, as directed by the second research question. The interviews focused on various perceptions of knowledge views and strategies associated with the research paper process itself, including topic selection, writing process, and revision strategies. Interview questions explored student perceptions of the research and composing processes, including how they viewed the main purpose of a research paper and their role in the research process, as well as their rationale for narrowing the topic, selecting from the primary text, and selecting secondary source material to include in the paper. Questions were also designed to explore how students negotiated the ongoing composing process, the methods they used for extending their research, particular problems they encountered, the relative amounts of thinking and composing time they spent on the paper, and what aspects received primary focus during content revision.

The concluding interviews centered primarily on the revision process and included guiding questions about how the final draft changed from the previous rough draft, how content changed as new problems emerged, the nature of student exchanges

with mentors, and students' self evaluation in light of IB assessment criteria. The primary purpose that guided the questioning throughout the interview process was to explore how students' knowledge views relating to research and composition reflected or contradicted the responses that they indicated on the initial questionnaire, free responses, and first interviews. All interviews therefore allowed for open-ended responses that permitted students to express their individual views of knowledge and learning relative to the evolving shape of the composing process and crafting of both the rough drafts and final essays.

In addition, because of the similarity of responses among the study participants in several domains of the epistemological questionnaire, follow-up questions were included in order to explore the assumption that readers transact or engage with text in a manner consistent with an internalized mental model of the reading process, which Schraw and Bruning (1996) identified as an epistemology of text. These questions were incorporated into the interviews rather than administered as a separate questionnaire, as originally planned, in order to elicit more open responses from the participants and to avoid setting up foundationalist expectations such as occurred with the epistemological questionnaire. Questions focused on exploring whether students viewed their engagement with primary and secondary source texts primarily from a transmission perspective (simply moving information from the source text to the student essay) or a transaction perspective (engaging with the ideas of the source text and evaluating their connections with the idea structure of the essay).

Interviews were also conducted with the teacher mentors in order to examine the depth of student engagement and response to the mentor scaffolding that is recommended

as part of the IB extended essay process. Field notes taken during the interviews provided information concerning the mentors' perspectives on the degree of involvement for each student in order to compare their views with student perceptions expressed during the interviews.

Essay Drafts and Final Papers

Copies of all student drafts, including the final essay, were collected and examined as the study progressed. As data sources to examine the second and third research questions pertaining to student research and composing processes leading to final products, preliminary drafts served to provide insight into the thought processes that guided student exploration throughout the research process, as well to reveal areas of difficulty that emerged as students engaged with both literary and informational texts and attempted synthesis with their own perceptions as part of the analysis process. Thus, preliminary drafts were not graded but were used to assess student progress during composing and to reveal possible discussion points during the interview process.

Final essays served as the primary data source for evaluating the third research question concerning how students' epistemological views relate to the final research product. Students' final papers were analyzed as written discourse using rubrics that included criteria for evaluating content, organizational structure, style, and use of conventions for each paper. The final product was then evaluated for overall quality using a holistic evaluation rubric and examined as a culminating reflection of students' knowledge views as they had been expressed during the interview process.

Researcher Journal

A researcher journal of formal and informal notes taken during observations, interviews, additional reading, and data analysis also served as one of the data sources. As these notes recorded interpretive and reflective comments throughout the data collection and analysis process, they invited constant reflection on emergent themes, as well as on the inquiry process itself. This reflective process played an essential role in both the in-case and cross-case analyses that occurred throughout the research process.

Data Analysis

As part of the grounded theory approach and emergent design of the study, all data were organized, grouped, and analyzed using the constant comparative method, as new data were compared to existing data to determine relevance and form new connections (Glaser & Strauss, 1967).

Free Response Writings and Epistemological Questionnaires

In order to explore the first research question relative to how students' epistemological views might be described as they began the research paper process, initial data analysis focused on the freewrites and epistemological questionnaires completed during the students' junior year. As the freewrites were analyzed, insightful comments were highlighted as open coding was used to identify students' individual expressions of personal epistemology prior to engagement in the research process and prior to discussions of knowledge views within the context of the study. For the epistemological questionnaire, the responses for each question were tallied for all 12 of the initial participants. For the purpose of determining basic student directions across the participant group, the final two responses at each end of the Likert scale were paired,

yielding three levels of response categorized as disagree, uncertain, and agree for each question. The summary responses for each item were then entered on a domain sheet to permit examination of individual participant responses and group responses according to the epistemological domains of certain knowledge, omniscient authority, innate ability, simple knowledge, and quick learning (see Appendix B for the domain classification of individual questions). The positive or negative direction of each truth statement relative to its knowledge domain was considered in determining individual and group positions within each knowledge category. Apparent discrepancies in an individual's position statements within a domain provided direction for future questioning in the individual interviews. In addition, all response directions were entered into a spreadsheet and sorted by knowledge domain in order to provide guidelines for analysis, as well as generate a quick reference sheet to aid discussion during subsequent interviews. For final data analysis purposes, individual student markings on the questionnaire were amended to more accurately reflect the student views expressed in the interviews rather than the scaled markings on the initial questionnaire. For the five key informants, these amended responses were graphed and included as part of the findings in Chapter Four.

Interviews

After initial insights were gathered from the freewrites and questionnaires, data analysis focused heavily on the four sets of interviews, which provided extensive data pertaining to the second research question concerning how students' epistemological views related to choices made during the research and composing processes. Interviews were transcribed and analyzed for recurring and emergent themes, while observer comments were also recorded to preserve insights that unfolded as conversations were

revisited during the transcription process. Although guiding questions were developed to correlate with the key drafting stages of the essay, such as initial composing and subsequent revision, the interviews remained largely open-ended to allow students to express their views in their own language and to permit new themes to emerge (Lincoln & Guba, 1985). Notes were also recorded in the researcher journal in order to document emergent ideas for future reference, particularly when questions were raised that needed to be revisited in subsequent interviews. At times, one student would make a particular comment that opened up additional areas for questioning with the other students in later interviews.

The four interview transcripts for each of the five key informants were initially coded for student statements related to topic selection (TS), research approach to primary and secondary sources (RA), composing process (CP), revision (RV), and mentor involvement (MN). Additional comments were also recorded in the margins to identify emergent themes not covered by established codes. Student comments relating to the primary coded areas were cut and pasted in note form from the typed transcripts to form separate Word documents relating to each of the coded areas for each student. This format helped manage the vast amount of data that was collected across four interview sets per student, as it helped visualize connections across cases in reporting the results of the study.

In addition, throughout the interview process, students' preliminary drafts were not scored but were reviewed and subjectively evaluated to identify major changes and shifts that were made as part of the composing process. A modified form of the revision code system used in the Faigley and Witte (1981) study was used to identify content

revisions at both the surface and meaning levels across preliminary drafts (see Appendix D). Additions and deletions on multiple drafts also provided insight into students composing processes and opened up areas for future dialogue during the interviews.

Document Analysis of Final Essays

Final drafts for the key informants were coded and scored for depth of response, as well as consistency of analysis and support using multiple evaluation tools for the purpose of exploring how students' epistemological views were reflected in their approach to the final research products relative to the third research question. Essays were first examined for evidence of structural organization and discourse synthesis by comparing the relative presence of concrete detail, transitional statements, and personal commentary within the student text (see Appendix E). This structural analysis provided insight into the degree to which students were able to blend primary and secondary support with their own analysis of text, as it also provided an extensive look at the major organizational patterns employed by each student. Essays were then analyzed using an adaptation of the Georgia High School Test Writing Rubric (Georgia Department of Education, 2005), which focuses on overall content, organization, style, and conventions. Specific descriptors were used to identify strengths and weaknesses in each of the four domains identified by the rubric (see Appendix F). In some cases, there were discrepancies that occurred between what students reported as part of their writing processes and what actually took shape in the crafting of the drafts and final paper. These discrepancies were addressed in the interviews following submission of the rough drafts and final essay.

The final evaluation tool was an adaptation of an IB scoring rubric developed by the researcher eight years prior to the study for use with IB English classes in order to evaluate the overall quality of literary analysis research essays (see Appendix G). This holistic rubric permitted assigning an overall quality score to each student's final essay based on evidence of perceptive insight, grasp of significant factors, close engagement with the text, evidence of personal voice, clear reference and substantiation for all points, clear and logical organization, meaningful conclusion, and appropriateness of register, format, and language. Since these criteria parallel the assessment categories and descriptors used on the actual IB rubric for the literary extended essay, they provide a means of approximating students' extended essay scores prior to submission of the final essays for formal evaluation by IB examiners.

In addition to assessing the quality and strength of each student's essay for level of literary analysis and ability to incorporate secondary source material within original commentary, final essays were also examined as "window[s] into the mental model of the learner" (Goldman & Wiley, 2004) for the purpose of extracting how students' constructed epistemologies informed the final result of their research and composing strategies. As with the freewrites, questionnaires, and interviews, the constant comparative method of analysis was used throughout the final analysis, as recursive looks at multiple data sources were constantly reevaluated to search for similarities and differences and open new avenues for exploration in the examination of students' final products.

Rigor and Trustworthiness of the Study

The complexity inherent in exploring students' knowledge views while composing an extended literary analysis essay required the open-ended nature of qualitative inquiry and the social-constructivist framework of the research design of this study, which complied with established design principles and demonstrated rigor throughout (Denzin & Lincoln, 2000). In order to understand how individual students viewed and negotiated the knowledge task presented by the research and composing of an extended essay, it was necessary to explore the multiple meanings that students made of the research experience. Such an in-depth look cannot be revealed simply by numerical tallies of student responses to questionnaires but requires collaboration and dialogue with student participants as they actually engage in research and composing from multiple source texts. Demonstrated gaps between teacher expectations and student performance on the typical research paper, even with advanced students, also clearly established the need for an in-depth look at students' knowledge assumptions and processing. The qualitative paradigm acknowledges the existence of multiple constructed realities, as individual students approach and negotiate the research task from varied epistemological and experiential perspectives. In addition, the gap between the format of the questionnaire and the expectation for elaboration necessitated conducting semi-structured phenomenological interviews that allowed all of the participants to express in their own words their views of knowledge and learning, as well as their views of their composing processes.

Triangulation was achieved through the use of multiple participants and data sources, including interviews, observations, questionnaires, and documents, over an

extended period of eight months. The credibility of the study was further established through accurate representation of data, case-to-case transfer, logical and documented procedures, and confirmability, as assertions were linked to the data (Guba & Lincoln, 1989). In addition, researcher interpretations were verified through member checking (Fielding & Fielding, 1988) and collaboration with a peer debriefer who was experienced in the extended essay process and familiar with qualitative research methods (Lincoln & Guba, 1985). Use of open, inductive coding permitted evidence of students' epistemological views and individual voices to unfold during analysis of all data sources, while the combined use of inductive coding and the constant comparative method of data analysis promoted thick description of relevant data and increased the possibility of new patterns and themes emerging from exploration of multiple data sources (Glaser & Strauss, 1967). Throughout the study, observations, reactions, impressions, concerns, and questions were recorded in a researcher journal (Lincoln & Guba, 1985), as the constant comparative method was used for both within-case and cross-case analysis in order to maintain an emergent, open-ended design (Creswell, 1998; Glaser & Strauss, 1967; Merriam, 1998; Miles & Huberman, 1994; Stake, 1995). Thus, the focus throughout was on a recursive-generative approach to data collection and analysis as a means of developing theory firmly grounded in data (Glaser & Strauss, 1967; Strauss & Corbin, 1998).

CHAPTER 4

STUDENTS' EPISTEMOLOGICAL VIEWS

This chapter reports findings related to the first research question: *How might students' epistemological views be described as they initiate the research paper process?* The first part of the chapter reports results from freewrites, epistemological questionnaires, and interviews for each of the five key informants. Personal comments on a preliminary freewrite that allowed students to discuss individual perceptions of knowledge and learning prior to starting the extended essay research are examined first followed by the results of student responses on the epistemological questionnaire in light of individual commentary in the first set of interviews, which were conducted at the onset of the research. The concluding part of the chapter provides an overview of the epistemological views observed across the group as a whole prior to the start of the research paper process. Questionnaire and interview responses are presented in terms of the five primary knowledge domains defined by the Schommer (1989) study, including certain knowledge, omniscient authority, innate ability, simple knowledge, and quick learning. It is important to point out that although the students in this study had been exposed to philosophical discussions on the nature of knowledge and knowledge claims as part of their Theory of Knowledge class, they had not had exposure to the branch of personal epistemology used in educational research to examine possible connections between epistemological views and learning that formed the framework for exploration in this study.

Based on previous studies related to personal epistemology, within the context of this study a belief in *certain knowledge* was framed in terms of belief in the existence of unchanging truth, viewed not only as an ultimate form of reality, but also as an entity able to be determined and agreed upon through inquiry and discovery, as well as representing the ultimate goal for all learning and knowledge-seeking. The wording and scoring of the epistemological questionnaire also presupposed the pairing of a focus on facts, definitions, and scientific pursuit within the certain knowledge framework.

In the second domain, a belief in *omniscient authority* was presented in terms of a focus on experts, textbooks, and teachers, with the expectation that a person who has a strong belief in omniscient authority will depend on, accept indiscriminately, and not question advice from experts, information from textbooks, or answers from teachers. Within this mindset, a student would be expected to assume that success in school depends almost exclusively on the quality of the teacher, not on the responsibility of the student.

In the third domain, a strong belief in *innate ability* was framed in terms of assumptions related to success as a factor of natural intelligence rather than hard work. Such a belief would manifest itself in the assumptions that learning how to learn is not very beneficial and that students are doomed to perform within the framework that their natural intelligence dictates.

In the fourth domain, *simple knowledge* questions centered around facts and right answers to the exclusion of multiple methods of instruction, multiple interpretations, complex meanings, and integration of ideas. Several of the questions used examples from science as a primarily factual area of the curriculum.

Finally, the *quick learning* domain related closely to the innate ability section, as it focused on the ability of successful students to understand quickly and the expectation that learners should be able to comprehend concepts the first time they hear them without much effort. Within this framework, questioning and exploration would be considered a waste of time.

Student responses are classified into domains and evaluated based on the perspective of prior personal epistemology studies, which typically equated advanced thinking levels with knowledge views that are not certain or simple, learning that is not innate or quick, and authority that is not omniscient (Perry, 1968/1999; Schommer, 1989). In the discussion sections relating to the epistemological questionnaire, reference numbers indicate the corresponding question number on the epistemological questionnaire (see Appendix B). This chapter presents the major findings for each student's individual knowledge beliefs relative to each of the five knowledge domains; Chapter Seven reviews those beliefs and explores the relationship of students' knowledge beliefs to their composing processes and final research products, as presented in Chapters Five and Six.

Bridget

If all knowledge is relative, then why should one embrace it? (F, p. 1)

In her personal freewrite, Bridget expressed a passion for the pursuit of knowledge but spoke out strongly against what she views as the popular postmodern view of knowledge as something that is “relative” and essentially “impossible to achieve” (F, p. 1). She attributed the current demise in educational standards to this trend towards relativism, stating that “this type of education has proven responsible for a casual, non-

serious attitude in the classroom and lower standard of education” (F, p. 1). She raised interesting questions, such as “If all knowledge is relative, then why should one embrace it?” and “If nothing is absolute, then why should a teacher strive to present valuable information from which students can learn and thus better themselves and society?” (F, p. 1).

Bridget’s Beliefs in Absolute Truth and Complex Knowledge

Certain knowledge domain. In all of her responses in the certain knowledge domain of the epistemological questionnaire, Bridget expressed a strong belief in the certainty of knowledge at the same time that she revealed a deep attraction to controversy and complexity. She consistently marked responses that supported belief in unchanging truth (Q1) accompanied by the need to memorize facts (Q2) and word-for-word definitions (Q40) as means of performing well in school. Her positive responses to obvious certain knowledge assertions were further supported by her strong denial of the statement that “the only thing that is certain is uncertainty itself” (Q25). She also indicated that she considers it a waste of time to work on problems that have no possibility of coming out with clear-cut answers (Q26). However, at the same time that she marked six of the eight choices in this domain in favor of certain knowledge, she also marked that she found it interesting to think about issues that authorities can’t agree on (Q45) and denied that scientists can ultimately get to the truth (Q23). In addition, she chose to remain noncommittal on the issue of whether or not professors and teachers should stick more to facts and do less theorizing (Q34).

In the follow-up interview, Bridget reaffirmed her belief in absolute truth, explaining that “while things can be complicated or there could be something deeper

behind what seems to be going on, I think that there is always a definitive answer” (I-1, p. 1). In response to being asked if she felt that one could always identify or understand that answer, Bridget replied that “I try to always find the answer or the truth but I am sure that there are situations where that would be harder than others” (I-1, p. 1), indicating that illusiveness and complexity do not deter her from a search nor do they cause her to question her firm belief in absolutes. When asked to give examples of situations that might be illusive, Bridget referred to a moral situation:

In history we are studying the atomic bomb and dropping it on Japan. On the one hand there is an issue of whether it was right to kill civilians and on the other hand if it would have been right to continue the war and lose more lives. So, that is a hard answer to come up with, but I believe that there is one, even if we can't figure it out. (I-1, p. 1)

As Bridget continued to explain her position, she also related her views on certain knowledge to her personal study habits and approach to subject matter, asserting that it made her avoid being a “fence straddler,” since she always tries to “take one clear side” on papers and issues in order to strengthen her argument (I-1, p. 1). As a result, she finds that her “black and white views” make it easier to organize both her essays and her time, as she makes clear decisions about when she needs to study and when it is appropriate to take breaks and have free time (I-1, p. 1).

Omniscient authority domain. In a sense, Bridget’s strong belief in certain knowledge seemed to conflict with her approach to omniscient authority, as indicated by her responses on the epistemological questionnaire. However, across the authority domain, Bridget remained consistent in her view that essentially all information should be questioned, including advice from experts (Q13), information in a textbook (Q27),

answers from teachers (Q33), and written material (Q41). She also indicated that a student's level of learning is not dependent on the quality of the teacher (Q3).

When questioned about the apparent discrepancies, she explained that, "I believe in absolute truth, but I think that people sometimes diverge from it and think that they know everything, and they really don't" (I-1, p. 2). As she continued to elaborate on her position, she seemed to envision a truth that is beyond the immediate grasp of the individual, indicating that certain knowledge is not located in the realm of experts because of bias, stating that "a lot of people call themselves experts but a lot of times they have an agenda that guides what they are saying. I like to question things and where they are coming from, instead of just accepting what they are saying" (I-1, p. 2).

As indicated by her responses on the questionnaire, Bridget included the views expressed by teachers, textbooks, and scientists in the same category as experts. Concerning teachers, she explained that "I guess I just don't like the idea of blindly accepting something, because if it is true, then it should be able to be explained" (I-1, p. 2), which suggests that one criterion for determining truth is that it should be rationally plausible. Concerning textbooks, she commented that "textbooks are organized by the authors, so they are already organized by people. It is not just 'this is how it should be.'" (I-1, p. 4).

In this domain, Bridget had the most to say about scientists. After reasserting her belief in absolute truth, she explained that she viewed science as "really misguided a lot of times with trying to find truth. I think that a big problem is that scientists think that they can find all of the answers . . . [but] I don't tend to think that scientists have all of

the answers” (I-1, p. 1). When asked why she thought that, she commented about the influence of popular world views on academic stance:

I think that there is a big postmodern mindset in all things academic and that extends to science, and a lot of scientists think that—it is actually a kind of paradox—because on the one hand they seem to think that there are no absolute truths (because that is postmodernism) but then they also think that they can find the ones that there are—or the facts. And I think that that can be an obstacle, because a lot of times scientists, because they are so closed to ideas, . . . they close off a lot of possibilities, and because of that it has led science in kind of a downhill direction. (I-1, p. 2)

Innate ability domain. Bridget’s questionnaire selections on innate ability revealed a mixture of beliefs. Bridget leaned towards viewing the ability to learn as not exclusively dependent on innate ability, although she recognized that some people are born with more ability than others (Q4, Q37). The majority of her responses focused on recognizing the need to work hard in school (Q20, Q38), the benefits of study skills courses (Q15), the individual responsibility of students in the learning process (Q44), and the value of improving ability by learning how to learn (Q16, Q35). She marked with strong agreement that wisdom is knowing how to find answers rather than just knowing the answers (Q43). Her disagreement with the statement that “Genius is 10% ability and 90% hard work” (Q16) was based on the specific percentages in the statement. Identifying herself as a “word person” in the initial interview, Bridget explained that she had taken the questionnaire statement literally and did not think that the numbers gave an accurate representation of the relationship (I-1, p. 3). She further elaborated on her views within this domain:

I think that people do have—that they are born with a certain intelligence level and that you have some people who are geniuses naturally, and then you have other people who are not naturally gifted, but also—I think that there is a continuum there, and that it is innate. But I also think that you have to cultivate what you have or it is not going to develop, because a lot

of times somebody who is really, really smart can be much less successful than somebody who is maybe 30 IQ points lower, because the person of lower intelligence has studied and worked hard and applied himself, so I think that while brilliance is innate, it doesn't guarantee success. (I-1, p. 3)

Simple knowledge domain. In the simple knowledge domain, Bridget's responses on the epistemological questionnaire indicated that she leaned towards knowledge complexity in the form of word meaning and integration of ideas at the same time that she sought simplicity in her desire to organize and group information for clarity of meaning. Indicating belief in complex knowledge, Bridget marked that words do not have one clear meaning (Q6) and that new ideas are more valuable than textbook details (Q49). Concerning the questions relating specifically to textbook information, Bridget indicated consistently that there are different ways to view informational text, as she both denied the existence of a "right track" for learning (Q36) or one effective method or format for the presentation of educational material (Q30) and recognized the need for students to reorganize textbook information (Q17), combine information across chapters (Q46), and integrate new ideas into prior knowledge (Q39). Bridget explained that her study of foreign language had taught her that words carry nuances of meaning that are not always consistent from text to text and that the evolution of words has resulted in frequent disparities between denotation and connotation (I-1, p. 4). Bridget expressed her own need to simplify by integrating textbook information in order to reorganize it into her own personal scheme:

A lot of times, especially in science, the material can be really dense. In studying for biology, it is a lot of memorization, a lot of facts, and so it can get really viscous, if you don't break it up. So, sometimes they [the textbooks] might put a couple of categories that seem to go together to me—they might separate them by another system or something, or by another explanation. When I make notes, I might bring them together, so that I can make more of a link. (I-1, p. 4)

However, on the side of simplicity, Bridget also indicated that she appreciates organization in lectures (Q24), that she looks for facts in texts as she reads (Q28, Q31), and that she recognizes the need for “precise measurement and careful work in the realm of science” (Q10). Two additional questions on science produced uncertain responses, one relating to the importance of original thinking in science (Q5) and one concerning whether or not scientific problems have only one right answer (Q8). In the first follow-up interview, Bridget explained that even though she recognized the importance of facts in learning, her study patterns typically represented a hierarchy that started with “pull[ing] together the big ideas and then get[ting] the details from the text. Big ideas are important for organizing, but if you don’t get the details, you are not going to do well on the test” (I-1, p. 5). She again elaborated by referencing science:

Facts are important, but I don’t want to be one of those people who can’t see the forest for all of the trees. If you get caught up with little nit-picky things, sometimes it is harder to . . . get the broad picture. In biology, if I get the overview and look at the diagrams first and the big system rather than looking at all of the little individual parts, I find it easier to understand the parts, if I understand their context first.” (I-1, p. 4).

Bridget also related this concept to the learning patterns of some of her peers:

A lot of people who have trouble in school and especially—I keep saying science because it is so detailed with a lot of memorization, a lot of complexity—a lot of them just focus on little individual things. . . . I think that you have to become more and more narrow as you go along, because otherwise it is easy to get confused. And I think a lot of people make that mistake and that’s why they have a hard time, because it can become overwhelming if you look at all you have to memorize. It is better to take one step at a time. (I-1, p. 4)

Quick learning domain. In the area of quick learning, although Bridget agreed strongly that “successful students understand things quickly” (Q7), she balanced that view with four responses that favored learning as not being quick, indicating that not

understanding something the first time students encounter it does not necessarily preclude understanding it at a later time (Q50). She recognized that one does not always get all of the necessary information from a first reading (Q19) and that concentration and time are essential factors in figuring out difficult concepts (Q22, Q42). In the interview, Bridget explained the value of being “able to absorb information relatively quickly” as a means of “convenience” in meeting the time demands of school (I-1, p. 5). However, she emphasized that the benefits did not extend to “just cram[ming] for a test the night before” (I-1, p. 5).

Across the domains. Throughout all types of responses, Bridget remained firm in her belief that absolute truth does exist and that her search for truth functions for her as a catalyst for extended learning and exploration. Her conviction seemed to direct her studies towards investigation, as it also appeared to challenge her to find order in the midst of confusion, both with her personal choice of time (“a time to study and a time to play,” I-1, p. 1) and her need to reorganize facts gleaned from texts to provide direction for her learning. She expressed a clear sense of the need to focus on context and to fit details and facts into a bigger picture of conceptual knowledge and patterns.

Fred

[The world is] a cacophony of broad and loaded ideas. (I-1, p. 4)

Fred’s freewrite was brief, but he identified knowledge as “the most important thing in the world,” “our gateway to the world surrounding us,” and learning as “a transporter of that knowledge” (F, p. 1). He recalled a moment when he asked his grandfather why he had to go to school. His grandfather’s reply, that it was to prepare him for his future, had stayed with Fred, at the same time that it had not satisfied him. As

a junior in high school at the time of the freewrite, he felt that he was already living his future and that school did not necessarily represent the whole of that picture. However, although there was no elaboration of his final statement, Fred concluded that “knowledge is the reason we are alive, to make the most of nothing, and to try to shed light into areas of darkness” (F, p. 1).

Fred’s Views on the Uncertainties and Complexities of Problem Solving

At the beginning of the initial interview, Fred commented that he had noted the often ambiguous wording of the statements on the epistemological questionnaire, saying that they frequently came across as “opinionated—they are loaded” (I-1, p. 1). He also observed that “there is a lot behind the numbers” (I-1, p. 1). As he responded to interview questions about the areas of uncertainty and discrepancy on his questionnaire, he explained some of the dilemma that he had experienced in marking his choices.

Certain knowledge domain. In the certain knowledge domain of the epistemological questionnaire, although Fred marked strong agreement with the initial statement that “truth is unchanging” (Q1), he leaned heavily towards knowledge as not being certain, with seven of the eight statements evoking a strong “not certain” response, regardless of whether the question was stated positively or negatively. He denied that good students have to memorize facts (Q2) or learn word-for-word definitions to do well on tests (Q40) and viewed science as not being able to “get to the truth” (Q23). In the follow-up interview, he explained that “I think a lot of these things are out there, and we just don’t have the means to obtain them—we are just kind of scratching the surface, and we don’t really have a way to get underneath it” (I-1, p. 2). Fred used an example from science to illustrate his point:

There is always going to be some problem that people are never going to be able to solve, like physicists are trying to figure out the theory of turbulence—how to figure out how and why water reacts the way it does when it goes around an object. (I-1, p. 1)

However, he did not deny the value in attempting solutions, stating that “I think it is a great thing that people are working towards them [solving problems], and I don’t think that their work is in vain, but at the same time I don’t think that a plausible solution is going to be found” (I-1, p. 1). When asked why, he referenced the complexity of the problems, explaining that “we are still putting data in that is determining the outcome of that, so it is more complex than what we can honestly get to” (I-1, p. 1). He also talked about the theoretical versus experimental aspects of science:

A lot of things, like the theoretical stuff that scientists are studying, I think that something can’t really be proven unless it is actually there and tangible and can be seen and touched, whereas like a lot of this astrophysics stuff, like dealing with black holes and stuff, it is all based on theory, and although it might be proven mathematically or something like that, how can you really be sure that what we say is right, based on some math formulas and a few pictures? (I-1, p. 1)

Fred was also consistent in believing that a factual rather than a “theorizing” approach to instruction did not result in getting more out of a course (Q34) and in finding it interesting to think about issues that authorities can’t agree on (Q45), as well as not considering it a waste of time to work on problems that have no possibility of resulting in clear-cut answers (Q26). However, in contrast to his affirmative response to “truth is unchanging” (Q1), Fred also marked strong agreement with “the only thing that is certain is uncertainty itself” (Q25), suggesting that he supported the existence of absolute truth at the same time that he recognized the complexity involved in attempting to discover it. In the second interview, Fred explained his conflicting responses in terms of different perceptions of truth:

If something is true, like ultimate, like the highest level, then it's going to be true always and it's never going to change. But, this [the questionnaire statement] is more on an individual basis. For example, good students sometimes have to memorize facts. In some cases, yes, and then in some cases, no, you adjust use. (I-2, p. 1)

Omniscient authority domain. In the omniscient authority domain, Fred indicated strong belief that voices of authority in the form of experts, textbooks, and teachers are not omniscient. He marked that advice from experts should be questioned (Q13), that students do not have to accept answers from teachers without question (Q33), and that students should evaluate the accuracy of information in textbooks (Q 27, Q41). However, the issue of the influence of teacher quality on student learning evoked an uncertain response (Q3).

Although Fred's responses were quite consistent for the omniscient authority domain, there was some uncertainty about the learning process imbedded within several of his choices in that section. He explained his views related to questioning experts and other authority figures, including teachers, in light of his understanding of the slow learning process, which also reflects his views on quick learning:

I'm not saying that what teachers teach is wrong by any means, but for a long time people thought that the world was flat—experts said that—everyone said that. Where would we be if no one had ever questioned that? Skepticism is the means by which we—without skeptics and people who question things we would never change our original ideas. We would never evolve. It is a growth process that goes along with that slow learning process. I wish that learning was quick! You wouldn't spend decades in school. (I-1, p. 2)

Innate ability domain. In the area of innate ability, Fred marked only three of the twelve statements as belief in innate ability. In support of innate ability, he affirmed that some are born good learners while others are stuck with limited ability (Q4), that really smart students don't have to work hard to do well in school (Q38), and that wisdom is

knowing the answers more than knowing how to find the answers (Q43). However, the remainder of Fred's responses strongly supported belief in ability as not innate, beginning with direct denial of the questionnaire statement that ability to learn is innate (Q48). He also agreed that genius is 10% ability and 90% hard work (Q11), that getting ahead takes a lot of work (Q20), and that students have control over what they get out of a textbook (Q44). In addition, he recognized the importance of study skills courses (Q15), supported learning how to learn as important (Q35), and related success to improving one's ability to learn (Q16). Finally, he did not view experts as individuals with special gifts (Q21) and did not think that students who are average in school will remain average for the rest of their lives (Q37).

In the initial interview, Fred was asked to explain his stance on the relationship of genius to hard work, where he indicated that ability was not innate (Q11), relative to the statement that some people are born good learners while others are just stuck with limited ability (Q4), with which he agreed. His explanation centered on individuals with special ability:

There are always those people who are 12 years old and graduate college, . . . and the people who can just get through all their schooling without really trying, and they just kind of skate by. I mean, they've got some ability that a great deal of the population doesn't have. And it might just be that they know how to use it compared to the other people, but I mean I do think that there is some difference, and not everyone is born as just the same blank slate that absorbs knowledge at the same rate. Abilities and opportunities vary between different people. (I-1, p. 2)

Simple knowledge domain. Fred's responses in the simple knowledge domain were mixed, with approximately half simple and half not simple. Several of the simple statements seemed to relate to facts and details, including the statements that scientific work is not about original thinking (Q5), that he looks for facts when he studies (Q28),

and that he appreciates organization in lectures (Q24). He also indicated that things are simpler than teachers/professors would have students believe (Q12) and that educators should know the best method for instruction (Q30), which were coded as simple knowledge on the questionnaire.

In the not simple area, Fred indicated that most words have multiple meanings (Q6) and that scientific work consists of more than precise measurement and careful work (Q10), which raised questions compared to his denial of the importance of original thinking in scientific work (Q5). When asked about his mixed views on science, Fred explained that his thought process in responding focused on the nature of problem solving in science:

If you are a scientist, and you are sitting down and looking at a problem, you work to solve the problem. There might be creative ways in which you go about solving that problem, but I think that originality comes into play in the process by which we work through science as opposed to the actual issue at hand, because they are kind of cut and dried. This problem exists—how do I solve it? (I-1, p. 3)

In addition, when asked how his views on creativity related to areas outside of science, Fred focused on literature for his explanation, indicating that different subject domains invite varied responses depending on the relative importance of creativity and factual information within the particular subject area:

Literature is allowed to be less factual and precise and mathematical than science is, because it is an expression of human emotion and ability, as compared to science, which is just like solving for facts—we are trying to solve these problems, whereas literature is the vent for creativity. If a person is really creative, and they want to express that creativity, then science might not be the best field for them to go into. But literature on the other hand would be a viable option, because there is a lot more creativity. (I-1, p. 3)

On the remaining questions in the simple knowledge domain, Fred viewed knowledge as not simple, as he classified reorganizing information in a textbook as an aid to understanding (Q17), defined studying as focusing on big ideas rather than details (Q31), and considered both context and author intent as important in understanding meaning (Q32). He also indicated that he liked to combine information across chapters and classes (Q46) and denied that students get confused when they try to integrate new ideas with prior knowledge (Q39).

Quick learning domain. In the final section on quick learning, Fred was quite consistent in viewing learning as not quick, thereby supporting his previous responses in other domains concerning the time investment involved in learning. Fred denied that successful students understand things quickly (Q7), that asking questions makes one confused (Q9), or that students usually get information from a textbook on the first reading or make sense of information on the first hearing (Q19, Q50). He also expressed strong support for concentration as a key to figuring out difficult concepts (Q22) and for the importance of continuing to try if something is not understood in a short amount of time (Q42). His only undecided response concerned whether working hard on a difficult problem for an extended period of time only benefited really smart students (Q29). Fred summarized his approach in his final statement for this domain:

Going back to those boy geniuses, I think even they, despite maybe picking something up faster than everyone else, I think that they have to go through the same learning process that everyone else does. And it is not just that you hear something and that is it. They have to hear it, and they have to understand it and have to apply it, and even if they are faster than that, it is still a long process through which they go, even if they are going through it faster. But by no means is it a cut and dried thing. The process is the same—the speed may be different. (I-1, p. 4)

Across the domains. Although Fred did indicate some areas of uncertainty within the domains of certain knowledge and simple knowledge, particularly in connection with unchanging truth, scientific inquiry, and educational methods, he responded quite strongly against the concepts of omniscient authority, innate ability, and quick learning. Overall his mixed views within several of the domains seemed to be generated by specific situations, such as scientific research and determining how hard smart students have to work to be successful. Although he consistently appeared mindful of a somewhat vague concept of absolute truth, he seemed much more focused on the uncertainties and complexities of problem solving and working towards what he called “a plausible solution” (I-1, p. 1), which he did not always envision as likely to take place even in the realm of scientific inquiry. Since Fred defined proof largely in terms of tangible evidence, he maintained an “out there” perspective of absolutes and viewed inquiry as part of a slow learning process that was not always enjoyable, describing the world as a “cacophony of broad and loaded ideas” (I-1, p. 4).

Megan

Learning leads to knowledge. (F, p. 1)

In the freewrite, Megan linked knowledge and learning sequentially as “learning leads to knowledge” (F, p. 1). She stated that “by being taught, I believe that with every lesson, something new is learned and knowledge is acquired” (F, p. 1). However, she also recognized that “not everything that is taught is necessarily fact, and false knowledge can be accepted as true” (F, p. 1). In contextualizing learning as “crucial for passing on the traditions” and knowledge as “preserving a culture” (F, p. 1), Megan also viewed

knowledge as reflective of environment and therefore as “relative” (F, p. 1) and dependent on individual human experience:

Knowledge is important because it controls what people think of themselves and their surroundings and gives us judgment for everyday actions. Every time we have an encounter with the world, we gain more knowledge and observe more things. Once we accumulate knowledge, we are able to form opinions and conclusions. (F, p. 1)

Megan’s view of knowledge encompassed perception of environment, self-perception, and perception of right and wrong that are framed within an experiential context. She also implied that the particular knowledge that is gained colors an individual’s stance and decision-making.

Megan viewed learning as “important because of its significance in increasing knowledge” (F, p. 1), and learning and knowledge as jointly increased through all interactions with the world, such as “going to school, or even stepping outside” (F, p. 1). She also recognized different kinds of knowledge, like “empirical knowledge,” which is “gained by observing and practicing new concepts, but learning is not limited here” (F, p. 1). She concluded that “it is almost impossible to be in a situation without learning something, and this is what continues the development of the human mind” (F, p. 1).

Megan’s Views of Relative Truth and Independent Learning

Certain knowledge domain. In the area of certain knowledge, Megan’s questionnaire responses were balanced between knowledge as certain and uncertain. In the certain category, Megan marked that truth is unchanging (Q1), that good students have to memorize facts (Q2), that scientists can ultimately get to the truth (Q23), and that it is a waste of time to work on problems that cannot produce clear-cut answers (Q26). However, these responses indicated some inconsistencies when compared with her

responses that affirmed a belief in knowledge as not certain. In conflict with the view of truth as unchanging, Megan marked that uncertainty is the only thing that is certain (Q25). Contrary to the response that it is a waste of time to work on problems that lack clear answers, Megan indicated that she finds it interesting to think about complex issues (Q 45). Also, whereas she supported the need for students to memorize facts (Q2), she disagreed that students need to learn word-for-word definitions in order to do well on tests (Q40). She also disagreed with the statement that instructors should stick to the facts and avoid theorizing (Q34).

Since Megan had mixed responses in the certain knowledge domain, the first line of questioning in the initial interview focused on clarifying her views in this area.

Concerning the issue of unchanging truth, Megan explained that her views were tied to her understanding of the meaning of the word truth:

Truth is something that is proven, and for me the definition of truth is that it doesn't really change. I put four instead of five [on the questionnaire] because I don't strongly agree, because people perceive truth as being different. So, for one person it could change, because they thought something was the truth but in reality it wasn't. (I-1, p. 1)

Asked to give an example, she selected “scientific truth, because people believed that the atom was the smallest particle but instead there are neutrons and electrons and protons” (I-1, p. 1). When asked to relate that view to her school situation, especially in light of considering it a waste of time to work on problems that could not produce definitive answers (Q26), Megan explained that “from time to time that is an answer that I would probably differ on, because you can still gain knowledge from working on a problem—even though there is no clear-cut answer, you can reinforce your beliefs” (I-1, p. 1). She also indicated that she would have different responses depending on the subject matter.

For example, she explained that “in English, there is not exactly a perfect, correct answer, and English is about developing your ideas, so if it is your belief then there is no right answer” (I-1, p. 2), whereas math would invite a more defined response.

Omniscient authority domain. In the area of omniscient authority, Megan strongly supported a position contrary to omniscient authority, with five responses indicating that authority is not omniscient and only one undecided. Megan agreed that teacher quality does not dictate learning (Q3), that one should question advice from experts (Q13), and that learning is a slow process of building up knowledge rather than a quick acceptance of others’ views (Q18). She also denied that students have to accept answers from teachers (Q33) and that students can believe almost everything they read (Q41). Megan’s undecided response concerned whether or not students should evaluate the accuracy of information in textbooks (Q27).

In the follow-up interview, when asked to comment on her views in this domain, particularly about questioning advice from experts, Megan explained that “even though someone studied something, new truths are always revealed, so something they studied for years could be the next day proved incorrect, so if we don’t question it, then we could never learn if it is true or not” (I-1, p. 2). Likewise, she elaborated on her view of teacher and student responsibility:

A teacher can give students all sorts of information, and they can totally reject the information. I believe that a student’s education is in their own control. They make what they want out of it. Or if a teacher decides that teaching is not a top priority, it is still the student’s responsibility to find someone else who will help them—or help themselves. (I-1, p. 2)

When asked further about the issue of students’ taking learning into their own hands, Megan responded from a personal perspective that she “definitely prefer[s] independent

study. I work better on my own” (I-1, p. 2). Megan also commented on her response to learning as a slow process of building up knowledge:

Life is a learning process, and I feel that if you try to cram everything into a short period of time, you are going to miss a lot—and you can’t—it’s impossible. And you learn more, and you accept more information by taking it slow and really understanding the concepts. (I-1, p. 3)

Innate ability domain. Although Megan’s responses on the epistemological questionnaire were somewhat mixed in the innate ability domain, she did lean towards ability as not innate, including marking that she strongly disagreed with the direct statement that the ability to learn is innate (Q48). When asked to explain her views, she quickly responded that she was definitely against the idea of innate ability, that “it is the person’s responsibility, unless they are born with disabilities” (I-1, p. 3). Additional support for ability as not innate included strong disagreement with the statements that some people are born learners while others are stuck with limited ability (Q4), that smart students don’t have to work hard (Q38), and that students who are average in school will remain average. She also supported genius as 10% ability and 90% hard work (Q11) and agreed that most successful people have discovered how to improve their ability to learn (Q16), that everyone needs to learn how to learn (Q35), and that students have control over what they get out of a textbook (Q44).

However, response discrepancies were evident in Megan’s disapproval of study skills courses, as well as her agreement with the statements that experts have special gifts (Q21) and that wisdom is knowing the answers rather than knowing how to find the answers (Q43), which conflicted with positive responses to statements relating to improving ability through learning how to learn (Q16, Q35). In addition, disagreement with the statement that getting ahead takes a lot of work (Q20) appeared to conflict

conceptually with the positive response to genius as 10% ability and 90% hard work (Q11).

In the interview, Megan explained that the value of a course in study skills would depend upon individual need, based on a student's level of learning:

For some people, I believe that [a course in study skills] might be useful, but for me I think I would find it dull and boring, and I wouldn't want to sit through it, just because through life and through middle school, I have already learned the study skills that have gotten me this far. (I-1, p. 3)

Concerning the statement that students who are average in school will remain average in life (Q37), even though Megan marked that she disagreed, she commented that the question was "definitely challenging for me to answer" (I-1, p. 3). She offered an extended explanation of her views, which emerged as more complex than the questionnaire statement indicated:

School can be a factor, and if you are average in school, that usually means that you are not putting enough effort into it, and so if you are consistent in not living up to your full potential, then that could play out in the rest of your life. But just because someone does not do well in school does not mean that they can't have a successful life or that they can't work hard. I mean, academics can't always predict if a person is going to have a good business mind or be able to work hard and get things accomplished. (I-1, p. 3)

Simple knowledge domain. Megan's main responses were quite consistent in the simple knowledge domain, with a strong preference for knowledge as not simple, including viewing words as having more than one clear meaning (Q6), sentences as gaining meaning from context (Q47), author intent as a key factor in interpreting meaning in books (Q32), reorganization of textbook information as an aid to understanding (Q17), and considering a person bright who comes up with new ideas but forgets details in a textbook (Q49). Megan also viewed science problems as having more than one right

answer (Q8) and disagreed that the most important part of scientific work is precise measurement and careful work (Q10). She did not find that integrating new ideas with prior knowledge is confusing (Q39), that things are simpler than professors would have students believe (Q12), that educators should know the best instructional methods (Q30), or that a good teacher's job is to keep students from wandering off the right track (Q36). All of these selections suggest strong support for a complex rather than simple view of knowledge. As Megan explained in the interviews, "There are so many different elements that factor in—beliefs, bias, spiritualism" (I-1, p. 4):

Everything factors in and changes how a person perceives something to be, because we can choose what we want to know. If a factor were presented to me that I disagreed with, then I would probably not regard it as something that would interest me. So I definitely believe that it is very complex, and so many things play into it, and it is different for every person. (I-1, p. 4)

Megan added that she enjoyed the complexity, because "it makes people unique and lets us argue and change things and be able to change our beliefs. Agreement is good, but on certain issues things are more interesting if they are debated out" (I-1, p. 4).

Three responses that indicated support for simple knowledge involved the need to look for specific facts and details as part of personal study habits. Megan explained that in areas like math and science, the difficult ones for her, focusing on details and specific facts was an essential part of studying (Q31, Q28) and that attempting to combine information across chapters (Q46) in areas where she did not feel secure tended to confuse her, because she did not have a sufficient conceptual understanding of the material to be able to do that for herself. In this domain, although Megan remained undecided about original thinking in connection to science (Q5) and about appreciating

instructors who organize lectures and stick to a plan (Q24), she recognized the factual basis of science and the importance of organization in understanding lectures.

Quick learning domain. Within the quick learning domain, Megan's responses were unanimous in support of learning not being quick, but all responses were entered either as a two or a four, indicating that she agreed or disagreed with the statements but not strongly so. She denied that successful students understand things quickly (Q7), that students should get all pertinent information from a textbook on the first reading (Q19) or make sense of information on the first hearing (Q50), that working hard on difficult problems only pays off for smart students (Q29), and that asking questions results in confusion (Q9). She agreed that students can figure out difficult concepts if they concentrate (Q22) and that there is value in continuing to try to understand even if concepts are not comprehended quickly (Q42).

As Megan explained her position on quick learning, her views became reminiscent of the similar dichotomy within her absolute/non-absolute views of certain knowledge. She explained that she could not mark "strongly" on any of the statements, "mainly because I think that things can change" (I-1, p. 4):

Some successful students do understand things quickly. IB is a great example of that, because there are a lot of people that have just understood everything as soon as it was told to them, and there are a lot of people that just work really, really hard, and they work with themselves until they understand it, and that's what makes them successful. (I-1, p. 4)

When asked where she saw herself on that continuum, she explained that "it really depends on the subject" (I-1, p. 5):

Math is really my weakness, but things like biology and French and literature, I am more apt to learn quickly. But for me, it really depends on what I am learning. I don't really have a mathematical mind, but for the most part, I am able to look at things and either partially understand them

or completely understand them, but if I don't, I definitely spend time to make sure that I do. (I-1, p. 5)

Megan's final comments related to how she handled understanding difficult concepts when they did not make sense quickly. She explained, much like her choices on the epistemological questionnaire (Q22, Q42), that she would "go through the book, and highlight or take notes, and go through it again, and sometimes there is help on the Internet or sometimes I ask someone I know to help me out" (I-1, p. 5).

Across the domains. Megan's overall perspective relative to knowledge and learning appeared to be thoughtful throughout but combined with a practical approach to real problems. She recognized that there may be different perceptions of truth and that different approaches may be associated with different subject domains, since some are more detail-oriented than others. She also related attitudes towards subject matter to personal preference that may vary by subject, such as her own views towards math and English. Although Megan seemed confident and solidly grounded in her own ability to work through difficult problems with only occasional help, she also stressed that she enjoyed the possibility of exploring diverse ideas and perspectives, as well as debating complex issues.

Paul

I'm just one of those people who think in uncertainties. (I-1, p. 2)

Paul approached the freewrite as an opportunity to express unique and somewhat contrary views of knowledge and learning in general and the Theory of Knowledge course in particular. He identified his views as more "vague" than "anything we are taught in Theory of Knowledge" (F, p. 1), yet his explanation leaned away from a theoretical towards a more pragmatic approach to knowledge:

Frankly, I disagree openly with the TOK definition of knowledge, on the basis that such a definition is simply an arbitrary postulate by which to continue debate. To my mind, knowledge need not be true nor must a knower believe it. Knowledge is simply a wealth of past observations and experiences gathered together and practically applied to real problems. (F, p. 1)

He added that a view of knowledge “need only be true enough to serve the purpose at hand” (F, p. 1). He also questioned the whole concept of knowledge as belief, when belief is defined as “an idea held dear enough that it cannot be challenged or questioned” (F, p. 1). Paul commented that rather than define belief in this way, he preferred to view it only as “a theoretical possibility” (F, p. 1).

Paul followed his discussion of knowledge with his own definition of learning, which reflected the same practical focus as his stated perception of knowledge, as “gather[ing] experience with the intention of application” (F, p. 1). However, he concluded that “learning also involves analyzing ideas and, when necessary, discarding them. It is active observation, rather than passive absorption of sensory details” (F, p. 1).

Paul’s Pragmatic Approach to Knowledge and Relative Truth

Certain knowledge domain. Within the certain knowledge domain, Paul consistently supported a view of knowledge that is not certain. For example, Paul strongly agreed that it is interesting to think about issues that authorities can’t agree on (Q45) and that the only thing that is certain is uncertainty (Q25). He also strongly disagreed that good students have to memorize facts (Q2), that scientists can ultimately get to the truth (Q23), that it is a waste of time to work on problems without definitive answers (Q26), that one gets more out of a course that contains more factual emphasis and less theorizing (Q34), and that learning word-for-word definitions is necessary to do well on tests (Q40). However, the one exception to Paul’s strong and consistent choices

in the certain knowledge domain was his uncertain response to the “truth is unchanging” statement (Q1), which provided a focal point for the first part of the interview.

In the interview, Paul introduced himself immediately as “a kind of skeptic” (I-1, p. 1), which was supported by his strong responses on the freewrite. He explained that he envisioned truth as more “approximate” than definite (I-1, p. 1):

I think that it is something that is approximate, like close to the reality—how do I put this?—I think that truth does change to a degree. I think that I define things a bit differently. I had a long argument with [the TOK instructor] at the end of the semester over the definition of knowledge. I don’t think knowledge necessarily has to be something you believe. I think you can know something without actually believing in it. (I-1, p. 1)

However, rather than rejecting the entire concept of absolute truth, Paul qualified his views in terms of a type of progression with points of acceptance:

I think that to say that knowledge is absolutely true, always true, I don’t think that works at all, because I think that we have to, for the sake of argument, think of knowledge as something we know as truth right now, and that will always change as we make more discoveries and make more observations. (I-1, p. 1)

When asked to further explain his views on the possibility of the existence of absolute truth, Paul focused on the roles of discovery and uncertainty:

I think truth is something that can’t be discovered, but I think that there has to be some point when something is absolutely true. Absolute truth would still have uncertainties build into it, because there are uncertainties built into the universe as to how things operate. But there is a point where there comes to be something known about that—something orderly out there that is leading us in that direction. (I-1, p. 1)

He added that he likes to focus on “past discoveries and past observations. Trying to work based off those is more exciting to me than going off in new directions, because I think that there is a lot more that can be picked apart from that” (I-1, p. 1). Paul also explained that his family thrives on “active discussions” (I-1, p. 2), which has influenced

his interest in argument and analysis, as well as his tendency to challenge traditional knowledge views.

Omniscient authority domain. Paul was equally consistent in the area of omniscient authority in his view that even experts are not all knowing and that both textbooks and instructors should be questioned. In addition, he strongly disagreed that teacher quality is responsible for what a person gets out of school (Q3), that students have to accept answers from a teacher even if they don't understand (Q33), and that people can believe almost everything they read (Q41). In his interview responses, Paul explained that personal bias colors perspective and keeps individuals from being able to grasp any type of objective reality:

I'm just one of those people who think in uncertainties. I think that there is only a degree that we can know things, because we are attached to the world as it's presented to us initially, so we have trouble seeing past those filters to see the world as it actually is, and so I think that is one of the major blocks that will stop us from ever actually knowing everything, because it will always be colored very strongly by our biases. (I-1, p. 2)

Paul then presented a logical argument for the essential role of bias in an individual's ability to perceive:

Until we have some bias we cannot see things relatively, and the only way you can interpret the world is relatively. So, there cannot even be an interpretation until we have a bias to work off of. I think that is kind of why I prefer qualitative data, because you are not pretending that there isn't a bias. You are saying that there probably is a bias, and this is what the bias probably is, and so there can be other results because of that. (I-1, p. 2)

Innate ability domain. The domain of innate ability produced some uncertainty for Paul, even though the majority of his responses indicated a stronger belief against than for innate ability. Paul disagreed that some are born good learners while others are stuck with limited ability (Q4), that average students in school will remain average for the rest

of their lives (Q37), and that an expert is someone with a special gift (Q21). He also agreed that genius is more hard work than ability (Q11), that wisdom is knowing how to find answers rather than knowing answers (Q43), that students have control over what they get out of a textbook (Q44), and that most successful people have discovered how to improve their ability to learn (Q16), as well as that everyone needs to learn how to learn (35). In the interview, Paul expressed his basic views against innate ability as the sole controlling factor in student success in terms of the importance of training, thereby supporting his middle stance on statements such as “the ability to learn is innate” (Q48) and “really smart students don’t have to work hard to do well in school” (Q38):

Well, I understand most information quickly enough, but I think that is because my brain has sort of been trained into finding fast ways to understand, so I think I learn quickly because I have trained my brain to learn quickly. So, I think that it is a matter of having a good foundation. . . . Some people whose brains have been trained to grasp concepts quickly are not going to have to work hard to learn how to do that, to learn how to understand something, because the ability to do that is already there, and they have practiced it. (I-1, p. 3)

The statements that produced uncertainty included whether or not study skills courses are valuable (Q15), whether or not getting ahead takes a lot of work (Q20), and whether or not really smart students have to work hard in school (Q38), which Paul viewed as depending on the individual. In addition, Paul’s uncertain response to the direct statement that the ability to learn is innate (Q48) reflected the diversity of his overall choices on this section of the questionnaire.

Simple knowledge domain. In the area of simple knowledge, Paul was quite consistent in his view of knowledge as not simple, giving strong credence throughout to original thinking (Q5), ideas over details (Q31), integrating information within and across texts (Q17, Q46), the need to reorganize (Q17), and the importance of context (Q47).

Paul also disagreed that most words have one clear meaning (Q6), that science problems have one clear answer (Q8), that educators should know the best method of instruction (Q30), or that the job of good teachers is to keep students from wandering off the right track (Q36). From a more personal perspective, still in support of the complexity of knowledge, Paul indicated that he does not necessarily prefer instructors who organize lectures and stick to the plan (Q24), that he does not look for specific facts when he studies (Q28), and that he does not get confused with he tries to integrate new ideas with prior knowledge (Q39).

In the interview, questioning focused on one of Paul's statements classified as belief in simple knowledge, that things are simpler than most professors or teachers would have you believe (Q12). He explained that throughout elementary and middle school, the focus was on details, which he called "a lot of build up" (I-1, p. 3), whereas high school takes a more comprehensive, or "simple" approach. He viewed the lengthy explanations in elementary and middle school as "part of the training for the brain [that] helps you think in those terms, so that later on you can understand that simpler explanation" (I-1, p. 3). As Paul went on to explain the broad scope of his personal interests in quantum physics, literature, social science, and languages, he provided insight into his agreement with the statement that "a tidy mind is an empty mind" (Q14):

I always end up exploring everything on my own in my spare time, you know—reading everything. Right now I am reading a book on chaos theory in math and a book on biology and evolution in the ocean called *Aquagenesis*, and I am reading *The Name of the Rose* by Umberto Eco, which is about Benedictine monks in the thirteenth century, and a variety of comic books, so I pretty much go into everything. (I-1, p. 4)

Quick learning domain. Paul's responses in the quick learning section of the questionnaire were almost unanimous that learning is not quick. He disagreed that successful students understand quickly (Q7), that students usually understand information from a textbook with the first reading (Q19), or that if they are ever going to understand, they will make sense of information the first time they hear it (Q50). He also denied that working hard on difficult problems for an extended period time only pays off for smart students (Q29) or that asking too many questions leads to confusion (Q9) and agreed that one should keep trying if understanding does not occur quickly (Q42). The only response that indicated support of quick learning was Paul's disagreement with the statement that a student can usually figure out difficult concepts by concentrating and eliminating outside distractions (Q22).

When asked to comment about his views in this domain, Paul again referred to personal experience. Although he made several statements regarding training his brain to comprehend quickly, he indicated that when he has to focus on depth, he needs "to dig" (I-1, p. 5):

If I am reading a textbook or any nonfiction book, the first time I read it, I am just getting a very general picture of the patterns and the structures and that sort of thing. I have to read it later—I have to keep going back and reread passages if I am going to remember the names to be able to connect the names and the different events across things. So, mostly if I am reading a history book, mostly what I'm going to get the first time I read it through is I'm just going to get the patterns of history that it presents and that sort of thing. I have to read it again. (I-1, p. 5)

Across the domains. Starting with the freewrite and continuing with the questionnaire and interview, Paul presented unique approaches throughout his responses, as he revealed fascination with both analysis and controversy. His broad interests extended into multiple subject areas, all of which seemed to entice him equally to the

point that he frequently found himself reading several books on different subjects at the same time. His knowledge views did not exclude the possibility of the existence of an absolute truth and ultimate reality, but his pragmatic approach to knowledge as something separate from belief kept his focus firmly on change, discovery, and uncertainty. He argued for an interesting acceptance of bias both as an essential “filter” that allows one to perceive a world that can only be interpreted in relative terms and as a barrier that prohibits one from perceiving absolute truth, if it exists.

Shauna

I am really a religious person, so that influences a lot of my ideas. (I-1, p. 1)

Shauna took a completely different approach on her freewrite than the other key informants. Rather than theorizing about knowledge and learning, she focused her freewrite on different types of knowledge and the value that is typically placed on academic knowledge over experiential knowledge, particularly at the high school level. She observed that “serious students” frequently become so focused on getting into top colleges that they “think that the only real knowledge that is truly worthy of gaining or learning comes from textbooks, class lectures, and what ‘educated’ people tell them” (F, p. 1). She expressed concern because many academically focused students “disregard extracurricular activities” unless they view being involved in clubs or sports as beneficial in the college application process (F, p. 1). In addition, she commented that “they throw out religion and God due to a lack of reason and logical basis” just as “they avoid social gatherings and time with friends because they find them wasteful” (F, p. 1). Although Shauna recognized the value of academic pursuits and the importance of attending a top

college, she concluded that much is lost from focusing exclusively on academic knowledge:

One can learn so much from participating in a club or sport—teamwork, responsibility, and physical fitness. From religion, one can gain knowledge about himself and what he believes. And as for being with friends, social skills are important to learn in order to be able to interact with others in the world. (F, p. 1)

Shauna's Views of Unchanging Truth and Different Ways of Knowing

Shauna's responses on the epistemological questionnaire were also quite different from the other key informants. She marked a significant number of the statements with middle markings, indicating uncertainty, indecision, or mixed feelings, which led to extensive exploration during the follow-up interview.

Certain knowledge domain. In the certain knowledge domain on the questionnaire, Shauna's responses were almost equally divided among viewing knowledge as certain, not certain, and undecided. In support of certain knowledge, she agreed that truth is unchanging (Q5) and disagreed that the only thing that is certain is uncertainty (Q25). Responses that indicated a contrasting belief in knowledge as not certain included that scientists cannot ultimately get to the truth (Q23), that learning word-for-word definitions is not necessary to do well on tests (Q40), and that it is interesting to think about issues on which authorities disagree (Q45). Thus, the initial interview began with a focus on exploring two apparently conflicting statements, Shauna's affirmation of truth as unchanging (Q1) and her denial that scientists can ultimately get to the truth (Q23). Shauna's response explained the apparent conflict in terms of differing definitions of truth:

I don't know if I was focusing more on the truth part of the question or the science part of the question, because to me I don't think a lot of things that

are scientifically based—I don't think that scientists can get to the truth (big t-Truth). I am really a religious person, so that influences a lot of my ideas, especially in TOK. But for scientists, there is a lot of focus on eliminating all of that religious basis, so I don't think that scientists can get to big t-Truth, because they are coming from a different perspective. But I guess little t-truth for truth of specific parts of science, I guess they can get to that. (I-1, p. 1)

In addition, Shauna's strong disagreement with the value of learning word-for-word definitions for a test (Q40) took a completely different shape in the interview, again revealing an evaluative approach to her responses:

This was one of those situations where—like true-false questions—you don't know what part of the question you are supposed to look at to answer. So, I do really think learning definitions is important, but I don't know about the word-for-word part. You have to have a concept of definitions of words, but you don't have to be able to recite or be able to just regurgitate. I don't think that is necessary to do well on tests. (I-1, p. 2)

The three questionnaire statements that produced middle marks concerned the need for good students to memorize facts (Q2), whether or not it is a waste of time to work on problems that do not have clear-cut answers (Q26), and whether or not students get more out of a course if professors stick to facts and do less theorizing (Q34). When asked about the statement that it is a waste of time to work on problems that have no possibility of coming out with clear-cut answers (Q26), Shauna revealed the analytical focus of her thinking that often resulted in her unwillingness to mark definitive answers on the questionnaire:

I think it just depends on the situation—that's why I marked a three. Most of the ones that I marked with threes were ones that I could have seen either way, because in some cases I guess if a clear-cut answer isn't achieved, then it kind of seems like a waste, but I guess in other ways even if there is not a clear answer at the end, there is a learning process, and there are things that people learn along the way, even if some formulaic response isn't created at the end of the process. (I-1, p. 2)

Concerning whether students tend to get more out of a course if professors or teachers stick to the facts and do less theorizing (Q34), Shauna again saw ambiguity in the question:

I think that depends, too, on I guess what course that would be. I mean obviously, if we are talking about science, then the professor definitely needs to stick to facts and not theorize, but in a class like TOK, then there is a lot of room for interpretation, and I think that the teachers like that as much as the students do. Like math, too—there are all kinds of philosophies, like zero equals one, . . . but if you are not taking theoretical math, . . . stick more to the specific formulas, and that helps. I don't want to get confused by things that might be. (I-1, p. 2)

Although Shauna's questionnaire responses did not indicate a definitive stance on the certainty of knowledge, her explanations during the interview revealed considerable complexity in her thinking, as she approached the questions from multiple perspectives.

Omniscient authority domain. In the domain of omniscient authority, Shauna showed a fairly strong tendency towards viewing authority as not omniscient. She agreed that advice from experts should be questioned (Q13):

I think that one [response] was just when you think about all of the situations, like things in history that have happened where the experts have been wrong, like the *Titanic* was the unsinkable ship, and there are plenty of other scientific discoveries that have totally been proven wrong a year later, so I don't think—I'm not saying don't trust anything that the experts say, just more that everything that they say can't be taken as completely true all of the time. (I-1, p. 3)

The issue of keeping information open to question also influenced Shauna's negative response to the statement about students accepting answers from a teacher even though they don't understand (Q33). However, her interview response again revealed far more complexity in her view than the questionnaire choice indicated:

I think sometimes I have to do that in math class, because that is definitely not my forte. I understand the structure of it, just solving the equations, but on the conceptual things, like imaginary numbers and things that are 3D, even though I can't fully grasp it in my mind, I know that it makes sense, so I just have to accept it at that point. But, if someone tried to teach me [something that I don't agree with] and said you have to think like this, then I am not going to accept that just because my teacher says it. (I-1, p. 3)

Additional responses that supported a view of authority as not omniscient included marking that teacher quality does not determine how much a student gets out of school (Q3) and that students should not believe everything they read (Q41). In this domain, Shauna remained undecided about whether learning is a slow process of building up knowledge or quick acceptance (Q18) and whether students should evaluate the accuracy of information in a textbook (Q27). However, her responses to similar statements in the domains of quick learning and omniscient authority revealed that overall she usually does not view learning as a quick process and that she does not always bow to the authority of the textbook.

Innate ability domain. Shauna's considerable uncertainty throughout the innate ability domain was reflected in her middle marking for the direct questionnaire statement that "ability to learn is innate" (Q48). When Shauna was asked about her views on this domain, she again responded reflectively:

I think it exists, to a degree, but I do think that hard work is definitely necessary. I don't think that you can get by your entire life on innate ability—I really don't. And I think a lot of times some of the most successful students aren't—well, to some degree they are—but aren't necessarily the ones with the most innate ability. They are the ones that are the most motivated, have the best study skills, have the best time management skills, and have the best balance of activities. (I-1, p. 5)

Within that framework, Shauna's negative response to genius as 10% ability and 90% hard work (Q11) raised questions. However, she responded that she thought that "innate

intelligence played a little bit stronger role than that” (I-1, p. 3), indicating that she reacted more to the specific percentages than to the innate ability versus hard work thrust of the statement. Similar areas of indecision included whether some are born learners while others are stuck with limited ability (Q4), whether everyone needs to learn how to learn (Q35), whether really smart students have to work hard (Q38), whether wisdom is not knowing the answers but how to find them (Q43), and whether students have control over how much they get out of a textbook (Q48).

Questionnaire responses that favored a view of ability as not innate included agreeing that a course in study skills would be valuable (Q15), that successful people have discovered how to improve their ability to learn (Q16), that getting ahead takes a lot of work (Q20), that experts do not have special gifts (Q21), and that students who are average in school will not necessarily remain average for the rest of their lives (Q37). In the interview, when Shauna was asked to comment on her support for study skills courses in light of her uncertainty on similar issues of learning, she explained some of the apparent discrepancies in her questionnaire responses in terms of individual differences and needs:

I think it depends on the person, because I know that I’ve had some experience in study skills, but it hasn’t really been like an actual course in study skills, but through history classes and lit classes and science classes, I think I have acquired enough knowledge to know how to study for each class, and so I think a study skills course might be valuable, but it depends on the group of students that you are directing it toward. I don’t necessarily know that it would be incredibly valuable for IB students, because I think that maybe they have already acquired a lot of those skills along the road. (I-1, 3-4)

As a follow-up to additional undecided responses in the innate ability domain, Shauna was also asked to elaborate on the statement that really smart students don’t have to work

hard to do well in school (Q38). As she discussed her views, the middle marking again took on additional meaning:

I think even people who are smart have to work, but maybe not as much as people who aren't innately very smart, because I know that I got by just fine in middle school not studying. . . . I know there are plenty of people who are really intelligent but they just don't know how to use it, or they don't know how to direct all of the knowledge they have floating around in their brains. They're not sure how to organize it and use it appropriately, so I think those people do need to study in order to be a little more organized in their thoughts. (I-1, p. 4)

Simple knowledge domain. Compared to responses in the other domains, Shauna's responses in the area of simple knowledge appeared to be more definitive with strong support for a view of knowledge as not simple. Undecided responses related to whether original thinking was the most important part of scientific work (Q5), whether there was a preference for instructors who meticulously organize lectures (Q24), and whether studying focuses more on big ideas than on details (Q31). However, in strong support for knowledge as not simple, Shauna agreed that it is best to try to combine information across chapters and classes (Q46), that words have more than one clear meaning (Q6), that one should look for more than specific facts when studying (Q28), that integrating new ideas into prior knowledge does not lead to confusion (Q39), and that one needs to know the intent of the author in order to understand what a book means (Q32). Negative responses that also indicated belief in complex rather than simple knowledge included disagreement with the statements that the best thing about science is that problems have one clear answer (Q8), that the most important part of scientific work is precise measurement and careful work (Q10), that educators should know the best instructional method (Q30), that the job of good teachers is to keep students from wandering off the right track (Q36), and that a tidy mind is an empty mind (Q14).

The only questionnaire item that Shauna marked as simple knowledge involved a negative response to the value of reorganizing textbook information according to a personal scheme (Q17). However, her interview response revealed that in her experience the need to reorganize frequently depended on the subject area, type of assessment, and quality of the textbook:

When I am taking my history notes, I follow the framework of the textbook with the headings and everything, because I know that that way I can find things in my notes when we are taking history quizzes. . . . If I had reorganized, I wouldn't have been able to find answers as quickly. But I think in the case of biology, the book confuses me sometimes, just because it kind of jumps around, and I am not sure what they are talking about all of the time, so a lot of times I can do a concept map for a section, and then I will keep reading and encounter something in some other section that doesn't really go there, so I will just fit it back into one of the other sections of the concept map where I think that I will associate it better. (I-1, p. 4)

Shauna's other comments relating to simple knowledge referred to the benefits of having taken a theory of knowledge course, which she felt had helped her think of knowledge in a more complex way. She explained that the first day of class, when the students were asked to explain what knowledge was, her response was that she did not know. She commented, "I had never thought about that before. I think that suddenly helped develop that sense of all the different ways of knowing" (I-1, p. 5).

Quick learning domain. In the final domain of quick learning, Shauna remained consistent in her mixed marking, although she showed a preference for learning as not quick. Shauna agreed that students can usually figure out difficult concepts if they eliminate outside distractions and concentrate (Q22). She also disagreed that students usually get information from a textbook during the first reading (Q19), that working hard on a difficult problem for extended time pays off only for really smart students (Q29),

and that asking too many questions leads to confusion (Q9). In the quick category, Shauna agreed that successful students understand quickly (Q7) but explained in her interview that she answered from a personal perspective based on her experiences in math, which she identified as not a particularly strong academic area for her:

Sometimes there are some things that I understand, and I understand it usually the first time she teaches it, and then I can use it, and I remember it. But if there is something that I really don't understand, or that I have trouble understanding, she can explain it to me three times, and maybe I still don't understand it. I have to think really hard about it each time I do it. It doesn't really become any easier with each time. (I-1, p. 6)

This response also explained her undecided stance on continuing to try when she does not understand something the first time (Q42) or when something does not make sense the first time it is heard (Q50). The remainder of the quick learning statements related to the key role of persistence and exploration when learning is not quick, which Shauna repeatedly addressed as part of her overall discussion.

Across the domains. Shauna was unique among the key informants in the large number of undecided or uncertain responses on her questionnaire. With the exception of support for knowledge as not simple, Shauna showed only limited support for the complexity of knowledge and learning across the other domains, as questionnaire responses were frequently divided between acceptance and rejection of certain knowledge, omniscient authority, innate ability, and quick learning. However, in the interview discussions, her views towards knowledge and learning emerged as quite reflective and complex, as she repeatedly examined statements from several viewpoints and expressed the value of exploring multiple learning strategies in all of her subject areas. Her strong belief in unchanging truth did not seem to deter her from inquiry and exploration or from persistence when she encountered difficult concepts.

Overview of Students' Epistemological Beliefs

As students' knowledge views were examined at the beginning of the research process using the freewrite and epistemological questionnaire as preliminary data sources to spark discussion during the interviews, similarities and differences emerged within and across the five targeted knowledge domains of certain knowledge, omniscient authority, innate ability, simple knowledge, and quick learning. In order to provide a visual representation of the students' comparative knowledge views, the percentage of each student's support within each domain was calculated (number of positive responses divided by total items) and charted on a bar graph (see Figure 1). Prior to calculation, each student's initial responses on the questionnaire were either confirmed or amended based on clarification of the items during the interviews in order to provide an accurate reflection of student views. While most of the students held almost identical views in the two domains of omniscient authority and quick learning, they showed varied responses across the remaining three.

In the omniscient authority domain, the students were in unanimous agreement that they did not view authorities in the form of textbooks, teachers, and experts as all-knowing. This independent stance is not surprising in this study in light of the strong focus on original thinking encouraged throughout the IB Program curriculum. However, this finding also supports the results of the Schommer (1990) study, in which factor analysis excluded omniscient authority as a primary factor affecting student comprehension.

In the quick learning domain, the five key informants were in basic agreement that learning is a slow process. Fred indicated the strongest support for slow learning,

Figure 1

Percentage of Support for Separate Knowledge Domains by Individual Student

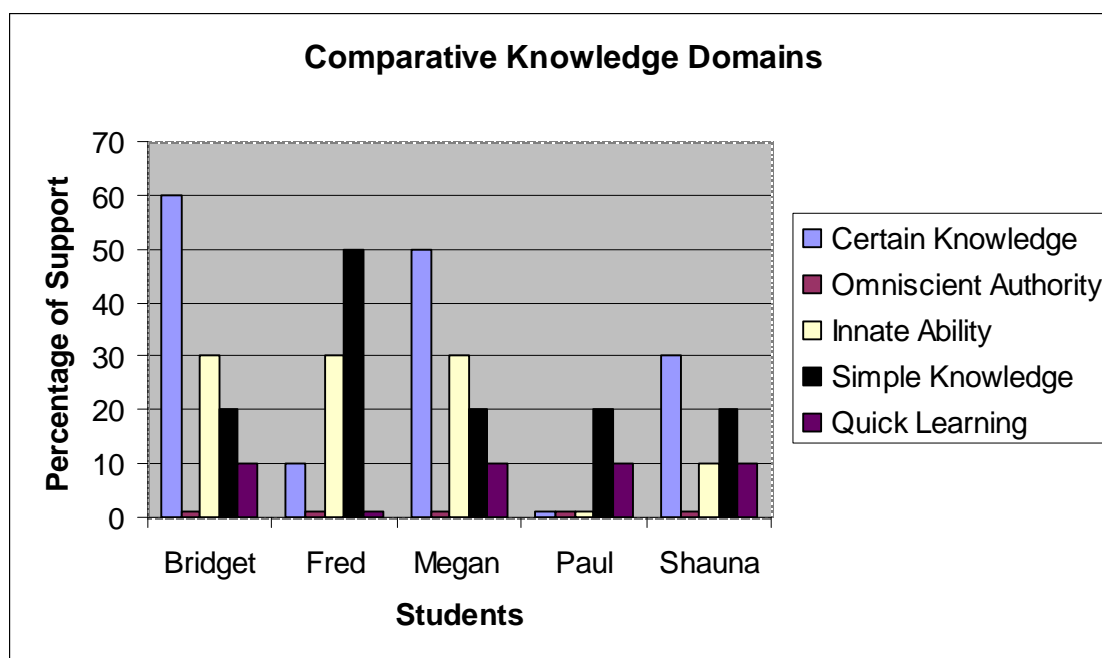


Figure 1. Comparison of percentage of individual support for the five knowledge domains on the epistemological questionnaire. Each percentage was calculated by dividing the number of definite student responses in support of each knowledge domain by the total number of items in that domain on the questionnaire. Based on clarification during the interviews, the responses on the questionnaire were either confirmed or amended to provide an accurate reflection of student views prior to calculation of the graph percentages.

marking all statements except one in disagreement with the concept of quick learning.

The one statement that Fred marked as uncertain involved whether or not working on a difficult problem for an extended time was beneficial only to smart students (Q29).

Additional statements that produced some accord from Bridget, Megan, Paul, and Shauna were that successful students understand things quickly (Q7) and that one can usually figure out difficult concepts by eliminating distractions and concentrating (Q22). Several of the students explained that a nominal level of support for quick learning was generated by their experience with the rigor of their academic program, which necessitates being able to process at least some amount of information quickly.

The domain of innate ability revealed only slight differences in response, as Bridget, Fred, and Megan indicated limited belief in innate ability, while Shauna indicated less, and Paul little to none. The statements that gained support for innate ability related to some people being born good learners while others are stuck with limited ability (Q4), an expert being defined as someone with a special gift in an area (Q21), students who are average in school remaining average for the rest of their lives (Q37), smart students not having to work hard to do well in school (Q38), and wisdom being defined as knowing answers rather than knowing how to find answers (Q43). During the interviews, the participants indicated that they responded to most of these questions based on their observations of learners outside of the program, since all recognized that their peers in the program possessed sufficient innate ability to enable them to be accepted into the program and to be successful when challenged with the rigorous demands of the IB curriculum. However, they also acknowledged that they had observed some variation in innate ability among students within the program as well,

since some of their peers in the program did not appear to have to work as hard as others. Support for the question relating to wisdom being defined as knowing answers rather than knowing how to find answers resulted from the recognized need to know specific information to support inquiry. Overall, although students indicated some variation in response on specific items within this domain, they did not reveal major differences in viewpoint across the domain, nor did they appear to consider the issue of innate ability to be of major concern.

However, there was a wide range of response across the certain knowledge domain. Overall, Bridget, Megan, and Shauna indicated the strongest support for the certainty of knowledge, while Fred showed only minimal support, and Paul again little to none. The supporters in this domain focused primarily on the statements that truth is unchanging (Q1), that uncertainty is not the only thing that is certain (Q25), that good students do have to memorize facts (Q2), and that it can be a waste of time to work on problems that do not have clear-cut answers (Q26). It is interesting that the statement concerning truth as unchanging received some level of support from all students except Paul, who remained uncertain on that item, although in the interviews he was not willing to deny the possibility of the existence of absolute truth.

Although there were a number of differences in the students' knowledge beliefs on the specifics of the epistemological questionnaire, the interviews revealed that all students demonstrated a strong awareness of the uncertainties associated with defining and identifying knowledge and truth, which was clearly reflective of their familiarity with the basic knowledge issues addressed as part of their Theory of Knowledge course. Although class discussions in TOK focused more on philosophical perspectives than on

personal knowledge issues related to learning, when the students responded to the direct learning statements on the epistemological questionnaire, the interviews revealed that they interpreted the statements in light of their personal familiarity with the learning process as they had experienced and observed it across different subject areas.

Consequently, although all of the students indicated some level of belief in unchanging truth, they also recognized the difficulties associated with identifying absolute truth and instead indicated that their approach to learning focused on the relative nature of most knowledge and learning issues.

The simple knowledge domain also produced varied results, as Bridget, Megan, Paul, and Shauna gave only mild support to the concept of knowledge as simple, while over half of Fred's responses indicated strong belief in simple knowledge. Specific questions revealed that the most agreement in support of simple knowledge related to the necessity for precise measurement in science (Q10), the importance of organization in lectures (Q24), and the need to look for specific facts when studying (Q28), all of which were considered indicators of simple knowledge on the Schommer questionnaire (1989) but might also be viewed merely as a preference for order and precision, not necessarily support for a broad belief statement in simple knowledge. In addition, Bridget and Shauna expressed disagreement with the statement concerning the dependence of sentence meaning on context (Q47), which is significant, since in the interviews both of these students shared unusually high interest in the complexity of word meaning. Overall, four of the five students indicated strong support for the complexity of knowledge.

In general, the students shared strong agreement that innate ability does not always determine level of learning or success, that real learning is usually a slow process

of building knowledge rather than quick comprehension, and that authority in the form of textbooks, teachers, and expert advice is not omniscient. In addition, most of the participants also shared a focus on knowledge complexity and uncertainty as catalysts for exploration and inquiry. Even though Fred viewed knowledge as more simple than the other participants, there was basic agreement across the group that knowledge as a whole is complex rather than simple.

Although there were similarities in viewpoint both within and across the domains when the participant group was considered as a whole, the individual knowledge views of each student relative to each domain represented a unique construct that was highly individualized. For example, even though Bridget and Megan appear to be similarly matched on the graphic representation, their individual selections still differed within each of the domains. In the context of this study, these results reaffirm the importance of exploring each student's individual knowledge views relative to the particular choices made throughout the composing process and the crafting of the final essay. Chapter Five discusses findings related to the individual choices that students made during the research and composing processes, while Chapter Six examines how those choices took shape in the final research paper. Chapter Seven completes the series of results chapters by examining the relationship between the knowledge views presented in this chapter and the students' composing processes and final essays presented in Chapters Five and Six.

CHAPTER 5

STUDENTS' COMPOSING PROCESSES

This chapter reports findings concerning the choices students made during research and composing as part of the second research question: *How do students' epistemological views relate to the choices they make during the research and composing processes?* Based on an analysis of data from the preliminary drafts and four sets of interviews conducted at key drafting stages for the extended essay, individual research and composing strategies for the five key informants were explored. Areas of focus included topic selection, research approach to primary and secondary source texts, composing processes, revision strategies, and mentor involvement. As students discussed their research and composing processes, particular attention was paid to the problems that emerged from student choices as part of planning, research, and writing an extended literary analysis paper, as well as to the problem-solving techniques that students developed or resisted as they moved towards producing final essays. The synthesis part of the second research question pertaining to the relationship between students' epistemological views and composing strategies is explored in Chapter Seven, which reviews each student's knowledge views as discussed in Chapter Four and relates those views to the individual research and composing processes presented in this chapter plus the final essays examined in Chapter Six.

Bridget: Creating Connections and Preserving Themes

Topic Selection

For her extended essay, Bridget chose to expand a paper on Keats's "Ode on a Grecian Urn" that she had written in the tenth grade, so she had a nucleus of about 2,000 words that had already been crafted when she started the extended essay process. She explained that she had chosen the poem originally not only because she liked it, but also because it had sufficient depth for analysis: "I had done a presentation on it and really liked it. And I thought that there was a lot of layering and a lot of really complex literary features and thought processes going on that I really wanted to explore" (I-2, p. 3). Even after she wrote the Keats paper, she felt that there was more that she could explore, so she considered it at the time "of good enough quality of thought that I could use it for an extended essay" (I-2, p. 3).

Bridget had also considered expanding a history paper that she had written on Andrew Jackson, because "that was one of the assignments where I had to contain myself and not say more, and so I thought that I definitely would have been able to expand that, but I really prefer literary analysis" (I-2, p. 4). When asked to explain why, Bridget commented that "history is not as focused on people—more on trends" (I-2, p. 5):

History is really interesting—it fascinates me, but I think lit is even more subtle and has things that you have to pull out for yourself, and in history it is more analyzing other people—what they say about it, but for lit there is a lot of personal involvement and interpretation. In history, if you say your own thoughts, you are kind of not considered a scholar. (I-2, p. 5)

Since Bridget already had a main topic in place at the beginning of the research time period, her selection process consisted of identifying subtopics that would fit within her current framework and extend her analysis at the same time. Even at this level,

deciding to build on a paper that had already been written resulted in definite challenges for Bridget. Since “it was already a paper, a fully developed paper” (I-2, p. 4), rather than exploring fresh topics that would lend themselves to the length and depth requirements of an extended essay, Bridget was forced to think in terms of how to create connections and incorporate related themes without destroying the integrity of her original essay. As Bridget started to realize the challenge that she faced, she expressed some reluctance to changing the paper at all, stating that she really did not want to add anything to the paper. However, Bridget also recognized that she did not have a choice, since falling significantly short of the length requirement would likely be viewed by examiners as failure to develop the topic. At that point, Bridget did seek and follow her mentor’s advice to look at other works by Keats “in order to give some more analysis of his take on poetry in general and his perspective on life and how that shows up in his different works” (I-2, p. 3). By the time of the second interview, Bridget was already considering Keats’s “When I Have Fears,” because “that deals with mortality, and mortality is one of the major themes in ‘Ode on a Grecian Urn’” (I-2, p. 3). Bridget also responded to mentor suggestions to compare and contrast the Keats poems with a metaphysical poem on mortality. Selecting these particular subtopics permitted Bridget to preserve the topic focus of her original paper, as she not only extended its length by incorporating significant comparative poems but also succeeded in situating all three within a thematic focus on mortality and a broad historical context that included both the romantic and metaphysical traditions.

Research Approach to Primary and Secondary Source Texts

Bridget reported that she typically begins her research for a literary analysis essay by closely reading and taking notes on the actual text that she is analyzing. As she studies a text, she considers it “important to discover what the poet had in mind” in order to develop a “correct view of it,” since “there are correct and incorrect interpretations” (I-3, p. 3). She explained that discovery of that “correct view” emerges through exploring the details of the poem:

The more you explore a poem, the more you break it down, the easier it is to know that you are correct. You kind of just have to break it down and analyze it, and the more you do, the more the ultimate meaning comes out. I do think that there can be different interpretations but they have to be valid. As long as they fit, two interpretations might be right. However, I think that often there is too much of the attitude that poetry can mean whatever you think it means. (I-3, p. 4)

When dealing with intricate poems, such as “Ode on a Grecian Urn,” Bridget explained that “paradox was probably the part that I enjoyed the most” (I-3, p. 2). However, she also stressed that she enjoyed analyzing structure, since she felt it provided her with a main inroad to understanding the arrangement of ideas within a poem and therefore held a key to unraveling the poem’s complexity:

I just kind of read it over and over and then I just break it apart one by one and look at the different lines in a poem, and I like to analyze the structure, because it kind of gives an overall skeleton for what the analysis is based on—the structure of the poem. So, I think if I look at that first and see—it is kind of a blueprint for what the poet was thinking. And then I really just dissect each part and then that allows me to see connections. And the connections are really what it is all about. (I-4, p. 2)

Concerning use of secondary sources, Bridget reported that she really did not like to use them unless she reached a point where she did not understand something in the work: “The sources have actually been a challenge for me, because I prefer—I like my

own thoughts. I remember when I was writing this paper, the part I wrote in the tenth grade, I really did not want to include sources, but it was a research paper” (I-2, p. 5).

When asked about the types of sources that she had used, she explained that “a lot of my sources are Internet sources, because I found scholarly sources—I was surprised at the quality I found, because you have to be careful on the Internet” (I-2, p. 5). She also explained that her difficulty in using sources related to having “to put in other peoples’ thoughts and make them kind of work with your own thoughts” (I-1, p. 2). Her strategy then became reading to “see what their whole viewpoint is and see the gist of what they are trying to say” to determine “if it matches what I am saying, rather than just include an isolated little quote” (I-1, p. 3). She added that she had difficulty with the way “a lot of students just take the part that seems to match and then put it in the paper” (I-1, p. 3):

I think that is kind of inconsistent—even dishonest in a way—because it is just like using something out of context. So, that problem does arise in writing a research paper, but if it doesn’t fit in mine, then I wouldn’t want to put something in there that wasn’t what they were trying to say. (I-1, p. 3)

When asked how she would handle conflicting interpretations, she explained that “if I couldn’t decide between differing viewpoints, I would probably just include both of them in the research paper” (I-4, p. 3). As Bridget faced the need to expand her initial paper into an extended essay, she did turn to additional critical interpretations “to try to see what they said about [the poem]” (I-4, p. 3) and to get ideas about ways to expand her initial analysis.

Composing Strategies

Bridget expressed a high level of confidence in her composing strategies at the beginning of the extended essay process, which may have been influenced by the fact that

she already had a basic paper in hand and at that point had not grappled with the difficulties involved in expansion. When she described her typical composing strategies, she referred to literary analysis papers assigned for class, stating that “I usually read the passage several times, underline things that catch my eye, and think about it a lot, until I come up with a working thesis, and then I don’t usually come up with an outline” (I-2, p. 1). She commented that this approach generally worked well for her but added that “I might write an outline, if it is going to be a long paper, or something complicated, but usually I work with the thesis and then just kind of sit down and write” (I-2, p. 1). She also stated that she liked her thesis to be specific rather than general:

I am usually pretty specific with my thesis with literary analysis, so I can zero in on something right from the start. It gives me an immediate focus. I know that some people kind of like to write the paper and then go back and write the thesis, but I can’t imagine doing that, because I like to know where I am going from the very beginning, and it gives direction. Otherwise, I would feel like I was just writing aimlessly. (I-2, p. 1)

Bridget added that she did not view starting with a thesis as a constraint but as a tool for managing the writing process:

I don’t have the whole paper figured out from the start. Everything I do obviously relates to the thesis, but I usually think of specific points more in depth as I go. I mean I usually get more ideas as I go. I can’t prevent that from happening, but I wouldn’t be able to hold all of that in my brain, if I didn’t write the thesis first and then start writing. (I-2, p. 1)

For Bridget, the drafting stage of writing consisted of getting her ideas in written form on the computer, since “it is easier to edit as I go” (I-2, p. 2). Bridget explained that editing was important to her and that she could not write a rough draft without thinking about the word level of composing at the time of writing:

I can’t just write freely the first time and not worry about it and then go back the second time. I always edit as I go and manipulate words that I think aren’t precise enough. I usually reread everything I have written so

far before I start a new paragraph. It just keeps me on track. I just like to have a sense of my purpose as I go. Otherwise, I would probably trail off. (I-2, p. 2)

However, since in essence the rough draft of the extended essay was already written in Bridget's case, her composing challenge was not focused on planning the direction of the paper during the idea stage or on actually writing the first draft but on how to expand an existing paper within an established framework:

I am a person who believes in quality over quantity. But usually on lit assignments I have trouble staying within the limits. I usually go over, but in this one 4,000 words just seems long—I don't want to ramble or say things that are not necessary or that aren't relevant just to fill up the word limit, so it's a challenge to be creative to find ways to expand it that are unique and different. Because I don't want to just reiterate or expand everything I have said and say it twice. (I-2, p. 4)

This situation continued to challenge Bridget throughout the composing process, as she faced organizational problems that she had not anticipated when she decided to expand an existing paper.

Revision Strategies

Bridget's revision strategies were integral to her composing process, since she expressed awareness of both order of ideas and precision of wording as part of her writing, even at the initial drafting stage. When Bridget described her composing strategies, she repeatedly emphasized that she continually "reread everything" that she had written before going on and that she regularly edited and "manipulate[d] words" as a part of that process (I-2, p. 2). From a content perspective, she added that her close attention to wording kept her "on track" with her "sense of purpose" and kept her from "trailing off" (I-2, p. 2).

In a more comprehensive sense of revision, most of Bridget's extended essay involved revision, since she already had a basic paper in place when she started. The challenge for her became how to add new material into the existing structure without altering the basic focus of the original paper or creating a new paper. Since her original paper was approximately 2,000 words, she was faced with the task of essentially doubling the size of her paper. This became quite problematic, because Bridget felt that she had already included most of her observations about the poem in the existing paper. As Bridget sought to add to her core essay, one problem that presented itself was the possible need to alter the thesis of the paper in order to accommodate the substantial additions that she needed, which Bridget remained reluctant to do, even though she commented at one point that she had to "tweak" it (I-4, p. 4). Consequently, Bridget ended up placing the first addition, which consisted of a 500-word section on "When I Have Fears," just before the conclusion of the original paper:

Organization is the one thing that I have tried to reconcile in my mind, because for this part, I just added the part at the end of what I had, but I mean I am going to have to think about where I am going to add more stuff and have it still fit. I mean, I may have to alter my thesis. (I-2, p. 6)

Bridget revealed later that she "felt it would be awkward to interweave it, so I just stuck it in the conclusion, so that it would be like a point I was making before the end" (I-3, p. 1). In addition, since George Herbert's "Church Monuments" provided an interesting point of comparison and contrast with its parallel focus on mortality from a metaphysical rather than a romantic perspective, Bridget was able to add the second extension immediately after the section on "When I Have Fears." Although the placement was somewhat linear, it enabled Bridget to include both poems within her original analysis without having to change the main direction of her thesis.

Bridget ultimately described her additions as “different branches,” so that the paper ended up being “kind of a three-part structure—I actually like that because it includes one big analysis and then it gives a lot of context for that at the end” (I-4, p. 1). As a result, the part of the paper that was impacted most in the revision process was the conclusion, “because all of the context fits in with the thesis for the original poem, so the conclusion was the part that needed to be changed” (I-4, p. 4). In the end, Bridget commented that “I think I uncovered all of the stones that I saw. I am sure that there are things that I didn’t uncover, but I think that my thesis, which is my search for meaning in the paper, was backed up and supported as much as I could have” (I-4, p. 4). These statements and others throughout the interviews revealed Bridget’s primary concern with content in both her composing and revision processes.

Mentor Involvement

Bridget contacted her mentor early in the process for guidance on how to expand her existing paper into an extended essay. She followed her mentor’s advice to explore additional Keats works to compare or contrast with “Ode on a Grecian Urn” and ended up selecting “When I Have Fears” because of its parallel focus on mortality. Additional mentor suggestions included exploring the significance of the urn, as well as references to marble in the poem, as possible directions that might extend the content of the essay. Although Bridget decided not to pursue the urn and marble comparisons because she did not see thematic connections with the focus of her existing paper, she did take advantage of an article on metaphysical poetry that her mentor gave her, which “worked really well” within her existing framework, “because it had a lot of stuff in there about the theme of mortality” (I-4, p. 1).

Fred: Tracing Events and Adding Paragraphs

Topic Selection

Fred had already selected his topic by the time of the first interview on epistemological views. From the start, he was attracted to literary analysis over history because he had had “so much practice doing it [literary analysis]” (I-2, p. 9) and because “history has always been pretty cut and dried for me” and he felt that he could “express a lot more through literature” (I-2, p. 9). He seemed particularly interested in expressing his support for the “anti-missionary” approach that he saw in Barbara Kingsolver’s *The Poisonwood Bible*, as he planned to trace the dissolution and destruction of the family unit through the events of the novel. He identified the book as “one of my favorite books, definitely the favorite that I’ve ever had to read for an assignment, just because I like the whole premise of the book” (I-2, p. 3), and “I liked the way that Barbara Kingsolver takes another look at religion. . . . I liked the irony and the fact that it’s very critical of religion” (I-2, p. 3). When asked to elaborate, Fred focused on the main character’s repeated insensitivity when speaking to the African natives:

He keeps saying the phrase, “Jesus is *bangala*,” which is supposed to mean he’s beloved, or he’s a good thing, but he says it the wrong way and it turns out to mean that he’s like a poisonous tree, and I just like it that it’s really ironic that he’s trying to say one thing and it’s coming out the complete opposite, but at the same time that reflects their situation. They go there with the intent of spreading the Word of God and all that happens to them is pain and suffering and what would be the other meaning of *bangala*, which he’s using. (I-2, p. 3)

Although Fred initially planned to focus on the destruction of the family unit, by the second draft, he changed slightly to concentrate “more about Nathan Price [the main character] and how he destroyed the family as opposed to just the family being destroyed” (I-4, p. 1). In the process of the change, the main divisions of his topic grew

from “the introduction, Nathan’s actions, uses of religion, loss of family support, and Ruth Mae’s death” (I-2, p. 5) to include the perceptions of the five family members after the death. He “liked the way that Nathan, the father figure, goes there with an ironclad view that never shakes, and even though their intentions were so good, it ended up causing absolutely horrible things to happen to them and their family” (I-3, p. 1).

However, from the start, Fred’s topic, as well as the plan for his paper, was primarily chronological and plot-oriented. He maintained that mindset until late in the composing process, when he came to the realization that in “choosing a topic, you need to pick a broad enough topic, but at the same time it needs to be narrowly focused, . . . so that you have a definite conclusion to reach” (I-4, p. 2). In the last interview at the time of the final draft, he realized that both his original topic and approach were “too broad” and that he had to “focus down” in order to “shift the paper towards other ideas to encompass them in the paper and discuss those and relate them to what you are already talking about” (I-4, p. 4).

Research Approach to Primary and Secondary Source Texts

Fred’s research approach began exclusively with the primary source, as he “re-read the book” in order to “get the events fresh in my mind” (I-2, p. 5). Fred explained that his usual strategy for utilizing secondary sources consisted of “looking for sources before I started to write” and “when I felt I needed to quote, then I would go and find the quote” (I-2, p. 5). For his extended essay, he used a similar strategy with the exception that his first source was “just a journal that I found online at Galileo” (I-2, p. 2), which was not a critical piece suitable for literary analysis. However, he then “found a paper that matched up pretty well with what I was going to say. I didn’t pull quotes directly at

the beginning, but I had the source before I started and then while I was writing, I would skim through it until I found what I was trying to say” (I-2, p. 5). He commented that the other sources he located did not give a detailed analysis:

They just mentioned [the book] in a paragraph and didn’t really talk about what I wanted. . . . Most of them analyzed the missionary position and/or the missionary position related to the political meaning in the book with the whole civil war and the change of leaders and the outcome and all that. (I-2, p. 8)

Consequently, Fred ended up limiting his secondary source material to the one article that he found helpful, “The Missionary Position: Barbara Kingsolver’s *The Poisonwood Bible*” (Ognibene, 2003; see Appendix H), which he categorized as “a doctoral dissertation with a lot of good work in it” (I-4, p. 4). He revealed his dependence on the source for supplying and supporting the ideas that he included in the paper up to that point:

As far as getting more words to this, I am thinking that I am going to have to find another source, because I’ve read through my only secondary source very thoroughly, and that is where I got my ideas for this sexism thing. But, I’ve pretty much spent all my ideas as far as this topic goes in this book. (I-2, p. 7)

Fred commented later that if he had decided to explore contrary views, such as a pro-missionary approach, he would have had to include “a lot more outside sources for interpretation” (I-4, p. 4), which he seemed reluctant to do. As a result, he “decided to go with the anti-missionary piece” as representative of his own “interpretation of the novel, not as my personal views concerning missionary work or anything like that, but I just looked at both sides of the problem, and I saw which one had more potential for a paper, as well as which one had more evidence to support it” (I-4, p. 4). Although Fred mentioned the possibility of using additional sources several times as a means of

extending his paper, he did not end up including any but chose instead to limit his final paper to the 2,500 words that he had completed at the end of the second draft.

Composing Strategies

Fred reported that he composed the first draft of the extended essay the same way he wrote shorter literary analysis papers, by starting with “a post-it note and . . . a very basic outline” (I-2, p. 2). His focus from the beginning was on length: “depending upon how many words it needs to be, I can judge accordingly how many paragraphs I need” (I-2, p. 3). Once he determined the basic outline, he would “just write, just write an introduction for each paragraph—write an overview of what it’s about” (I-2, p. 3). As he continued to discuss his writing process through the remainder of the paper, he described a very linear process, generated by his primary concern for the required length:

I try and do paragraph by paragraph. If I write the paper and then find out that it’s not long enough or I need to talk more about one thing, then I might split it in half, or just do another paragraph on the same overall topic, but I’ll just write, you know. For this paper, I did the introduction, actions of the father, how he treats his family, why he treats his family that way, how he treats the natives, why he treats the natives that way, and then how his actions lead to the death of the youngest child. Then those are all each individual paragraphs, and then the next big main overall topic was the death of Ruth Mae and how it affects each individual member of the family. (I-2, p. 3)

However, this plan did not work well for Fred on the extended essay. He commented that he made few changes between the first and second drafts: “I can show you what I changed, because my main problem in writing my second draft was that I felt like my paper was almost done—I didn’t have much more to go, so I only added three more paragraphs to it” (I-2, p. 5). As a result, when the second draft was due, Fred was “400 words short” of the required 2,500 word length for that installment and commented “I don’t know where I am going. . . . I don’t know what the next word count is, but I

don't know how I'm going to hit that unless I get some more ideas" (I-2, p. 7). Even at the beginning stages of the paper, Fred was aware that he was "not doing as much analyzing" (I-2, p. 3):

I'm doing more like dictation, like this happened to this character, and on my next copy, I'm probably going to go back and edit not as much what happened to them, but why it happened to them, because you can read the book and know that [what happened]. . . . For the first half, I'll just jot notes by the major paragraphs and just expand on those. (I-2, p. 3)

Fred also commented repeatedly about the short time period set aside for composing. Even though students had over a month to move from the first draft of 1,500 words to a total of 2,500 for the second draft, Fred's perception was that when you "want a 2,500 word paper due in a week, that's kind of daunting" (I-2, p. 7). However, he also admitted that he composed the first draft the week before the due date, which had been announced three months before, and that he "sat down right before it was due" for the second draft (I-2, p. 8). He also expressed some hesitancy in rewriting, even when he saw a possible need to restructure the essay:

If I wanted to go back and add, like include, the political aspect into this, all I would need to do, like I wouldn't go back and rewrite my whole paper. I would just make other little bullets on it. I would find a place. I might change my introduction paragraph to include that and my conclusion and even my title, but I'm not going to go back and change the rest of the body paragraphs. (I-2, p. 10)

By the third draft, Fred had moved to more of an analytical stance, as he focused increasingly on Nathan Price's role in the destruction of the family. He commented that he was "probably going to have to re-write the introduction again because I focused more on the family . . . and the judgmental side of his character" (I-4, p. 1). He also added somewhat reluctantly that he "had to reshape to incorporate [the different focus] on Nathan Price" (I-4, p. 2):

I had to pull in his actions and how he, like I tied the breakdown in communication completely to him, whereas his family started to understand it, and just, like everything I added, I focused more on him and his character flaws, like I know I dedicated a paragraph to his character flaws. I talked about sexism, which I already had in there, just his overall attitude, cultural blindness. (I-4, p. 2)

Although Fred began to incorporate more analysis by the final stage of composing, he still appeared to think in terms of paragraphs and additions rather than of developing the thought base of the essay.

Revision Strategies

Fred's revision strategies followed a similar path to his composing strategies, with some additions and few substantial changes. Between the first and second drafts he commented that he "went through and did some editing, but there weren't any real changes, just re-wording of some things that I didn't like, and maybe a little addition to each paragraph, but no major thematic changes or anything like that" (I-2, p. 7). For the final draft, he "pulled specific examples from the book to show Nathan's inferiority/superiority complex" (I-4, p. 1) and responded to mentor comments to focus more on analysis than plot summary:

I went back and edited some of the parts where [my mentor] made comments on my last copy, and then went into each individual . . . character and what happened to them. I went back and edited a few of those paragraphs. I need to go back and do a little bit more, but I think that that was the greater part of it. (I-4, p. 2)

Examination of the series of drafts that Fred submitted substantiated his self report, as well as provided evidence of a considerable number of small additions and content revisions that helped focus the beginning portion of the final paper more on analysis than on the plot summary of the previous drafts. However, sufficient supporting

details were still lacking, leaving the paper with the beginning of an analytical framework but somewhat incomplete in its depth and significantly lacking in development.

Mentor Involvement

. From the beginning of Fred's conversations with his mentor, he was given suggestions to focus on analysis rather than plot summary. Several suggestions for more analytical approaches that matched his interest areas included an in-depth character study of Nathan and a thematic focus on the symbolism of poisonwood, as well as Nathan's misuse of *bangala*. In reference to *bangala*, Fred commented that he "would probably end up adding it just because I'm going to need more words" (I-2, p. 4).

Exploring why Kingsolver had not given Nathan a voice in the narratives that tell the story of the novel was also a consideration for expansion. When asked why he thought that Nathan had not been given a voice, Fred suggested that Kingsolver probably did not allow Nathan to speak because "It would be a very biased opinion" and "You know exactly what he would say—I tried this today, and it didn't work. These savage natives, they're naked—they don't know what they are talking about, and they are heathens, you know'" (I-2, p. 6). Fred concluded that the voices are stronger coming from all the members of Nathan's family, who are able to comment on the dissolution and Nathan's resistance to change from multiple perspectives. However, even though Fred revealed that he had a clear sense of Kingsolver's artistry in designing the novel as she did, he did not consider analyzing the novel from that perspective or including his observations within the existing analytical framework of his essay.

Fred himself mentioned the possibility of questioning various definitions of religion, looking at missionary pieces and critiquing Nathan's behavior and depth of

knowledge about his own beliefs against a missionary code, or looking at Nathan's position against the historical setting and a struggle for power, which would have opened up the possibility of approaching the novel from a Marxist perspective (I-2, p. 8).

However, Fred did not give credence to any of these suggestions, except as passing thoughts. In a sense, the single source that captured Fred's attention seemed to serve as the primary mentor that stretched his thinking and challenged him to at least attempt to approach the novel from an analytical perspective, even though the scope remained limited.

Megan: Focusing on Original Exploration and Discovery

Topic Selection

At the time of the initial interview, Megan planned to compare and contrast magical realism in one of Gabriel Garcia Marquez's works with a work by William Faulkner, since she expressed strong interest in examining character development in two novels with different cultural settings. However, by the time of the second interview at the beginning of the following school year, another student had already selected the Marquez work that Megan had planned to use, so she felt compelled to change her topic. Megan reported that she was drawn first to Sartre's *No Exit*, which she had read in the seventh grade and had found "so thought provoking" (I-2, p. 1). As she began to consider possible works with which to compare *No Exit*, she recalled Miller's *Death of a Salesman*, which she had studied in-depth in her junior English class, and realized that there were numerous parallels in the two works relative to the theme of deception and reality. Megan's initial plan was to "contrast how each main character deals with reality and how they deceive themselves and how their surroundings affect their decisions" (I-2,

p. 1). She explained that she had already observed that “there are a lot of parallels between the two works” (I-2, p. 2):

Up to a certain point, both characters, Garcin and Willie Loman, deal with their issues until their breaking points, and that’s where they really separate, and one almost faces reality, while the other can never accept it. So they really go along the same path up until a certain point. (I-2, p. 2)

When asked if she enjoyed being able to select her own topic, Megan commented that “the hardest part of any project for me is always choosing my topic” (I-2, p. 3):

It’s like the more free range I have, the harder it is for me, and I think the more important it is to me, because I don’t want to write on something that I’m not interested in, because I can’t really go in depth with it and understand it. . . . But after I’ve chosen it, I usually like what I have come up with, but the process itself is kind of stressful, and it’s a challenge. (I-2, p. 3)

As Megan worked with her broad topic, she explored various aspects in addition to the character analysis, including a comparison of the titles, which referenced a death in one case and no exit from hell in the other. In addition, she considered comparing and contrasting to what extent each character fulfilled Aristotle’s definition of a tragic hero, as well as how the structural differences of the two plays related to the thematic development. She finally decided to focus on deception and reality in the two works, although she referenced “self-imposed barriers” in the title.

Research Approach to Primary and Secondary Source Texts

Megan’s approach to research began with thorough exploration of the primary texts, with conscious delay of critical pieces:

I don’t want the opinions of the critics to play too much into what I’m writing right now. What I’m going to look for is after I have already thoroughly developed my ideas is to look for supporting opinions. I kind of like where I’m going with it right now, and I want to accumulate ideas that are original. (I-2, p. 2)

Consequently, at the time of the second interview, Megan had only “done very rudimentary stuff” (I-2, p. 4). However, she had already thought about availability of sources as an important consideration for a research paper focused on literary analysis:

I know there is going to be a lot of analysis on each work, just because *No Exit* is so philosophical—there’s so much everyone can say on it. And *Death of a Salesman* is a classic that there’s been so much done with already. So, I don’t think I’ll have much trouble finding the material especially on *Death of a Salesman* on deception and reality, just because his whole inner conflict is deceiving himself and not being able to face reality. (I-2, p. 4)

When asked how she planned to deal with conflicting opinions when she did explore secondary sources, Megan explained that “you have to include in the paper any opposing ideas, because with any topic there’s going to be something opposing it, so I will definitely have to incorporate that and propose something different” (I-2, p. 2). Her rationale for addressing contrary opinions involved an unusual awareness of audience, as she stated that “the object of the paper is to make the reader think about the topic and be able to decide what they think themselves” (I-2, p. 2).

Megan’s concept of research clearly focused on the importance of original exploration and discovery. When asked if she thought that there was a “correct interpretation” that she needed to discover with her research, she indicated that she enjoyed being able to make connections that no one else had made:

I don’t really think there is a correct interpretation [of *No Exit*] because it’s existentialism. Anything dealing with that doesn’t really have a correct interpretation. Dealing with *Death of a Salesman*, there is a lot more that’s been done on it, so I think that there are more set interpretations, but when comparing two completely different yet similar works, when I haven’t found anyone else who has done it, I don’t think there really is something that’s correct out there. (I-4, p. 2)

She explained that her view of the essay was “more just an analysis” rather than a research paper. As a result, she reported that she “more or less used the sources just to back up my point of view” (I-4, p. 2), which she was able to do with a number of secondary sources. Megan stressed the importance of using quotes from the primary texts in analysis, so that “people can, when they are reading it, they can get a feeling of what you are talking about and not just have a general impression. If you have a quote, then people understand it; it is a lot stronger argument” (I-4, p. 4). However, although Megan’s main focus remained on “incorporat[ing] the [primary] texts into my work” (I-4, p. 3), she did look for support from secondary sources and did find conflicting interpretations, especially concerning the tragic hero:

Some people felt like Garcin embodied the tragic hero, and others said he’s not at all the tragic hero. But in the rest of it, such as both characters being fooled by their own thoughts and their own desires to be someone they’re not, that was more or less general—I mean the only problems I found were people that interpreted the works but didn’t deal with the same topics as I was. (I-4, p. 3)

Composing Strategies

Megan’s composing strategies reflected the major focus on ideas that permeated her general approach to literature and literary analysis. She reported that initially she spent a considerable amount of time thinking about the two works she selected and about “what characters have many parallels and what was an interesting aspect” of the plays for comparison (I-2, p. 1). When asked about outlining, Megan exclaimed, “Definitely not!” (I-2, p. 5) and commented later that outlines were “too intimidating” (I-2, p. 6). She explained that she typically had “trouble really sitting down and making an outline” (I-2, p. 1):

I like to kind of get an idea in my head and get it on the computer screen while I'm still thinking about it. Then I can go back and change it and develop the idea. Sometimes I can just jot down certain things, but if I had to go through and think of a topic sentence for each paragraph, I couldn't really do it. (I-2, p. 1)

She admitted that her unwillingness to outline sometimes conflicted with deadline dates, since "right now for the extended essay, I'm kinda cheating because we have to turn in an outline, so I'm writing a paper and then I'm going back and writing an outline" (I-2, p. 4). She also alluded to recursive writing strategies when she explained that "as I write, my ideas are changing and so my outline would be irrelevant by the time the paper was through" (I-2, p. 6).

Overall, Megan approached her composing process on the extended essay the same way that she approached major literature papers for class, since she viewed the essay as "almost a combination of a research paper and literature analysis" (I-2, p. 2). At the time of the second interview, she reported:

Right now I've laid down pretty much the framework. In paragraph form I've written the main points I want to cover and what I'm going to go back and do now to finish it is I'm going to add in the secondary sources and add in quotes—I don't have any quotes in it so far—and I'm going to further analyze it and the rest of the paper and just continue developing ideas on the basic framework I already have. (I-2, p. 2)

As Megan worked within her "framework" for the analysis and focused on parallels in the two plays, she was able to establish benchmarks for organizing her points, such as observing that the characters were able to deal with their problems "until their breaking points, and that's where they really separate, and one almost faces reality, while the other can never accept it" (I-2, p. 2). For Megan, these points of analysis not only provided closure for the internal sections of the paper but served as an impetus to inquiry and discovery that initially kept her moving through her paper. As a result, she was able to

expand her critical look at the plays beyond the main characters to “other supporting characters in each play and how they tie in and how they influence the main characters’ actions and how they influence the plot” (I-2, p. 4).

Megan viewed the thought processes that she followed in arriving at decisions in the paper as essential information that would help readers trace her line of reasoning. Consequently, Megan reported that she regularly reread what she had written before going on to compose a new paragraph or section of the essay. Self-assessment also became a natural part of Megan’s writing process, as she not only sought to develop her ideas but also evaluated the effectiveness of her presentation:

I think my thesis could be a lot stronger. It kind of changes as you’re doing research—it evolves. As I’m exploring my own thoughts about it, it’s kind of getting more and more abstract. I mean, because there are so many different ideas in an area, like right now, another area I’m not happy with in my paper is that I cover such a broad scheme of things. I need to do a better job of tying them all together. (I-3, p. 2)

However, in contrast to her changing thesis, Megan revealed a strong focus on conclusions from the beginning of her thinking and composing processes, stating that “the conclusions were basically what I started out, almost started out, doing, so I mainly spent time analyzing” (I-4, p. 5), which she defined as looking at what led up to the conclusions. At the end of the composing process, as the paper neared completion, Megan looked back to the beginning and observed that she “needed to work on the introduction” (I-3, p. 1). Although Megan stated at the beginning of her composing process that she envisioned the extended essay as a lengthy literary analysis paper, towards the end of the process, she expressed concern that she had not crafted a clear question to focus her inquiry, which made the essay “more like a lit paper versus an extended essay where I state a question and then answer it” (I-3, p. 1). She commented

that she intended to go back and reshape both the research question and the thesis to make them reflect the changes that had “evolved” as she had moved through the paper.

Revision Strategies

Throughout the interviews, Megan described her final revision strategies as “usually small” (I-2, p. 5) because of the constant reevaluation that occurred as she reread her writing. She reported that every time she sat down to write she would “read through what I have written several times so I can refresh my memory on what I have written and where my ideas were going, and so I don’t really have to do that much later” (I-2, p. 5). At those times, Megan would not only work on the “flow” of her paper, but she would also add new ideas and work on transitions:

I always read through it several times to make sure it flows, because I don’t like chunky transitions. I like things to be very smooth in my papers. . . . And I tend to add more things because as I read through it the second, third, and fourth times, I think of new things or think of how I could rephrase something to make it sound better. But I usually don’t have to copy and paste paragraphs back and forth. (I-2, p. 5)

Megan continued to emphasize several times that as she revised during her writing she remained quite conscious of transitions in order to help the reader follow her ideas: “I like transitions, so when the reader is looking at it, they can see my thought process. They can see how I reached one conclusion from another that I’d already drawn instead of having to flip a couple of pages back and see where I’d introduced it” (I-2, p. 5).

At the time of the third interview, Megan expressed frustration that she had not had a chance to do much broad revision because of increasing time constraints. At this point, she indicated that she was aware that the paper needed some major content revision in order to strengthen her thesis and introduction. She also felt that she needed to rephrase the thesis as a research question in order to clarify the focus of the paper and extend the

literary analysis. At the interview following the last draft, Megan reported that she had done “a lot of revisions and added a lot for the final paper” (I-4, p. 1). However, she stated that the revisions had not consisted of content changes but of “changing the order around” to the point that she considered it “a very different paper” at the end (I-4, p. 5). The additions included more analysis of the tragic hero and “some of the interpretation being the difference between their characters” (I-4, p. 1). Her assessment of the final paper as a result of the revision was that “it is a lot smoother; before I just kind of typed out the information and put it down in chunks, and it didn’t really have a flow to it” (I-4, p. 1).

Mentor Involvement

In the first interview, Megan commented that she liked to work independently. Initially this desire to work alone seemed to be borne out in her insistence on developing her own ideas at the exclusion of secondary sources, as well as her reluctance to discuss her paper with her mother, who is an English teacher. Megan stated that she had not “really talked with her much . . . past middle school” because her mother had “a completely different view on literature than I do and completely different writing style, so I kinda try to keep her away from my papers” (I-2, p. 4). She also commented that her initial meeting with her mentor had lasted for only a few minutes and that her mentor did not give her feedback at that time, because “she just wanted me to get my ideas down before she talked to me” (I-2, p. 6). However, throughout the interviews, Megan indicated that she had benefited from an exchange of ideas with her mentor, as well as from the interview discussions. She expressed interest in her mentor’s suggestions to use the titles

of the works for a point of comparison (death versus no exit) and to examine structural differences in the works.

In a sense, classroom study and discussion of *Death of a Salesman* also served as a mentor, as Megan states that

If we hadn't done work on it in class, there are some things I would probably have seen differently or wouldn't have caught—like the small details. But, having them pointed out in class and spending time to go through line by line seeing what means what, and then, too—the quote journals that we had to do, that really gave me the time and reason to pay a lot of attention to certain things. (I-3, p. 3)

Clearly, listening to multiple views and having an opportunity to bounce her ideas off of others sparked her thinking to go in different directions and helped her to be more articulate in her analysis. Megan also stated that when she discussed the works during the interviews and talked to her mentor that she “got ideas and then went and researched them and kind of just got more information” (I-4, p. 2). She also reported some change in perception as she “looked at more articles and read more and talked to [her mentor]” (I-4, p. 2):

I got new ideas, but my original idea didn't change too much. I think my focus may have shifted a little bit. Before I was going to focus on the roles of deception and reality, and then I brought in more elements of what they viewed as reality and how the characters embodied the tragic hero, and I put more into the philosophy versus just a sharp comparison of how each character viewed reality and how that wasn't their real reality.” (I-4, p. 2)

Paul: Thinking about Heroes and Linking Ideas

Topic Selection

For his extended essay, Paul became interested in Neil Gaiman's graphic novel, *The Sandman*, “because I figured it was something that I wouldn't get bored with, because comic books are one of those things that give me a lift. . . . That's going to be

something that will keep me from getting stressed out or bored on the extended essay” (I-1, p. 5). Paul also commented that he had enjoyed comic books since childhood, but that he had just been introduced to the graphic novel the summer before when he started reading *The Sandman* series. As he continued to read, he started seeing numerous connections with Sophocles’ *Oedipus Rex*, which he had studied in junior English. Additional examination of the works led him to consider comparing and contrasting the two tragic heroes for his extended essay, because “I just thought I’d really like to do something non-traditional” (I-2, p. 5).

Even though Paul had rather quickly selected the two works that he wanted to examine for the extended essay, he spent extended time trying to narrow down to the precise focus that he wanted for his analysis. Early in the exploration process, Paul was comfortable discussing both works with considerable detail. Paul noticed not only how the two works had “extremely similar elements of Greek tragedy” (I-2, p. 1) but also how both reflected their cultures: “*Sandman* allows a greater amount of choice when it comes to the tragic end, and I think that is reflective of the cultural change over the centuries” (I-1, p. 4). However, essentially every aspect of his subject interested him to the point that he indicated he might have difficulty pulling all of his ideas together:

I’m still uncertain about how accessible I’ve got to be, because dealing with the confusing ideas—I mean working off of 60 pages of play, even though that’s a play that is familiar to most people of the English language, but I am also working on about 800 pages of comic books, so there’s a lot there, and I’m trying to keep the themes in line here, and still keep it accessible and understandable with that information. So that’s something that I really am working on more and more. (I-3, p. 7)

By the first draft interview, Paul had already thought through numerous similarities and differences, as he continued to address the complexity that was intriguing him about the two works:

Oedipus wants very much to find out who his parents are, wants to figure out why his wife seems to be hiding things from him, and Sandman on the other hand, at one point he goes hunting for his brother, who for a long time in the series is called the prodigal because at some point he just disappeared, and when he begins to think that there's something that is stopping him from doing this, he really goes towards this end. As Sandman is the embodiment of dreams, his brother is the embodiment of destruction, so if you get something very obvious there, he is seeking out his own destruction. (I-2, p. 3).

Consequently, Paul leaned towards narrowing his topic by starting with the “extremely similar elements of the Greek tragedy and the workings of it,” as well as “some differences in the tragic fall,” since “both of them do fall by their pride and especially their desire to find things out” (I-2, p. 2).

At that point, Paul had also observed that since Sophocles “was working with a legend that existed before his time, he already had a set plot to follow,” whereas Gaiman was writing “a serial on his work that was coming out on a monthly basis, so the story could change at any point” (I-2, p. 3). Paul commented that, as the “elements of fate and destiny” operate differently in the two works, “the tragic fall [in *Sandman*] suddenly has a lot more free will involved in it” (I-2, p. 3). In addition, Paul observed that even though both characters kill a close family member, “Oedipus does it unknowing, while Sandman chooses his fate with the full knowledge of the implications of that, . . . and so it's very much a difference of choice” (I-2, p. 4). This early analysis proved to be an essential part of Paul's topic selection process, as he ended up focusing on the tragic fall, fate, and free will in *Oedipus* and *Sandman*.

Research Approach to Primary and Secondary Source Texts

Paul clearly began his research with close attention to both of his primary source texts, as he read and reread *Oedipus* numerous times and read all eight books that comprise the *Sandman* series. In addition, by the time of the first draft interview, Paul had read “twelve books at home that I ordered off Amazon that are written entirely about that series” and “looked over all three of Scott McCloud’s books on the graphic novel to get a broad sense of the comic genre as a literary form” (I-2, p. 1). A teacher also gave him “a bunch of books on this series” (I-2, p. 4).

However, Paul reported that he wrote his first draft “entirely without external sources. I just used the two pieces, and now I’ve started reading over the sources I have and taking things out” (I-2, p. 12). He also obtained a copy of Aristotle’s *The Poetics* online and “started looking at that because it outlines what the Greek tragedy is supposed to be” (I-2, p. 12). Paul realized later that he “did that kind of backwards because I didn’t realize that *The Poetics* was actually using *Oedipus Rex* as the definitive Greek tragedy” (I-3, p. 1). However, he reported that reading *The Poetics* gave him “a lot of different things to explore here, and that’s opening up some new avenues” (I-3, p. 1), particularly “how much fate should play into this, and that of course is what I’m looking at” (I-3, p. 3). By the end of the first drafting stage, Paul commented that he was also “delving deeply into additional scholarly articles on *Oedipus Rex*,” because he expected that he might be “scraping the sides of the jar” to get critical pieces on *Sandman* that pertained directly to his area of comparison (I-2, p. 15). In addition, in his junior English class Paul had written an essay on the elements of fate and free will in *Oedipus Rex*, which he was using as an idea source for the comparative analysis in his extended essay.

Paul reported that his method for using information from his secondary sources was to “just write down what I remember from the books” (I-3, p. 1), which created some problems with documentation, because he could not always remember where he had read the information that he wanted to include. As a result, Paul put asterisks by the uncertain parts so that he could go back later and find the exact source. When asked what he would do if he could not find a reference, he stated that he “would take it out, because otherwise it is plagiarism” (I-3, p. 1). In addition, a citation problem arose, as Paul started to “use things like actual pictures from the comic books as a way of quoting things, and I’m just scanning those in” (I-3, p. 2). He commented that he would have to explore documentation methods in order to include the visuals. When asked about contradictory views in the secondary sources, Paul explained that “there were no contradictions between *The Poetics* and *Oedipus Rex*, because *The Poetics* is straight from *Oedipus Rex*” (I-3, p. 3) but that he had found some “semi-contradictions” between Aristotle’s concept of the tragic hero and the hero concept in *Sandman*, which “fits into the same guidelines—just on a different level of things” (I-3, p. 3).

Another area of Paul’s research pertained to the history of the *Sandman* series, in which Gaiman created the “near-omnipotent” character of Sandman in the eighties when “DC Comics was trying to scale back on characters like Superman because they felt like they were too powerful” (I-2, p. 2). Paul also researched mythological references that equated Sandman with “Oneiros in Greek mythology, basically the god of dreams” (I-2, p. 2).

Composing Strategies

When engaging in literary analysis, Paul reported that he would typically “read over [the literary text] a few times to see what jumps out at me and then usually the best thing for me is writing a rough draft, because when you start writing, you start getting more and more ideas and start seeing more connections as you search for information” (I-2, p. 7). He commented that he normally does not have any problem with organization, because his “brain just naturally tends to organize fairly automatically” (I-2, p. 7). He added that his “memory works very much by linking things” to the point that when he is dealing with a particular topic in his paper, “the thoughts on that topic will come back to mind” (I-2, p. 9). He gave an example of how he used his ability to link as he studied science: “Last year in chemistry, [the teacher] always played the same audio CD before a test, so I started playing that when I studied, because on this note, I would remember the second law of thermodynamics, for example” (I-2, p. 9).

Paul reported that his primary planning strategy for composing for all literary analysis papers tended to be his thinking time. With *Sandman* and *Oedipus*, he commented that he “liked choosing the comic book because that is something that I am, just when I am sitting down to relax, I’m just pulling one of those, and I’m reading it, or *Oedipus Rex*, now that I’ve started getting into it, I’m reading it over and over” (I-2, p. 8). Since the topic was so engaging to him, Paul did not experience any difficulty setting aside time to work on the research and composing for the extended essay: “The topic is very, very interesting to me, and so I do think it is something unusual. I want to do a good job with it, so I’m putting a lot into it” (I-2, p. 10). Paul also expressed awareness of the fact that a comic book series might not be “as likely to be respected” in literary circles, so

he felt an additional obligation to “make sure the material is understandable within the essay” (I-2, p. 11). As a result, he stated that he was “trying to strike a balance between just explaining the material and actually analyzing it in the context of the thesis” (I-2, p. 11).

Concerning formal outlining, he added that he writes outlines “sometimes, but I’ve never really been able to do very well with those. I start out with the outline and work off it for a little while and then kind of forget I had it in the first place” (I-2, p. 7).

In addition, Paul frequently composes the introduction last:

I think the purpose of the introduction is only for the person reading, not the person writing. And so that might be a bit of help organizing your thoughts to start out at most, but otherwise I think the entire process of even coming to the conclusion has to be writing the paper. So, I think you can’t write the introduction until you’ve come to your conclusion. When I took the SAT writing test, I really just left most of my introduction blank and then did the exploratory process and went to the end. When I decided what I had concluded, I wrote the conclusion and then wrote the introduction. (I-4, p. 5)

As Paul approached his second draft, he explained that he “was in a bit of panic for the deadline” (I-2, p. 13). As a result, the second draft consisted of “a lot of insertions” (I-2, p. 7):

A major part of the second draft was trying to get another 800 words, and so partially it was just that these are the new ideas I’ve had since writing my first draft, and I’m going to insert those in where they are necessary. And partially it was, I need 800 words, so I am going to add to the introduction, I am going to add to these paragraphs, and so on. (I-2, p. 13)

He stated that most of the insertions concerned information about “the visible figures of fate in *Oedipus Rex*, such as the oracle and Tiresius, and the visible figures of fate in *The Sandman*, such as destiny and the three fates” (I-2, p. 14). He further explained that he included these “visible figures of fate” or “agents of destiny,” as he also called them,

as part of the introduction to reinforce the “similarities between [the two works] as Greek tragedies, because I wanted to get out of the way the fact that they are both Greek tragedies and that they have these elements so that I could analyze more of how those elements are used from that point on” (I-2, p. 14). Throughout the interviews, Paul kept emphasizing that he did not want explanatory elements to overshadow the critical analysis portion of his essay, so he remained quite conscious of placement and organization as key parts of his composing process:

I thought it would be really difficult to do, to establish both of them as Greek tragedies, and I thought that I would be kind of stretching definitions a lot. But I was amazed that there were a lot of congruities between the two of them—and that I could make the comparison very easily. And that was something that I felt like I could argue very strongly so that I would be able to focus on fate and freewill more closely. And the fate and freewill part is getting stronger. (I-3, p. 4)

When asked how his composing strategies differed on the extended essay compared to other literary analysis essays that he had written, Paul focused on content and organizational issues:

I really looked at dividing it differently—I really divided it into concepts and did subtitles and several paragraphs that worked in each subsection. Normally I have a very organic division to my essays, and all of it is much connected, and normally when I’m writing an essay for lit class, I’m thinking on it a little bit when I get the assignment and then I just don’t think about it until I go home and type it all, and I’m actually thinking up my ideas as I type. But in this case, because it wasn’t just a type-it-once-and-you’re-done-with-it paper, because of dealing with the amount of different ideas, the ideas kept fermenting and kept developing to a point that each time I came back to it, I had more ideas already prepared, because they were already set down in my mind, and so they had time just to bubble in the back of my mind. (I-4, p. 2)

Revision Strategies

Paul reported that he did not focus at all on major revision during the first rough draft, since he viewed the first writing as a format for getting his ideas down on paper and

as an opportunity to explore connections, “without external sources” (I-2, p. 12). By the second draft, revisions consisted of sections that he inserted on the “agents of destiny” (I-2, p. 14) that were designed to be included in the introductory part of his paper in order to establish parallels between the two works. As Paul approached the third draft, he worked on supporting his observations with information and quotations from the secondary sources, especially Aristotle’s *Poetics*, and “beefing up the conclusion, because right now I just have one little paragraph there” (I-3, p. 1). Paul used a computer program that enabled him to create a holding file for his ideas: “You can store your concepts there, and it’s like having an outline that you can mess around with a lot” (I-3, p. 9). As part of his revision process, Paul also used the published IB guidelines for extended essays (International Baccalaureate, 1998) as “a checklist to make sure that it is very strongly put together and ironing out the organization and all that” (I-3, p. 2). Maintaining his almost constant focus on content to the end, Paul stated that he concentrated his revision efforts on “trying to keep the themes in line and still keep the essay accessible and understandable with that information” (I-3, p. 8).

Paul commented that one of his main challenges towards the end of the paper was making sure that his writing was clear, even to readers who might be “totally unfamiliar with the subject matter” (I-3, p. 8). At that point, Paul also focused on “looking at what parts I can compact and what parts I should look at differently” (I-3, p. 9), as he faced getting all of his ideas into the prescribed 4,000-word limit:

Right now I am wondering how to address the uncertainty, how the uncertainty affects the characters. It’s difficult to address uncertainty and address the different ways of looking at things in under 4, 000 words. I’m also trying to figure out how to still build a stronger conclusion and put in a few more of my sources—and build the idea of uncertainty—and stay under 4,000 words. (I-3, p. 9)

By the final draft, Paul was able to reflect on the revision process and recall how the paper had ultimately taken shape:

The first two or three sections were really what my original, what my first draft was, and I came back to those. I added a few little things, and I ironed out a few areas, but I didn't really feel like there was anything more that could be done there without feeling like adding anything would just be extra, and so I started working much more on the later sections. I expanded one thing that was just two lines to about four paragraphs. As I thought about it, it got much longer, because I could see a lot more sense in it, and I started coming up with more examples and more things to work with. (I-4, p. 3-4)

Paul also explained that sometimes he would see contradictions in his own writing, which then caused him “to have to step back and rewrite, just like change a few sentences here and there, because my point of view had totally changed” (I-4, p. 5). In addition, since Paul reread the paper every time he worked on it, he routinely edited at the word level whenever he saw something that “didn't fit or felt a bit awkward” (I-4, p. 9).

Mentor Involvement

Paul's mentor involvement took a completely different shape than that of the other study participants, since he met with his assigned mentor only once, at which time he briefly outlined his initial thoughts on his topic. However, Paul did turn to “some outside people who are familiar with the medium” (I-2, p. 6):

I'm having some difficulty with how to approach my topic, but I went to the Governor's Honors Program (GHP) two years ago. I was a communicative arts minor, and one of my GHP teachers was very into comic books, and the other one actually did his master's thesis on Batman comics, so I've been emailing them a lot. (I-2, p. 6)

Paul added that the “long log of emails and messages between me and my GHP teachers” also functioned somewhat as a research journal for him (I-2, p. 13). He commented that “talking about the topic [via email] and talking about ideas helps me expand on them just

as much as writing does” and that the email exchanges enabled him to come up with a “schematic” to organize his ideas (I-2, p. 13).

Paul also added that after he started writing, he frequently asked his mother, whom he described as “very well read,” to read his paper to be sure that “she could make sense of it and make sure that she found the concepts well-grounded” (I-2, p. 11). In addition, as he approached the final draft, Paul had “people who are totally unfamiliar with the subject matter read over the paper to see if they understood it. I asked them, ‘Do you get this, do I need to make this more clear, or what parts need work?’” (I-3, p. 8). Throughout the extended essay process, it was important for Paul to know that he was communicating his thoughts and ideas accurately through his writing.

Shauna: Concentrating on Ideas and Word Meaning

Topic Selection

As Shauna reflected back over the extended essay process in the final interview, she stressed the importance of student choice in topic selection, stating that it affected her attitude towards the length of the paper, which did not seem as long at the end of the process as it appeared at the beginning:

With an extended essay, you get to pick something that is whatever you want. You’re going to write about something that you like, something that you are interested in. So, it’s not going to seem as hard to write about it as when you have to write a paper about who knows what in some class that you don’t really enjoy. (I-4, p. 3)

In the first interview, Shauna stated that she was drawn to Adrienne Rich’s poetry, as a result of her exposure to “Storm Warnings” during her interviews for the Governor’s Honors Program (I-1, p. 5). However, she also explained that after going online and doing some initial exploration, she was hesitant to continue with Rich, because she “did

not really want to write about feminism” (I-1, p. 5). Her concerns, as well as her ultimate decision to explore beyond the primary focus of the critics, were related to an earlier research experience her freshman year. After reading Willa Cather’s *My Antonia*, Shauna read some of the criticism “about how Willa Cather’s homosexuality pervades the entire novel” (I-1, p. 7) that conflicted with her own perceptions of the novel:

Maybe that was really biased opinion on my part, but I really didn’t see that at all as part of the novel, because the major themes are like self-discovery and change and growing old and memories and reminiscences and other things, and I just didn’t see how that tied in at all really with the work. (I-1, p. 7)

Although she did not feel drawn to the direction of much of the published criticism that she first encountered on Rich’s poetry, Shauna remained captivated by another voice that she heard in the poems, stating that “there were some poems that I really did not want to discuss, but there were others that I really liked” (I-1, p. 5). Consequently, after some deliberation over the summer, Shauna’s fascination with the depth that she saw in Rich’s poetry won out over her concerns about published views that focused on feminism:

Rich’s poetry is really complex to me. It’s not a genre that I’ve dealt with a lot, but it’s something that I really enjoy, and I love reading it, but it’s really not something that I’ve had a lot of practice in analyzing. But it wasn’t hard to pick out the references, you know the things that I wanted to mention as I was going through the poem. (I-2, p. 2)

Shauna described her purpose as wanting “to look at something different, something that I think is important and all encompassing” (I-4, p. 3). She further defined her concept of important as “something that affects everyone. . . . like the power of language, the importance of words, . . . and the discerning of truth, all of those are applicable to everyone” (I-4, p. 3). She stated that her “goal wasn’t to change anyone’s perception, but

maybe just *for me* to look at it in a different way; that was kind of my goal from the beginning” (I-4, p. 3).

When Shauna moved towards narrowing her topic, she selected specific poems on the basis of her personal response, as well as on commonalities that she observed in the poetry:

I am reading enough of the poems so that I can pick a few and then be able to find at least some common themes or things that I can connect between them, because I really don’t want to have just three or four random poems. . . . I think it is just a matter of sifting through so that I can find which ones have those elements in them that I want to write about. (I-1, p. 6)

She also explained that she felt comfortable selecting information from critics without having to agree with everything they said, which in turn influenced her decision to stay with her original topic:

If I read something I don’t really agree with, I just find something else. It is not necessarily that it is a wrong idea about the literature, because I think that all literature is open to personal interpretation, so it is not that it is necessarily wrong, but if I don’t agree with it, I am going to have trouble defending it in an essay or something that I am going to write. (I-1, p. 7)

Shauna’s final decisions about specific poems for her essay emerged later as a result of her research exploration involving both the poems and the commentaries.

Ultimately her strong interest in language led her to focus on “Cartographies of Silence” because it permitted her to explore the complexity of word meaning within the poem.

Research Approach to Primary and Secondary Source Texts

Although Shauna conducted a brief exploration online that coincided with her initial interest in Adrienne Rich, Shauna’s serious research clearly began with detailed analysis of primary source texts. At the time of the first interview, Shauna stated that she had not “really done any looking for sources yet” because initially she was more focused

on reading the poems (I-1, p. 6) and looking for connections that emerged from her own exploration. Her first approach involved identifying related topics in the poems:

I underlined the things that I thought were important, you know, this relates to my topic, this relates to my topic, making the notes inside. But I think it was more difficult to find something cohesive for all the different references, because word, language, silence, music, conversation, poetry, they're all the same, they're all language, but it's just being able to tie all those different mediums together to make one point. You don't just want to write a paper where you say, oh look at this metaphor, oh look at this simile, I mean it has to have a real overall purpose. (I-2, p. 2)

She also explained that, in addition to making notes in her book, she recorded ideas on separate sheets of paper, if she thought of something when the book was not available.

Shauna's next step with the primary texts was to categorize her initial markings as a way of organizing her information in order to identify significant areas for discussion, as well as indicate direction for exploration of secondary source material.

As she moved to investigating secondary sources, Shauna stated numerous times that she sought material that substantiated or expanded her own conceptual stance: "I personally analyzed all of my poems first. I did my underlining, wrote my notes in the margins, wrote what I wanted to say about them first. Usually I try to find criticism that matches the message that I want to say" (I-2, p. 8). At the library, she leaned most heavily on *Contemporary Literary Criticism (CLC)* volumes, which she found to be quite helpful because of the accessible arrangement and organization. She used the index to identify "all the different volumes that had Adrienne Rich in them" and then skimmed for the works that she had already analyzed (I-2, p. 8). She then read the *CLC* passage that referenced the poem and copied the page, if the commentary pertained to her area of interest, even if there was "only one small blurb about what I wanted, as long as the sentence that one person said would work" (I-2, p. 8).

Even at that point, Shauna tended to hold the secondary sources in reserve, not including any until late in the second draft:

I picked out what I wanted to use and typed them up in a Word document and held them for awhile. But a lot of the interpretations that I used were very general, about Adrienne Rich in general, and there may have only been a small paragraph about the poem that I was researching. (I-3, p. 6)

When asked about conflicting views in the secondary sources, Shauna stated that “there wasn’t much contradiction with the pieces that I found” (3, p. 6) and that most of the critics supported her point of view, even though she did find some of the critics who held diverse views :

Some of the critics dealt with power in a different way. I was looking for critics who were saying something about words’ ability to change meaning. A lot of them were talking about power, about how Adrienne Rich’s words were used in her more personal way, like how they dealt with her specifically, that her word choice and the influence of her words conveyed the type of woman she was and the strength of the female. . . . I was forced to adapt, but most of the time, I could find something that I wouldn’t be forced to change or adapt. (I-3, p. 6)

After adding that there were very few comments among the critics specifically about “Cartographies of Silence,” Shauna also observed that “whether you like to believe it [the particular critical view] or not, sometimes reading something that a critic says will influence your interpretation of something” and that “it was kind of interesting writing about something that no one else had ever written much about” (I-3, p. 6).

Composing Strategies

Shauna was quite comfortable throughout the research project with her composing strategies. She indicated that she followed the same strategies on the extended essay that she had followed on previous literary analysis papers, even though the length requirement and independent nature of this assignment increased the challenge. She explained that she

typically starts with a “general outline—not a detailed outline . . . in my head” (I-2, p. 1). After highlighting pertinent quotes and references in the work, she then starts composing on the computer using her quotes to jump directly into the body of the paper, omitting the introduction:

I don’t start with introductions. . . . I just start with the first quote I have on the list or whichever one I feel like I have a good enough idea about so that I can start writing. So, I’ll start writing and then I might move onto the next quote and then the next one, and usually they are not exactly coherent. Sometimes I end up cutting and pasting, moving them around so it’s more fluid, but usually once I am on a little bit of a roll, I kind of just keep going. (I-2, p. 1)

However, she indicated that she normally has “trouble with that first sentence, just of any paragraph, it doesn’t matter. Once you make it sound right, then after that the rest becomes easier’ (I-2, p. 1). She explained that her difficulty crafting the first sentence also related to her difficulty with introductions, simply because both precede the insight that unfolds during the writing process:

As I write I’ll usually think of more ideas or it all connects more, and then I feel like, after I’ve written the paper, I have a better idea of what the paper is actually about. Because it is not always exactly about what I thought it was going to be about going into it; sometimes, it tweaks just a little bit or I may come out with a totally different conclusion than I had thought—still using the same points, and the same ideas that I had, but then at the end, when I write my conclusion, I realize it may have to be more far reaching or have a higher level of implications more so than I had thought in the beginning. . . . And sometimes the elaboration is just like I didn’t really think of that before. (I-2, p. 2)

Shauna also indicated that the organizational pattern might change in the process of writing. In “Cartographies of Silence,” she started out “categorize[ing] by the medium, the type of language,” but towards the second part felt a need to shift to a more “chronological order” (I-2, p. 3):

Even as Rich as a poet develops, I think she herself realizes things as she is writing the poem. Therefore, it kind of made sense to me to try to go with that as I was writing the paper, . . . because I mean, music is referenced in the second or third stanza of the poem and then again in the eighth or ninth or tenth or somewhere toward the end, but it's not exactly, it doesn't play the same role, it doesn't serve the same purpose toward the end of the poem that it does in the beginning. I felt like putting them all into categories like that wouldn't exactly make the paper flow very well. (I-2, p. 3)

As part of the recursive nature of her writing process, Shauna stated that at times she was "kind of confusing myself" with the complexity of the thinking that she was exploring, as well as with the shifting of meaning throughout the poem (I-2, p. 4). As a result, she explained that she would often "have to stop and think about it some more before I could write another sentence" (I-2, p. 4). She also emphasized her reliance on rereading to determine if "I'm repeating myself, or am I actually saying something that's different" (I-2, p. 5). This fascination with words and their conveyed or shadowed meaning seemed to challenge Shauna to focus on relationships between ideas, as well as on precise wording, as she crafted her essay.

Revision Strategies

Shauna's revision strategies were an integral part of her content approach to composing throughout the extended essay process. She conceived of revision mainly in terms of large content changes that are made as one moves through the writing process. She commented several times that she did not do any actual editing until the final stages of the paper. From the first to the second draft, the only changes that were made were additions, plus alterations in the order to reflect a topic shift from the categories that she introduced from the first part of the poem to the chronological order dictated by the natural thematic progression of the poem as it moved to its conclusion. Her focus

remained on developing the idea structure of her paper before going back and doing any kind of editing. She commented that revision occurred simultaneously with composing, as “usually I’ll re-read a paragraph and go back to previous paragraphs” with a focus on “major issues,” but that “I do not do that much editing until the end” (I-2, p. 7), which she defined largely in terms of mechanical changes:

Usually when I am editing, I’m editing for word choice, grammar issues, maybe, missed commas here or there, but a lot of times I’ll read the paragraph and I’ll say that it doesn’t sound right. Because as a writer, I am very concerned with the way things sound. I read things out loud to myself a lot. . . . I really like the aesthetics of writing. (I-2, p. 7)

Concentrating on the flow of words and ideas also seemed to propel her through the writing and prevented her from getting bogged down in particulars when writing became difficult: “If I struggle for more than five or so minutes on one sentence, I might just leave it or start over, start the sentence in a completely different way. . . . If not, I’ll just move on and go back to it later” (I-2, p. 7). At one point, Shauna expressed concern about a part of the paper that seemed too lengthy and therefore in need of revision simply because she thought that the point might get lost if the section remained “long and drawn out” (I-3, p. 4). Throughout Shauna’s discussions of her writing and revising strategies, revision emerged as a broad, ongoing concept that was part of composing, with a focus on content development and precise word choice to convey meaning.

Mentor Involvement

Shauna seemed to value her mentor’s advice and appreciate her availability without being dependent on her for direction on her paper. She mentioned her assigned mentor at various stages throughout the interview process. At one point she told about seeking assistance when she was starting to craft the introduction. Shauna followed her

mentor's advice to include a few examples from other poems as a lead in. Shauna also mentioned that she had exchanged emails with her mentor, particularly over the summer, but that they had met for a physical conference only once for about twenty minutes:

She said that she could talk to me a lot more once it was done. She didn't say she didn't want to read it, just that she would enjoy reading the whole thing as one unit, once I made sure I had organized it the way I felt it flowed right. I think she just likes for you to do the complete thing. She told me that she wasn't worried about my organization or whether or not I would finish or whether or not I would have enough to say. She said she took those things as a given and that I would be able to do that. Then she could read through it and kind of deal with my new changes. (I-3, p. 5)

Shauna also talked to some of her peers over the summer about "Diving into the Wreck," one of the Rich poems that she was considering at the time. They pointed out that the diver attempts to examine a shipwreck with inadequate tools only to resurface and have to deal with the real world in much the same way. Shauna subsequently took the concept of inadequacy and applied it to "Cartographies of Silence," which was the primary focus of her essay.

CHAPTER 6

FINAL PRODUCTS

This chapter examines students' completed extended essays as part of the third research question: *How do students' epistemological views relate to the final research product?* The primary data sources used to examine how students' knowledge views were reflected in their final products were the students' final extended essays (EE). However, student comments from all four sets of interviews were also explored in order to illuminate some of the perceptions and rationales that emerged during development of the final products. Preliminary drafts collected during the study were also used to provide insight into students' strategies and choices at different stages of the composing process and give further evidence of student choices leading up to the completed essays. For this study, each final essay was evaluated in three ways using different assessment tools. First, essays were evaluated according to standards associated with the four primary domains typically used to assess the quality and effectiveness of student compositions: content and ideas, organization, style, and conventions. The domain descriptors that accompany the rubric scoring guide for the Georgia High School Writing Test (Georgia Department of Education, 2005) were used as the primary assessment tool for the four writing domains (see Appendix F). Two additional evaluation instruments provided more extensive assessment information specifically designed for literary essays: a three-part structural analysis adapted by the researcher to reveal primary rhetorical relationships

within the structure of the essay (see Appendix E); and a holistic scoring guide with level descriptors also adapted by the researcher to assess the overall strength of literary analysis in a research essay (see Appendix G). The synthesis part of the third research question pertaining to the relationship between students' epistemological views and their final research products is explored in Chapter Seven, which reviews each student's knowledge views as discussed in Chapter Four and relates those views to the individual research and composing processes presented in Chapter Five plus the final essays examined in this chapter.

Bridget's Analysis of "Ode on a Grecian Urn"

Is humanity belittling the urn, explaining that its beauty, held captive within time's structure and confinement, is capable of understanding only a piece of the world, or are mortals rather prizing its seemingly eternal visions of loveliness as the whole of mortal knowledge?(EE, p. 6)

Content and Ideas

The content of Bridget's analysis of "Ode on a Grecian Urn" and related poems remains exceptionally strong throughout her extended essay. She demonstrates consistent command of high level literary analysis, as she stays fully focused on her topic and moves through "Ode" stanza by stanza examining examples of imagery, structure, and paradox that support the theme of mortality versus eternal beauty. She identifies her purpose in a precisely stated thesis statement in both the introductory paragraph and abstract: "John Keats advances the Romantic Period by artfully intertwining imagery, creative structure, and paradox in his 'Ode on a Grecian Urn' to explain the poem's theme of mortality versus eternal beauty" (EE, p. 1). Bridget then systematically addresses the key literary features that relate to her theme with strong support from the poem and selected support from secondary sources. She also pays unusual attention to

both the details of the poem and the poetic movement through the stanzas, as she takes care to introduce each new idea by placing it in context and by pointing out its significance relative to her topic. For example, the first body paragraph sets the analytic tone of the essay:

In his initial introduction of the urn, Keats emphasizes its languishing solitude and silence: “Thou still unravish’d bride of quietness,/Thou foster-child of silence and slow time.” He mixes auditory and visual imagery here to describe a peaceful, unshaken remnant from years past. Furthermore, Keats seems to admire that stillness—the urn seems encased in an eternal and blessed state of grace and dignity. By its very connotation, an “unravish’d bride” (Keats 1) suggests purity and expectancy; by characterizing the urn as a bride, Keats seems to suggest its promising and bright future waiting at the cusp of eternity. (EE, p. 1)

Bridget then follows the natural shifts in the poem, first from “praise of the urn’s dignified stillness” to the “spirited, celebrated chase” and then from the picture of the “frolicking figures” to questioning “the value of their immortality,” as they remain “frozen on the urn’s surface for all eternity” (EE, p. 2). For the additional stanzas of the poem, Bridget notes Keats’s brief return to continued praise of eternal beauty followed by his transition to the paradox of the lovers’ happiness and finally to the “sense of loneliness and solitude” that “overshadows the poem as bittersweet and shallow beauty seem to become the unfortunate theme of the urn’s painted figures’ lives” (EE, p. 5). Bridget then concludes the primary analysis of the “Ode” by examining how the structure of the poem parallels the move from freedom to “confinement” depicted by Keats’s descriptions of the figures and the urn itself (EE, p. 6).

In the second section of the essay, Bridget provides literary context for the “Ode” by relating its theme of mortality versus eternity to a similar theme found in Keats’s shorter poem, “When I Have Fears,” which she also analyzes in-depth by again following

the poem's natural thought progression. As Bridget compares and contrasts the views of mortality and eternity in the two poems, she concludes that they represent "a transition between two ways of thinking, . . . from lamenting death to accepting the unimportance of the fame and love it destroys" (EE, p. 8).

In the final section of the essay, Bridget further grounds Keats's poetic contribution within both the romantic and metaphysical traditions by comparing "Ode" to George Herbert's "Church Monuments," which provides a parallel look at the theme of mortality versus eternity from the perspective of the metaphysical tradition, as the marble tombs and effigies function as "a sort of continuous holding place" for the "dusty" remains that they contain (EE, p. 10):

Although they are church monuments, these edifices do relate nicely to the sense of tradition, memory, and honor associated with the artistic and cultural implications of Grecian urns; furthermore, a focus on monuments furthers the poem's theme of mortality. (EE, p. 10)

Although Bridget's main analysis focuses on the primary works, she also references key phrases and sentences from a representative number of secondary sources that substantially support her points or add perspectives to her commentary. As she indicated in the interviews, she remained sensitive to the necessity of searching for quality sources, especially when accessing sources from the Internet. This awareness of quality is reflected in Bridget's selection of academic articles accessed through university online libraries, as well as well-known analytical pieces such as Cleanth Brooks' *The Well-Wrought Urn: Studies in the Structure of Poetry* and Joseph Summers' "The Poem as Hieroglyph" (see Appendix H). For example, after her statement comparing the urn to church monuments, Bridget includes a direct quote from the Summers' article to

reinforce her own observations: “the monuments are an ironic commentary on mortality; their states and messages mock at their composition” (Summers, 259; see Appendix H).

Finally, Bridget not only brings a strong sense of closure to the essay as a whole, but she also fully develops each paragraph so that she is able to conclude separate points within the paper, as well. For example, Bridget ends the primary discussion of “Ode” with a summary statement referencing the final paradox of the poem and the questions it raises:

Here, with these two enigmatic lines, Keats raises the final and essential paradox of the poem—Is humanity belittling the urn, explaining that its beauty, held captive within time’s structure and confinement, is capable of understanding only a piece of the world, or are mortals rather prizing its seemingly eternal visions of loveliness as the whole of mortal knowledge? (EE, p. 6)

As part of the concluding paragraphs of the paper as a whole, Bridget also notes the points of comparison between Keats and Herbert that effectively extend her analysis:

Thus, while Herbert, a metaphysical poet, and Keats, a romantic poet, differ in both time period and poetic categorization, relevant comparisons between the poets’ styles and purposes can be made; an analysis of the themes and literary features in “Church Monuments” can only bolster a greater appreciation of Keats’s masterful and classic poetic approach. (EE, p. 12)

Although Bridget commented in the interviews that she simply “added” this section at the end (I-3, p. 1), by the final essay she effectively blended the analysis of “Church Monuments” with the primary analysis of the “Ode” by relating both to their common theme.

Organization

Bridget’s organizing strategies match the strength of her idea structure throughout her extended essay. After a clear introduction that situates Keats’s “Ode on a Grecian

Urn” well within the romantic period of British literature with its concern for “fading beauty” and “search for spiritual enlightenment” (EE, p. 1), Bridget moves to a three-part structure that frames the subsequent analysis, beginning with the detailed explication of “Ode on a Grecian Urn,” followed by the additional analysis of Keats’s companion poem, “When I Have Fears,” and concluding with the examination of George Herbert’s poem, “Church Monuments.” The detailed analysis of the target poem not only serves to establish the depth of its thought sequence but also prepares for comparison with the second Keats poem and the metaphysical poem that concludes the paper.

In addition, within each section and paragraph of the paper, Bridget is careful to follow a logical sequence of ideas with effective and varied transitions that continually link the elements of the analysis. Her paragraphs begin with phrases, such as “However, as the stanza progresses,” “As the poem moves to the second stanza,” “In contrast to the first two stanzas,” and “By the fourth stanza” (EE, pp. 2-4). The fact that no two paragraphs begin with exactly the same phrasing imparts a freshness to the wording that engages reader interest in the unfolding analysis.

When the paper is subjected to a formal structural analysis, it emerges with strengths in all three areas, including rhetorical structure, commentary, and concrete detail. Bridget’s rhetorical structure (approximately 14%) is especially strong, since, as noted in her varied phrasing, she remains conscious of linking ideas in a logical sequence throughout the paper. In addition, Bridget consistently blends commentary (approximately 48%) and concrete detail (approximately 38%) within the same sentence to produce an ongoing narrative that analyzes and supports at the same time, to the point that it is often difficult to separate and label the parts, a definite sign of a mature writing

style. For example, the following statement begins with “however” (as transition or rhetorical structure) and moves to a focus on paradox (commentary), as it imbeds direct word references to the poem (supporting detail): “However, Keats also introduces a paradox with these lines, because regardless of how “sweet” his “unheard” melodies are, music itself is defined by detectable sound” (EE, p. 2). Bridget follows this type of fusion throughout the paper, which creates a web of analysis that challenges the reader’s thoughts as it invites, almost demands, a parallel close reading of the text.

Style and Conventions

Bridget maintains a serious analytic approach to literary analysis throughout the extended essay. Her evaluations of the poems are carefully crafted with a constant focus on analysis and a sensitivity to precision and depth of word meaning, with engaging phrases such as “silent and enigmatic visions” (EE, abstract), “intertwining imagery” (EE, p. 1), “languishing solitude and silence” (EE, p. 1), “the urn’s frolicking figures” (EE, p. 2), and “as if the urn had undergone a cyclical journey” (p. 5). As Bridget not only maintains a constant focus on her topic but also moves in and out of the poems with her sensitive blend of commentary and detail and consistently uses the language of literary analysis, she imparts a strong sense of personal engagement and voice throughout the essay. Not only is the essay extremely well crafted, with full command of the complexity of language, but it also demonstrates careful attention to the elements of usage and mechanics, as well as formatting and documentation. Although the essay lacks strong personal voice because of its formality, it follows all of the guidelines for a high-level literary analysis essay. Based on the holistic scoring descriptors for literary essays (see Appendix G), Bridget’s essay demonstrates perceptive insight into the topic, clear

grasp of significant factors, close engagement with the text, persuasive substantiation for all points, clear and logical organization with effective use of transitions, and highly appropriate register, format, and language, all indicators of a top-scoring, A-level literary analysis essay.

In the last interview, as Bridget reflected on how her perceptions had changed as a result of writing the extended essay, she commented: “I think my process stayed relatively the same, but I think my perceptions of the poem changed because I added in more context. I got to really place it in more of a broad spectrum, because at first I was just analyzing this one poem by Keats” (I-4, p. 1). If Bridget had not been bound by the confines of the core essay for much of the composing time for the extended essay, it is likely that increased enthusiasm for the topic in its extended form would have infused her writing and added an even stronger sense of voice and cohesiveness to the final product.

Fred’s Analysis of *The Poisonwood Bible*

It is like Nathan is working off a template; he can’t improvise at all.
(I-3, p. 3)

Content and Ideas

The framework that Fred provides for analysis of *The Poisonwood Bible* emerges with considerably more strength in the final paper than was evidenced in the preliminary drafts. Ultimately, as the interviews indicated, Fred did show some response to mentor suggestions to focus more on analysis over plot summary, as he seemed inspired by the one critical source that he used. In the abstract, Fred includes a direct and precise version of the research focus, “the idea that Nathan’s overbearing and relentless oppression of his family as well as the natives brings about his own demise as well as the downfall of the Price family” (EE, abstract). Although his thesis statement in the essay is less precise,

Fred does move into evaluation of the destructive effects of Nathan's negative attitudes toward the African natives and his own family members, which result in Nathan's public failure to function positively as a true missionary in the African community, as well as his private failure to provide emotional support for his family. Fred also includes effective examples of Nathan's deficiencies, including the failure of the garden that Nathan planted (EE, p. 3) and Nathan's persistent "misuse of the word *bangala*" (EE, p. 4). As Fred continues to examine Nathan's character, he focuses on the "unchanging and overbearing personality" and "confrontational and judgmental" attitudes that lead him to criticize the natives' nakedness when they prepare a feast to welcome the new missionary (I-3, p. 1). He observes that Nathan views his family as "baggage" and that "he is not getting the ideas out of his religion that he should" (I-3, p. 3). Even though Nathan "went there with good intentions," Fred sees his "stubbornness" and "closed minded" attitudes as comparable to "working off a template" for how he envisions the role of a missionary (I-3, p. 3). Though not sufficiently developed, these details do provide appropriate substantiation for the main point of the essay.

As Fred shifts his focus to Ruth May's death as the turning point of the novel, he promises to explore the changed family attitudes that result in the ultimate dissolution and demise of the family unit and Nathan's lonely death. However, Fred does not sustain the critical approach that he initiated in the first section of the essay but instead lapses into plot summary at the end without any textual or secondary support after the shift.

Organization

In the first part of the essay, Fred gives evidence of a definite organizational pattern, as he moves logically from a thematic overview to Nathan Price's negative

attitudes. Fred follows up by addressing key causes of Nathan's failure, including his inferiority, cultural blindness, and inability to communicate, which ultimately lead to the family's final abandonment of both Nathan and his mission. However, even though Fred's organizational structure provides a sufficient framework for an in-depth analysis of his subject, the interior development does not always demonstrate smooth progression of ideas or full development of the individual points of argument. For example, Fred's topic sentences become more general and less focused towards the end of paper, as in "Ruth May's death broke the Price family apart in many different ways" (EE, p. 5). Although referring to the event that marks the climax of the story, the statement fails to provide clear direction for analysis or relate the death to Nathan, who is the primary subject of the paper. Without thematic focus, the paragraph that follows becomes plot summary, as it simply recounts the numerous events that take place after Ruth May's death.

Detailed structural analysis of Fred's essay reveals the hidden organizational weaknesses that surface in the lack of development and insufficient length of the paper. For example, the opening statement, "Family has been traditionally used in literature to represent an unchanging constant" (EE, p. 1), functions rhetorically to establish the concept of the family unit as a symbol of solidity in order to contrast the breakdown of that order that follows. However, Fred moves rather slowly towards naming Nathan as the cause of the breakdown, delaying introduction of the main point of the essay until the second paragraph: "The initial cause of the Price family's destruction is directly traceable to the actions of Nathan Price" (EE, p. 1). Presented only as commentary without transition and supporting detail, the thesis statement introduces Nathan's key role but

omits reference to the complex connections and relationships that cause the destruction. This pattern of simple commentary continues throughout the essay, as Fred includes only a limited number of rhetorical phrases (approximately 6%) that serve opening, transitional, or concluding functions throughout the paper. Additional examples from topic sentences include “His cultural blindness shields him from understanding the people he is supposed to convert” (EE, p. 3) and “The garden serves as the ultimate symbol for Nathan’s failure” (EE, p. 3), both of which prepare for analytical development but lack transitional phrases that link ideas.

In addition, throughout the essay, the amount of concrete detail (approximately 31%) remains significantly below the amount of commentary (approximately 63%), indicating a deficiency in support for both the major and minor points of the essay. Towards the end of the essay, with the plot summary, both commentary and concrete detail diminish even further to the degree that thought units cannot be categorized as part of the structural analysis because they do not function within either category. For example, the factual statement, “Remaining behind to continue his work as a missionary, Nathan lives in an alone and rejected state” (EE, p. 7), stands alone as a simple statement of fact that does not invite analytical follow-up. Likewise, the concluding sentence of the essay, “Ultimately the destruction of the family unit causes each member of the Price family to go their own separate ways” (EE, p. 8), makes a statement about what happens but fails to support or bring effective closure to the main point of the essay, which is that Nathan Price’s character has caused the demise of the family and the failure of his missionary effort.

Style and Conventions

As Fred adopts an analytical approach to his subject for the first part of the essay, his word choice can be precise and interesting, such as “The Prices are plunged into a new environment where their ideals are not the norm” (EE, p. 1). However, with the lapse into plot summary at the end of the paper, personal voice fades, and the effectiveness of the early analysis is lost. As the tone also becomes declarative rather than analytical, the reader is left with simple statements instead of an invitation to explore reasons for Nathan’s failure in the novel. This demise of personal voice, combined with the near absence of supporting details and a rather methodical and basic organizational structure, leaves the essay sounding empty and weak at the end. Fortunately, the superficial coverage of the second part of the essay is somewhat redeemed by the analytical approach of the first part, which does provide basic insight into Nathan’s role in the dissolution of the family structure. As a result of the initial analysis, the essay does demonstrate some awareness of relevant significant factors, some substantiation for major points, and some evidence of closure, as well as acceptable but not distinguished word choice and mechanics, even though the initial analytical focus is not sustained and the development is weak, resulting in insufficient length. Overall, the essay ranks in the low C to D category, though it has the potential to be much stronger.

Megan’s Analysis of *Death of a Salesman* and *No Exit*

Ironically, the death that Willy takes as salvation is the torture that Garcin desperately wants to escape from. (EE, p. 8)

Content and Ideas

Starting with the broad concept of deception and reality, Megan’s topic eventually took specific shape in the title as “Self-imposed Barriers Seen in *Death of a Salesman*

and *No Exit*.” In both the abstract and the essay introduction, Megan defined her research approach as an evaluation of “the method of self-deception, as well as each character’s reactions to his environment” based on “each character’s final actions and overall how each dealt with the opposition he faced” (EE, abstract). However, in the actual essay, Megan’s original concept of deception and reality seems to be the controlling idea that generates her approach to analysis in the main part of the essay. As Megan begins to develop her argument based on the broad topic, her content remains strong, with consistent attention to the components of her implied thesis and a thorough knowledge and understanding of the main characters, Willy Loman and Garcin.

Initially, she maintains a consistent pattern of comparative analysis, as she moves back and forth between the two works and the two main characters, touching on key points of similarity and difference. Her analysis includes numerous insightful observations with careful attention to substantiation, mainly from the primary texts but with selected support from secondary sources. Megan also makes a conscious effort to build comparison into each point of her commentary, as she focuses on similarities and differences between the two characters:

What is definite is that Willy is dead because of his choices and his struggle is over, without any self-realization. In *No Exit*, the ending is different than that of *Death of a Salesman* because the ending is indefinite, playing into the philosophy of existentialism, where each man makes the decisions that decide his life but in the end are still subject to an absurd universe. . . . Ironically, the death that Willy takes as salvation is the torture that Garcin desperately wants to escape from. (EE, p. 8)

These observations become particularly strong at various points in the paper. For example, as Megan defines Garcin’s moment of self-realization, she writes:

Garcin finally is able to admit the situation to himself at the end in a cathartic, yet almost sadistic moment where all three prisoners howl with

laughter, but yet Garcin is not saved and forgiven after this realization like a traditional tragedy; he remains trapped in the room, to sort out his fate for himself, a fate that no one else can guess. (EE, p. 7)

However, Megan appears to have had difficulty maintaining her initial analytical focus as she approaches the conclusion of the paper. Just prior to the concluding paragraph, she devotes separate sections to newly-introduced ideas of crime and punishment, structural differences, and the role of the tragic hero. Although these topics relate peripherally to Megan's concept of her broad topic, they do not relate to the specific topic of self-imposed barriers in the title or the self-deception of the thesis statement. In addition, while Megan's knowledge and understanding of both works and their main characters remain exceptionally strong throughout most of her analysis, connections between the points of analysis do not consistently appear, making it difficult at times to follow the framework of her analysis.

In the interviews, Megan stressed that she did not use secondary sources for guidance in developing her analysis. However, in the final paper, she strategically incorporates direct quotes from secondary sources that provide succinct and effective support for her own commentary, even though sources are limited to one for each work. For example, as Megan reflects on the relationship between Willy's disconnect with reality as evidenced in his inability to separate flashbacks from current events, she adds that "because he is morally incapacitated, he is socially incapacitated (Whitaker, n.p.; see Appendix H), which summarizes the particular point that Megan is trying to make. Although Megan's use of secondary sources is extremely selective, she maintains constant reference to details and quotations from the primary sources to establish the validity of her argument, as she suggested in the interviews, stating that "I definitely

incorporate the text into my works—in every paragraph (I-4, p. 3). However, Megan's reluctance to envision the essay as a whole, plus her apparent difficulty in knowing how to incorporate commentary from critical sources to create an effective blend with her own insights on the plays, contributed to the lack of development that characterized the final essay.

Organization

An organizational pattern is evident at the beginning of Megan's essay with a logical sequence of ideas that includes exploring the characters' perceptions of their past, the effect of the characters' actions on their families, and the characters' problem-solving techniques. In addition, in spite of the importance that she placed on transitions during the interviews, Megan is not consistent in providing them as she moves to new areas of analysis, which is evidenced in the low percentage (10%) of rhetorical comments relative to the large number of topic shifts that occur in the course of the paper. As a result, the centrality of the focus is largely lost, especially at the end of the paper, when the new areas of crime and punishment, the tragic hero, and structural differences are introduced.

Megan also demonstrates a clear sense of order in the internal structure of the first part of the paper, as she remains diligent in addressing both works on each subtopic of her analysis and as she effectively shifts back and forth between the works. Throughout this part of the essay, Megan includes a significant amount of commentary (approximately 48%), which she balances with an almost equal amount of supporting detail (approximately 42%). This balance reflects the consistent attention to analysis that Megan maintains within the more evaluative beginning of the paper. Many of her statements demonstrate her ability to fuse commentary and detail such that her

knowledge and understanding of the works and characters emerge as a natural part of the narrative, as in the comment that “Willy is willing to blame anyone or anything but himself for his unhappy life, including his son, his wife, Howard, his refrigerator, and his car” (EE, p. 2). The statement begins with commentary concerning Willy’s tendency to blame others for his unhappiness as it quickly moves to include reference to specific individuals and objects from the play that provide details showing the extent of Willy’s attempts to shift blame.

However, when logical sequencing lapses towards the end of the paper, especially with the addition of the three peripheral topics of crime and punishment, the tragic hero, and structural differences, even the internal organizational structure of the essay loses strength. At this point, Megan suffers from the limited vision that kept her from crafting an inclusive thesis that would have helped her maintain a thematic focus throughout the paper. Instead, as the paper nears the end, the supporting details and commentary become more random and less connected. For example, Willy Loman is depicted as the embodiment of a modern tragic hero, “the victim of capitalism, materialism, and the American Dream” (EE, p. 9) and the nature of hell is called into question in *No Exit*, but without any follow-up explanation or support. As a result, the conclusion that quickly follows lacks cohesiveness and impact, as it appears largely disconnected from the analytical focus of the initial part of the paper.

Megan begins the concluding paragraph with two strong statements:

In both Arthur Miller’s *Death of a Salesman* and in Jean-Paul Sartre’s *No Exit*, there are characters who appear to be trapped in their own minds, unable to discern between deception and reality. Since Willy Loman and Garcin both seem incapable of overcoming the insurmountable barriers between themselves and piece [sic] of mind, the similarities and differences between them become evident. (EE, p. 10)

However, the remainder of the paragraph fails to sustain the analytical strength of the beginning but instead shifts to a new comparison of the characters' struggles under the weight of reality to Camus' *The Myth of Sisyphus*, which could have been used effectively in the introduction to give unique direction to the analysis, but loses impact when inserted at this point. In addition, the concluding sentence lacks cohesiveness and only suggests connections with the main focus of the analysis: "While one character has a definite end, the other lives in a world where a part of the hell is that there is no end—it is a constant torture of self-realization, the exact opposite to Willy's entire life of [self-denial]" (EE, p. 10).

Style and Conventions

Through the first part of the essay, as Megan maintains a serious analytic approach to literary analysis and supports her observations with strong textual support, her perceptive insight into the connections between the two works emerges with a clear sense of personal voice. In addition, as Megan explores the similarities and differences between the two plays, the depth of her inquiry largely overshadows the absence of clear transitional statements that would add to the unity of the analysis. Consequently, even though the concluding portion of the paper breaks down and loses focus, the ability to analyze literature is evident in the early part of the essay and contributes to development of an appropriate style for literary analysis. Likewise, in spite of a few problems with word choice and punctuation, most of the essay demonstrates effective use of literary vocabulary, analytical tone, and writing conventions. Overall, the essay is reasonably well crafted and attests to Megan's ability to think at a highly reflective level, as well as her ability to engage in serious literary analysis. Megan clearly demonstrates sound

insight into the topic, as well as awareness of relevant significant factors, as she provides appropriate substantiation for the majority of points made. The paper is also adequately written, with clear command of standard rules of writing conventions, though there are some organizational weaknesses. However, the absence of a clear framework for developing ideas, as well as the focus on a pre-determined conclusion, resulted in clouding Megan's strong analytical ability, which emerged quite eloquently in the first half of the essay. Overall, the strength of the beginning tends to redeem but not overcome the uncertain connections of the additions at the end, leaving the paper above average but not exemplary, falling within the low B to high C range.

Paul's Analysis of *Oedipus Rex* and *Sandman*

While Oedipus is pulled by the forces of fate and trapped in his destiny, Dream [Sandman] chooses the action which will damn him with full and conscious knowledge of the exact implications of his crime. (EE, p. 11)

Content and Ideas

As Paul noted in the fourth interview, comparing and contrasting *Oedipus* and *Sandman* presented a unique challenge because of the combined length and complexity of the two works. However, Paul manages the complexity quite effectively in the essay by focusing on the major similarities and differences between the two main characters as tragic heroes. Based on viewing the works as reflections of different cultural settings and times, Paul sees "the addition of conscious choice of one's uncertain fate" (EE, p. 1) as the primary change from *Oedipus* to *Sandman*. This concept ultimately takes shape in Paul's research question: "How have the roles of fate and free will in determining the tragic fall changed between Sophocles' *Oedipus Rex* and Neil Gaiman's *Sandman*?" (EE, p. 1).

In developing his analysis, Paul not only maintains a consistent focus on his topic but also supports it with in-depth discussion of the key points that need to be made in order to substantiate his observations. Paul is careful to point out that comparison is possible because the heroes basically “follow the conventions of Greek tragedy, as established by Aristotle” (EE, p. 2), which serves to illuminate the points of difference. Consequently, Paul’s first argument lies in proving that both protagonists not only “enjoy high stature” as kings but “parallel each other through the source of their tragic downfall” (EE, p. 3):

Oedipus kills his father and thus draws a curse onto the city of Thebes for allowing this murderer to rule them; Dream kills his son, Orpheus, and by this crime draws the attention of the Furies, [who] . . . then proceed to wreak havoc across his kingdom of dreams, destroying that which he has worked to protect. (EE, p. 3)

However, as the characters face their fate as well as the consequences of their decisions, they “begin to diverge on the themes of choice and destiny and thus establish very separate identities” (EE, p. 3).

The next point of similarity concerns the second characteristic of the Aristotelian tragic hero, that the characters “fall in a way that is not brought on so much by outside sources but by their own accidental flaws” (EE, p. 1). Paul notes that the characters share pride, or hubris, as they relentlessly seek for knowledge with the attitude of “one that will not have himself slighted” (EE, p. 4). However, while “Oedipus’s wrathful pride is senseless, a reflexive response to any time he believes his authority is impugned,” Dream ultimately “abandons pride in favor of altruistic morality” (EE, p. 6).

Paul’s third point of comparison focuses on the issues of choice and destiny. Whereas the *Oedipus* “prophecies are immutable,” leaving Oedipus as one who “tries to

escape his fate, but by doing so he only fulfills it” (EE, p. 6), the *Sandman* prophecies “remain ambiguous,” leaving “Sandman’s destiny as one that will be based on what actions he chooses to make, not one preordained by gods” (EE, p. 7). Concerning choice, Paul observes:

While Oedipus blunders into his doom the victim of his pride, lusts, and rage, Dream chooses his fate with full understanding. . . . Oedipus may be the passive victim of a fate the gods framed for him before he was even born, but Dream is one who chooses a fate, an active figure in the story of his life. (EE, p. 8)

In addition, as Paul examines the effect of the agents of destiny on each hero, he again shows insight into critical areas of difference: In *Oedipus*, “the agents of fate act as herdsmen driving their blind victim, who finds himself caught in his fate only because he tries to avoid it,” while in *Sandman*, “the fates are deciding his story and thus its ending as it is occurring, and so its conclusion is still uncertain” (EE, p. 9). As Paul establishes connections and notes areas of difference in the two works, he supports his points primarily with facts and quotes from the primary texts with occasional reference to secondary sources.

Organization

Paul imposes a strict order on his analysis as a means of handling the vast amount of information connected with his topic. Paul first establishes a baseline for comparison in the introduction and then moves through clear divisions that provide a logical sequence for the major points of analysis, as well as a format for managing the large amount of detail that he must process in order to defend his thesis. Headings identify the divisions, which include examination of each work as a Greek tragedy, tragic flaws, choices and destinies, the agents of destiny, and meta-fictional elements of fate. Within each section,

Paul takes care to examine both works in detail in order to establish the various points of comparison and contrast relative to the particular topic. As he moves through his analysis, he is also careful to provide transitional statements that link together the ideas and details of the analysis. This format allows Paul to address multiple directions while retaining a sense of a unified analysis.

When the essay was subjected to structural analysis, relevant relationships between rhetorical structure, commentary, and concrete detail emerged. Paul maintains a strong voice in the significant amount of commentary (approximately 48%) throughout the essay. He also consistently keeps an analytical perspective by focusing on observations, such as “his destiny is one that will be based on what actions he chooses to make, not one preordained by the gods” (EE, p. 7). However, the essay also remains strong in the amount of concrete detail (approximately 38%) with which Paul supports his commentary. For example, Paul follows the statement, “the more he tries to escape his fate, the closer it follows him” (EE, p. 7), with a lead-in and quote from *Oedipus*: “Sophocles gives a nod to this when Oedipus says, describing the aftermath of his meeting with the oracle, ‘I heard all this, and fled. And from that day/ Corinth to me was only in the stars’ (Sophocles 752-753)” (EE, p. 7). In addition, Paul effectively links the parts of his analysis with regular use of rhetorical words and phrases (approximately 14%), including “however,” “eventually,” “ultimately,” “as with all of,” and “thus,” as well as contrasting statements that directly relate the two heroes, such as “while Oedipus blunders into his doom the victim of his pride, lusts, and rage, Dream chooses his fate with full understanding” (EE, p. 8).

As Paul builds to the conclusion of his paper, he goes beyond his focus on the tragic heroes and addresses the “meta-fictional elements of fate” in both works:

The serial nature of *The Sandman* allows fate to ascend to a meta-fictional level, producing an interesting set of contrasts between the two works. . . . Much of the dramatic tension of Oedipus Rex is only possible with an audience familiar with Greek myth, as all of Sophocles’ original audience would have been. He builds tension by only slowly allowing the characters to learn the fatal truths the audience is already fully aware of. Thus he had no option towards the ending. However, while the elements of the Sandman story are stacked for Dream’s fall, they leave holes for him to survive, and the author had the freedom to change the story as it was being published. (EE, p. 9-10)

This final aspect of the analysis leads logically to the conclusion, which provides clear closure to the essay:

Particular among these [changing cultural ideas and themes] is that of fate and free will, an evolution that has begun to favor choices in modern literature rather than the fate-based religious literature of Sophocles’ time. It is in this that the difference between the two works is most apparent: While Oedipus is pulled by the forces of fate and trapped in his destiny, Dream chooses the action which will damn him with full and conscious knowledge of exactly the implications of his crime. (EE, p. 11)

In an unusual concluding paragraph, Paul suggests areas for future research and examination that stretch beyond the scope of his essay, such as the historical perspective of “how the evolution occurred and why it did so” (EE, p. 11).

Style and Conventions

Paul’s style is distinguished by analytical tone and effective word choice throughout the essay. As he indicated in his interviews, he wanted to remain aware of his audience, since he knew that he was making connections between two works that had not been compared before. The division of the paper into clear sections definitely supports Paul’s need to provide a balance between information and analysis. In addition, the near-balance between commentary and concrete detail imparts a strong sense of voice across

the narrative, which is aided by the use of transitions and a consistent effort to work back and forth between the two works on all major points. Overall, the essay demonstrates perceptive insight into the topic, a clear grasp of relevant significant factors, appropriate format and register with clear reference, persuasive substantiation of main points, and a meaningful conclusion that displays original thought. Although the content and organization are excellent considering the volume of information that faced Paul, the essay would benefit from more reference to secondary sources, as well as corrections for a few lapses in sentence formation, wording, mechanics, and formatting. However, since the errors and omissions are not major enough to significantly reduce overall quality, the essay is clearly top-ranking, though not exemplary, with an examiner rating probably in the low A to high B range.

Shauna's Analysis of Adrienne Rich's "Cartographies of Silence"

Language can both clear and cloud one's perception of what truth is being conveyed by any certain circumstance. (EE, p. 6)

Content and Ideas

From the very beginning, the precise wording of Shauna's topic, "The Role of Various Forms of Language in the Perception of Truth in Adrienne Rich's 'Cartographies of Silence,'" establishes a clear focus for an in-depth literary analysis paper. Shauna also includes clearly stated versions of the research question in both the abstract and opening paragraph of the essay, as "the role of words, language, and silence in discerning the truth in Adrienne Rich's 'Cartographies of Silence'" (EE, p. 1). In the interviews, Shauna referenced her fascination with language complexity that defined the direction of her inquiry:

I mean who defines what? Who gives meaning to language? Is it the person who is uttering it, or is it the person who writes it down? Is it the person who is reading it and hearing it? Is a poem legitimate if no one ever reads it? If someone speaks words and no one hears them, do they have a point? And then also dealing with when people do hear them, how can those words influence them in different ways? (I-2, p. 4)

The depth suggested by exploring the intent, legitimacy, and understanding of language within the context of communication provided Shauna with a sustained purpose and focus that enabled close engagement with the text throughout the essay. In addition, when asked what she saw as the main meaning of the poem, Shauna put the role of language within the larger context of a search for truth:

My research question was about how elements of the poem could reveal or shadow the truth. So I think when I approached it, I kind of approached it knowing that there wasn't going to be any kind of conclusive answer, because in anything when you're discussing truth, there are a lot of gray areas. . . . Words can clarify and words can shadow or hide things. . . . What happens is the meaning of the poems gets lost in the air, the air between, the space between when they write it and when other people read it. . . . I think that Rich is trying to call attention to that, to just point out to the reader, hey look, I may have written this poem for a different reason, but that doesn't make it any more or less important to you. (I-4, p. 5)

The clarity and precision of the research question with its implied complexity also permits effective treatment of the topic within the required word limit, as well as the collection of relevant information in support of the commentary. Shauna further prepares for her focused analysis in the first paragraph of the essay by stating, "As a poet, Rich sets out to force her readers to view reality in her atypical way, and in turn to cause them to think heavily on the implications of the use of language" (EE, p. 1).

Throughout her analysis of the poem, Shauna demonstrates a thorough knowledge of the poem and perceptive insight into the complexities suggested by Rich's poetic language. As Shauna begins by contrasting conversation, which "continue[s] to propel

itself,” with poetry, which “can be torn up” (EE, p. 3), she establishes a link between her own perceptions of language and those of the poet. In addition, by mirroring the idea progression of the poem in the order of ideas in the essay, Shauna is able to develop her topic within the poet’s own framework, which leads to continual focus on text and systematic investigation of pertinent details that develop the theme. As a result, she pauses to address key images, such as “the ice-flow split” (l. 4) that occurs when communication does not take place and the “unreturning stylus” (l. 13) that depicts the permanence of the written word as it is inscribed. Shauna also examines Rich’s use of repetitive noises, such as background music, the ringing of a telephone, and lines of a script as means of avoiding communication, of covering up “the terror beneath the unsaid word” (l. 23-24). Although Shauna also includes limited, but carefully selected, relevant references from secondary sources, she develops her analysis largely from her own insightful exploration of the text itself.

Organization

Shauna’s organizational structure begins with introducing the thematic focus of the poem but then moves quickly to a logical pattern of development based on the natural progression of Rich’s thoughts, as she explores different aspects of language and silence through the stanzas. After introducing the contrasting roles of language in conversation and poetry, Shauna examines Rich’s views of the role of music in miscommunication, the positive and negative connotations of silence, the vocalization of words and their influence on truth, the failure and necessity of language, and language as religion. Shauna seems particularly captivated by Rich’s exploration of the role of silence, as a “medium through which many ideas are expressed” and “the presence of something that may be

more important, more powerful, and more trustworthy than any words that could be said in that moment, written or spoken” (EE, p. 5).

Detailed structural analysis of Shauna’s essay revealed strong relationships within rhetorical structure, commentary, and concrete details. Shauna includes a representative number (approximately 11%) of thought units that serve opening, transitional, or concluding rhetorical functions relative to her topic shifts. For example, the thesis statement provides rhetorical direction to the essay by clearly identifying the topic of the essay, the importance of language, and the questions raised by language:

In this poem, Adrienne Rich addresses language in many of its varied forms—spoken language in conversation, poetry, music, and silence—in order to demonstrate the discrepancies that surface as a result of the lies, truths, or double meanings found in words and silences. (EE, p. 1)

After brief mention of the function of language in several Rich poems, Shauna provides transition by stating that in the poem “Rich addresses both sides of this issue [the power versus the inadequacies of language to convey meaning] with exemplary detail and with examination of many types of language” (EE, p. 1) that include words, speech, music, and silence. Throughout the essay, shifts in direction are effectively introduced with transitional statements that focus on analysis, providing a strong blend of rhetorical statement with commentary, such as “Though it is her ultimate wish to write poems that will influence, further in ‘Cartographies of Silence,’ Rich discusses the limits of poetry’s influence and the unknown elements of its use to change people and relationships” (EE, p. 9). Thoughts are also brought to effective conclusion at the end of each major section, as in the discussion of silence:

In addressing both the positive and negative impact of silence on the observer, or listener, Rich successfully communicates the indiscretions of

any form of language: language can both clear and cloud one's perception of what truth is being conveyed by any certain circumstance. (EE, p. 6)

Throughout the essay, Shauna includes a significant amount of commentary (approximately 48%), which infuses the essay with a strong sense of personal voice as it provides meaningful examination of the poem. However, as commentary remains balanced with an almost equal amount of supporting detail (approximately 41%), the essay takes shape as well-substantiated and effective analysis within an ordered structure. For example, Shauna's statement that "When Rich refers to the silences as a 'technology,' a 'ritual,' and a form of 'etiquette,' the meaning and beauty of silence seems to be removed from its essence" (EE, p. 6) contains elements of both commentary and detail, as it also provides a rhetorical function in preparing for the analysis to follow. Shauna's rhetorical statements continue to be effectively blended with both commentary and concrete detail in an analytical approach that encompasses transition and supporting information to the point that division labels frequently fade. For example, the final statement that brings closure to the essay also comments on the significance of language within its larger context of truth:

As for language in its generalized form, "language cannot do everything," professes Rich in line 64; however, contradictorily, it is language from which truth bursts into the world, budding and flowering and giving new life to all who are exposed to its simplicity and beauty. (EE, p. 13)

Style and Conventions

Shauna maintains a serious analytic approach appropriate to literary analysis throughout the essay. Her intense involvement with the topic infuses the paper with a strong sense of voice that is evidenced in the effective balance between commentary and detail. The words and images are not randomly selected details but essential examples

and comparisons that reveal Rich's struggle with the function of language, as they also reflect Shauna's own concern with the multiple meanings of words. In its final form, the essay emerges as a well-crafted essay with only a few minor mechanical errors. The essay clearly demonstrates perceptive insight into the topic, a clear grasp of relevant significant features, clear reference and persuasive substantiation for all points made, clear and complete organization with effective use of transitions, and a meaningful conclusion that displays original thought. From start to finish, with its strong focus on textual analysis accompanied by sufficient support from secondary sources, the paper is clearly a top-scoring, A-level literary analysis essay.

CHAPTER 7

THE RELATIONSHIP OF STUDENTS' EPISTEMOLOGICAL VIEWS TO COMPOSING PROCESSES AND FINAL PRODUCTS

This chapter provides a synthesis of the results reported in Chapters Four through Six by examining the relationships between students' epistemological views and their research and composing processes, plus the crafting of the final essay, as indicated by the second and third research questions: *How do students' epistemological views relate to the choices they make during the research and composing processes?* and *How do students' epistemological views relate to the final research product?* The first part of the chapter provides a summary of each student's individual epistemological views as presented in Chapter Four and relates those views to the research and composing processes examined in Chapter Five, as well as to the crafting of the final essays examined in Chapter Six. The concluding section presents an overview of how students' composing processes and final products as a group relate to their stance on the five knowledge domains that were targeted on the epistemological questionnaire and discussed during the four interview sessions.

Individual Student Beliefs, Composing Processes, and Final Products

Bridget: Caught Between Order and Expansion

Bridget's knowledge views were clearly the strongest of any of the key informants in favor of certain knowledge, while at the same time she expressed a "passion for learning" and a fascination with controversy and complexity (F, p. 1).

Without hesitation and with considerable emphasis, she declared her belief in unchanging truth at the onset of the first interview. Her freewrite, which was written prior to any discussion about knowledge views during the study, focused on the importance of belief in absolute truth and the absurdity of rejecting the possibility of its existence. Although her question, “If all knowledge is relative, then why should one embrace it?” (F, p. 1), does not deny the existence of relative truth, it definitely indicates that Bridget considers belief in absolutes to be essential for a sense of purpose and meaningful discovery. However, Bridget also seemed to be invigorated by uncertainty, viewing her belief in absolute truth as the motivating force that not only propels her onward to explore and discover but also enables her to come to a sense of closure when needed, even when her explorations are left without clear resolution.

Both aspects of Bridget’s epistemological views relating to truth (her belief in certain knowledge as well as her opposition to simple knowledge and innate ability) were reflected in her approach to the extended essay. In the third interview, Bridget stated directly that her knowledge views led her to choose “literary analysis because it is so complex, and if you go just on the surface, then that’s not good literary analysis, so it [a complex knowledge view] definitely influences how I write about literature and how I think about it” (I-3, p. 3). In addition, she selected poetry for her extended essay research, indicating preference for an often illusive, highly interpretive literary genre for exploration. In the second interview, Bridget stated that she “liked exploring subtlety in poetry” (I-2, p. 4) and that she delighted in engaging in detailed analysis of Keats’s “Ode on a Grecian Urn” in particular because of its depth, “layering,” and “really complex literary features” (I-2, p. 3).

Depth of exploration was further evidenced in Bridget's tendency to reread everything, manipulate words, and write recursively. As she analyzed Keats's "Ode," she was drawn first to the "duality" of mortality and eternal beauty (I-1, p. 5) and Keats's paradoxical solution in "Beauty is truth, truth beauty—that is all/ Ye know on earth, and all ye need to know (Keats 49-50)," which became the focal point for Bridget's analysis. Bridget was clearly drawn to this enigma centered around "truth," as she rephrased the urn's message in question form, asking if "humanity [is] belittling the urn" or if "mortals [are] rather prizing its seemingly eternal visions of loveliness" (EE, p. 6). Bridget's interest in complexity also seemed to be reflected in the fact that the poem's question could be explored but not resolved, since either view, or possibly even both as part of the paradox, could represent truth. However, it is interesting that the choice is not totally unrestricted here, but more of an either/or condition or a blend, which would seem to be more appealing to Bridget's sense of order and ultimate desire for certainty than a completely open-ended unknown, since Bridget had indicated that she considered it a waste of time to work on problems without clear-cut solutions (Q26).

Bridget's strong attraction to certainty may also be seen initially in her plan to select a previously written paper as the nucleus of her extended essay and to bask in the sense of closure that a completed paper afforded. Throughout the interviews, she repeatedly referred to the importance of the thesis and conclusion, as she valued the logical progression of ideas that an established framework provided. In discussing the validity of different interpretations, Bridget acknowledged that there can be different interpretations of literature that can still be valid, depending on whether or not they "fit" with the text, but she also commented several times that she believes that there are clearly

correct and incorrect interpretations of literature and that correct interpretations can be determined primarily through close examination of the text:

I think that in literary analysis it is important to discover what the poet had in mind. I think that is the correct view of it. And of course some poems can have different meanings and still be correct. But there are definitely interpretations that are not right. . . . I think that the more you explore a poem, the more you break it down, the easier it is to know that you are correct. (I-3, p. 3-4)

In addition, Bridget stated that she viewed structure as integrally related to content, another indication of her interest in the connectedness and order that she sees operating in the universe at large. As Bridget wrote her paper, her sense of order also emerged in her own focus on a logical progression of ideas, as she moved through the analysis in an almost methodical progression stanza by stanza.

However, the decision to take an existing essay with the intention of expanding it into an extended essay created problems for Bridget, as her sense of being “done” became a roadblock to further exploration, at the same time that the length requirement for the essay necessitated almost doubling the original essay. Her preference for “quality over quantity” (I-2, p. 4) also made her question the value of adding information to an essay that was already complete in her mind. In addition, as Bridget looked back on her work from two years before, she commented that “It took me a really long time to understand what I wrote about” and that “I don’t remember the critical interpretations that I saw; I just know that they all matched” (I-4, p. 2). At this point, the freshness of the initial analysis and experience of composing the basic paper had been lost. The situation was further complicated by the fact that a clear thesis and conclusion had already been crafted, which did not allow for many additions and changes within the already established organizational plan of the essay. As Bridget’s strong sense of organization

fought with the need to expand, she remained reluctant to add anything that did not fit into the existing framework. Ultimately, selecting a second Keats poem and a metaphysical poem that shared the same theme as the “Ode” enabled her to satisfy both requirements, to stay firmly focused on the original topic and still increase the length and the strength of the analysis:

I found different branches to go off of, like my original paper was the first 2,000 words and then I added another 500 talking about John Keats as a person in his other poems, and then the last 1,000 were the comparison with “Church Monuments.” So, it was kind of three parts—I actually like that because it includes one big analysis [in reference to the “Ode” analysis] and then it gives a lot of context for that at the end. (I-4, p. 1)

Bridget’s knowledge views also revealed her strong position against omniscient authority, which was clearly a factor in her resistance to using secondary sources throughout her research and composing efforts. However, as Bridget faced the dilemma of the need to expand within the confinement of her “completed” paper, she was forced to consult with her mentor, as well as access several critical articles that enabled her to find the “different branches” that ultimately helped solve her problem (I-4, p. 1). At the conclusion of the paper, Bridget realized that she could use secondary sources in a positive way, without feeling bound by other views:

When I was at 2,500 words, I was thinking, “What am I going to do here”? But when I tried to analyze the article, I really found some open doors. It gave me some new ideas, and I could even have said more. . . . And that surprised me, because I kind of thought that I had said everything that there was to be said, so that really kind of opened a window, because I saw that there really wasn’t an end. (I-4, p. 5)

As a result, Bridget was able to look back on her experience with the research process and come to the realization that a literary research effort with the length

requirement of the extended essay is more than “just an extended lit paper” (I-4, p. 3).

She commented, “I loved the inclusion of it, because it’s not all analysis at the end. It has life in it. I think that is more what the extended essay is supposed to be” (I-4, p. 3).

Although Bridget did not feel that her basic knowledge views had changed as a result of this experience, she did feel that working through the essay had enabled her to “stretch her thinking” beyond the confines of her original framework and look at the requirements from “a more holistic perspective” (I-4, p. 6).

Analysis of Bridget’s final paper confirmed her report of what happened in the processing of the extended essay. Fortunately, her persistence in reaching logical conclusions, part of her search for certainty, worked well for her in this case. As much as she wanted to leave the paper at its original length, her desire for excellence and closure would not let her do that in view of the requirements of the assignment, so she struggled with the challenges that she faced, followed the suggestions of her mentor, and worked the additions into her established framework. Staying within the framework was extremely important to Bridget throughout the writing of the extension, probably a reflection of her strong beliefs in certain knowledge and logical order. However, as Bridget’s view of the complexity of knowledge also emerged as an especially strong force, it kept her focused on analysis throughout the paper and enabled her to incorporate the additions she needed to expand the essay. As a result, the final paper took shape as a unified piece of writing, with the analysis of “Ode” comprising the majority of the essay and the comparative pieces on the additional Keats poem and Herbert’s “Church Monuments” functioning to extend the context, as Bridget herself noted in her reference to the “inclusion of it” (I-4, p. 3).

Fred: Overwhelmed by Length and Depth

Describing knowledge as “our gateway to the world surrounding us” in his freewrite (F, p. 1) and the world as a “cacophony of broad and loaded ideas” in the first interview (I-1, p. 4), Fred also seemed to place a high level of importance on both knowledge and learning while he recognized the value of exploration and discovery. Although Fred talked about problem solving and the need to work towards “a plausible solution” (I-1, p. 1), as he also acknowledged that the complexity of some problems might deny access to clear solutions, he showed much stronger support for simple knowledge than the other informants and relatively strong support for innate ability. Among the key informants, Fred also indicated the strongest agreement that learning is not quick, that he considered facts to be important, and that he liked organization.

A number of Fred’s epistemological views appear to have been reflected in his composing strategies and final paper. Throughout the interviews, Fred did not indicate a high interest in analytical thinking or exploration. Although he did view knowledge as uncertain, his views of the complexity of knowledge were the weakest of any of the students. As Fred selected his topic and started work on the extended essay, he chose a novel that he enjoyed and determined several points of inquiry that interested him, including the dissolution of the family and Kingsolver’s stance on religion in *The Poisonwood Bible*. However, Fred’s two main reasons for selecting literary analysis for his subject area were that he had had more practice with it and that he could express his opinions more freely than in other subject areas. Interest in exploring the idea structure of the novel and inquiring into the multiple factors that caused the demise of the family unit were never mentioned.

In addition, Fred reported a simple, straightforward plan for his composing processes that seemed to match his strong support of simple knowledge relative to the other participants. Fred typically started with a rough outline on a post-it note and a plan for the number of paragraphs he would need to comply with the length requirement of the paper and then followed up by writing a few sentences for each paragraph throughout the paper, with the idea of adding to each of them as he needed additional sentences for length. Although Fred realized early in the drafting that he was focusing more on “dictation” than analysis (I-2, p. 3), he seemed to get caught in a composing process that he had followed before with reasonable success on shorter literary analysis papers.

In the first interview, when Fred was discussing attempting to find solutions to difficult problems, he stated that he did not think “plausible solutions” could be found for most complex problems, simply because he felt that tangible evidence was necessary for proof: “I think that something can’t really be proven unless it is actually there and tangible and can be seen and touched” (I-1, p. 1). In addition, as he was comparing the subject domains of history and literature during the interviews, Fred made the statement that “literature is allowed to be less factual and precise” and that it is “a vent for creativity and an expression of human emotion,” as opposed to math, science, and history, which tend to be more factually-based (I-1, p. 3). Putting these views together seems to suggest a joint interest in both opinion and fact, but fact that is defined as something tangible. As Fred crafted his essay, he did include a large number of his own comments and opinions about the novel, but they remained largely without substantiation, except for plot details, which could be considered the “tangible” elements of a novel. However, Fred did not always relate the plot details that he selected to the

particular points of commentary. Consequently, Fred appeared to have a limited view of what might constitute support for opinions in an analysis paper.

When Fred was planning his paper, he commented several times that he was rereading the novel to “get the events fresh in my mind” (I-2, p. 5). Likewise, when Fred discussed the book, he repeatedly focused on what happened rather than why something happened. In addition, although Fred, like the other students, used secondary sources very sparingly, he noted that initially he leaned heavily on a journal as his main source, which of course would again focus on events more than critical analysis. All of these approaches towards literary analysis are noticeably less mature than those of the other participants, suggesting that Fred’s simple knowledge views emerged in both his topic selection and focus on the surface features of the novel. However, when Fred did access a critical article that demonstrated an analytical approach to the novel, he seemed to value it and eventually rewrote the first part of his paper in response to the ideas that he gained, which resulted at least temporarily in improving the direction of the essay towards a less simple and more analytical focus.

Throughout the extended essay drafting stage, the majority of Fred’s comments in the interviews focused on length or the need for more words, as they did from the beginning of the paper. This focus again might be viewed as a quest for simple knowledge, just getting the task done. Throughout the interviews, the thought of writing a 4,000-word paper seemed to overwhelm him. After Fred reached 2,000 words with the help of the critical article, he seemed to be at a standstill for ideas. As a result, at the turning point of the paper (and the novel), the death of the character Ruth May, Fred was left without critical direction and with only half of the paper completed. He attempted

about 500 more words, which remained almost completely plot-focused and basically charted the concluding events of the novel, again reflecting Fred's apparent lack of interest in complex knowledge views.

Another knowledge view that appeared to have impacted Fred's composing process in the reverse was his extremely strong view of learning as a slow rather than a quick process. Almost in opposition to that idea, Fred indicated several times that he composed sections of the paper at the last minute. Possibly the lack of time investment may have contributed to Fred's increased struggle during the composing process, as well as to the inferior quality of his preliminary and final drafts, as the time allotted did not match the extended time that he needed. In addition, Fred's description of the academic world as a "cacophony of broad and loaded ideas" (I-1, p. 4) seems to indicate that he is aware of the knowledge complexity that exists but that it appears to him to be somewhat distant, unconnected, and out of reach. As a result, Fred's final paper consists of large amounts of commentary and plot summary but lacks the sustained voice of analysis, focused support, and smooth transition that mark an effective literary analysis essay. In the last interview, Fred did indicate that he felt that he had learned more about "how to write an analysis paper" as a result of his extended essay experience and that "if you're doing a literary analysis like this, I think you really need to look at the different interpretations of the work to get that broad spectrum" (I-4, p. 5). It is unfortunate that this realization and the possible shifting of his knowledge views to include more complexity did not occur early enough in the process to make a difference in the development of Fred's essay.

Megan: A Preference for Character Analysis over Theme

Megan's freewrite and epistemological questionnaire not only revealed the high value that she places on knowledge and learning but also the personal satisfaction she feels when she is engaged in discovery. In the freewrite, she stated that "every time we have an encounter with the world, we gain more knowledge and observe more things" (F, p. 1). In the follow-up interview, Megan expressed fairly strong belief in unchanging truth at the same time that she recognized the apparent change and relativity of truth based on individuals' different perceptions. In accord with her primarily complex rather than simple views of both truth and knowledge, Megan asserted that she found it interesting to think about complex issues and saw uncertain situations as opportunities for individuals to exchange beliefs that reflect diverse ideas and perspectives. In addition, recognizing that authority is not omniscient and that learning is not quick, Megan not only considered it important to question authority but also felt confident that she could figure out difficult concepts if she concentrated and had enough time. She also stated a strong preference for working independently in order to do that.

Megan's knowledge views were reflected in several attitudes and practices that emerged as Megan moved through the extended essay process. Megan's interest in complexity led her to search for two works that would not typically be grouped for comparison. In addition, her desire to work independently and her questioning stance towards authority were evident in her confidence in her own ability to analyze and her minimal and highly selective use of secondary source material. In the interviews, Megan also expressed strong interest in individuals' different perceptions, which surfaced in her preference for character analysis. She stated that she liked "the complexity of it, just

exploring all the different thoughts on what makes people what they are” (I-3, p. 3). This focus on character development and in comparing and contrasting how individuals react in different situations was in turn reflected in her fascination with Willy Loman and Garcin in particular, as similar yet different characters who found themselves ill-equipped to function in their respective environments. Megan’s stance towards the characters throughout her analysis focused on their responsibility to learn from their experiences, which was also reminiscent of Megan’s emphasis on personal responsibility in learning throughout the epistemological questionnaire. In addition, overall awareness of the changing nature of knowledge was reflected in Megan’s view of Willy as a character who “assumed his environment” rather than change in response to it (I-3, p. 7).

He is like a static character—he is forever under the impression that the world hasn’t changed and he’s not looking for explanations. He is not analyzing the world around him to see what he is doing wrong. He is assuming that the world is the same and that he is the same. (I-3, p. 7)

Megan was also consistent in her attitude towards the composing process. Her rejection of simple knowledge and omniscient authority combined with her interest in the complexity of analysis were reflected in her approach to the extended essay as “more just an analysis” (I-4, p. 2) than a research paper, which led her to start out developing her own ideas and reserving secondary sources for support until after she felt secure in her own interpretation of the works. This approach was also consistent with her resistance to outlining and her understanding of the recursive nature of the writing process, recognizing that as she writes, ideas change, thereby making an initial outline obsolete within a short period of time. However, Megan’s understanding of the importance of organization as part of her certain knowledge views also ultimately led to the need to

establish a framework for her analysis, which she indicated that she had done by the second interview.

With Megan's complex knowledge views, sense of personal responsibility, and clear understanding of the recursive nature of the writing process, one must question what generated the problems that she encountered towards the end of the essay. Megan even indicated awareness of her problem areas by the time of the third interview, which was scheduled right before the final draft of the paper was due. She stated that she thought her "thesis could be a lot stronger" as a result of the changing shape of her analysis and that her thoughts were "getting more and more abstract . . . because there are so many different ideas in an area" (I-3, p. 2). She added that "another area I'm not happy with in my paper is that I cover such a broad scheme of things. I need to do a better job of tying them all together" (I-3, p. 2). However, Megan's final draft does not indicate that she actually made any of the broad changes.

In the first interview, Megan stressed that if she did not feel secure in a particular knowledge domain, combining information tended to confuse her and that extended time helped her to understand. Then, in the final interview, Megan stated that she had uncharacteristically added "chunks" of new ideas because the final paper was due and that she still needed to work to make the flow of ideas smooth, at the same time that she expressed frustration with feeling rushed because of other assignments that were due at the same time. Megan clearly felt that she was caught in a time crunch at the point where she really needed extra time to sort out diverse ideas.

However, Megan also stated several times in the interviews that she was not interested in theory, that the course on Theory of Knowledge had not benefited her much

in her approach to literature, and that as a result she preferred to focus on character analysis rather than theme as her favorite form of literary analysis. Although Megan's subtle rejection of theory might not have significantly impacted a short paper, when confronted with the length requirement of the extended essay, the absence of a unifying theoretical perspective to guide discovery seems to have led her to simply include outlying topics instead of expanding her analytical approach to incorporate relevant additions. In the course of the study, it was not apparent if she had a more broad, encompassing view in mind that generated inclusion of the additional topics or if length alone was the motivating factor for expansion. However, she did state several times that she became interested in these topics as they came up in her reading of secondary sources and in her interview discussions, as well as in conversations with her mentor. The fact that the topics emerged in relationship to her exploration of the two characters would indicate that she had some awareness of a connection with her topic, but at that time she did not discuss how she planned to include them, just that she would find a way.

Although, the additions appear to be random in Megan's final essay, all of them could have been arranged under a unified theoretical framework. Concentration on a more expansive, more theoretical look at the play, such as perception of reality, which Megan mentioned at the beginning of the interviews, might have provided a sufficiently comprehensive topic within which to compare and contrast the protagonists as well as include the additional topics. Unfortunately, Megan's problems arose late in the essay process, when mentor involvement typically wanes. However, availing herself of another perspective at that point might have helped Megan expand her thinking to be able to incorporate the additions more effectively. It is uncertain whether the time constraints or

Megan's desire to work independently (resistance to external authority) might have influenced her situation the most.

Analysis of Megan's final paper also reflects Megan's strong but somewhat contradictory beliefs in complex knowledge and certain knowledge. Megan's fascination with the complexity of knowledge attracts her to two works that are not typically paired, as confidence in her own ability to analyze and belief that authoritative sources are not omniscient lead her to embark on her analysis initially without consulting secondary sources. Utilizing her ability to sort through complex material, Megan proceeds to develop a thorough and insightful comparative analysis of Willy Loman in Miller's *Death of a Salesman* and Garcin in Sartre's *No Exit*, as she artfully moves back and forth addressing key points of similarity and difference. During this part of the paper, Megan's recursive composing strategies remain strong, as she engages in constant analysis and revision focused on content.

However, Megan's companion belief in certain knowledge seems to surface in her strong desire for order and structure, which she imposes on the essay prior to its completion. Instead of working from a preliminary thesis that would allow her to have a basic plan, as well as adapt to new ideas as they unfold, she decides her conclusion based on the first part of her analysis. The first indication that Megan placed a fairly high value on certainty in addition to complexity became apparent during the first interview as Megan expressed her frustration with the circularity in *No Exit*, stating that "dealing with *No Exit* is really hard to come out with anything definitive, because I'm not sure he [the playwright] knew exactly what he was talking about" (I-3, p. 3). When Megan reached a point where the paper was incomplete, she appears to have yielded more to certainty than

complexity, as she remained unwilling to alter the structure to accommodate the necessary changes. As a result, while the internal structure of the first part of the paper emerges solidly grounded in analysis, with relevant detail effectively supporting the commentary, the end of the paper loses logical progression of ideas in an effort to incorporate new topics to meet the length requirement. Unfortunately, the problem developed late in the composing progress, thereby eliminating the possibility of assistance through mentor intervention.

Paul: Exploring Relative Truth and Practical Knowledge

Throughout all five domains represented on the epistemological questionnaire, Paul's knowledge views were the most consistent in his strong support of the uncertainty and complexity of knowledge and his firm rejection of innate ability and omniscient authority. In addition, even though Paul's ability to comprehend difficult concepts appeared to be quite high given his fascination with multiple knowledge areas (including quantum physics, biology and evolution in the ocean, Benedictine monks in the thirteenth century, and all types of literature and comic books), his near obsession with reading and rereading reflected his view of learning as a slow process:

I have to dig. If I am reading a textbook or any nonfiction book, the first time I read it, I am just getting a very general picture of the patterns and the structures and that sort of thing, and I have to read it later—I have to keep going back and rereading passages if I am going to remember the names to be able to connect the names and the different events across things. (I-1, p. 5)

In the initial freewrite, Paul asserted that “knowledge need not be true nor must a knower believe it” and that “to learn is to gather experience with the intention of application” (F, p. 1). For that reason, Paul stated that he did not “like just looking at the superficial level” (I-4, p. 1) but valued extensive exploration and discovery in every subject that he

encountered. In the first interview, Paul also emphasized that his personal theory of knowledge defined knowledge as “something we know of as truth right now” (I-1, p. 1), which indicates Paul’s sense of the shifting nature of what is labeled as truth.

As Paul selected his essay topic and moved through the composing process, his complex knowledge views were evident in his constant focus on exploration and discovery, which he compared to peeling the layers off an onion rather than “just drilling to the center” (I-4, p. 3). His decision to compare a classic text of one genre with a modern text of a completely different genre suggests high interest in the non-conventional as well as considerable confidence in his own ability to make connections and discern points of difference. He read and reread both of the primary texts as well as explored multiple secondary sources in an extensive search for similarities and differences in the ways that the two tragic heroes responded to their environments.

As part of his knowledge views, Paul also commented that the changing nature of truth and knowledge makes analyzing past events different than analyzing current events, since past events are already somewhat defined by time and can be “picked apart” more readily than current events (I-1, p. 1). This interest in the past was directly reflected in Paul’s fascination with Oedipus as the embodiment of the classic tragic hero and with Aristotle’s analysis of Oedipus and Greek values in *The Poetics*. In addition, as Paul made a point of viewing knowledge as something separate from belief, he also emphasized the cultural and personal dimensions of knowledge, which are reflected in individual bias. However, rather than reject bias, Paul viewed it as a “filter” that actually permits one to perceive a relative world, even though it is also a barrier that prevents access to absolute truth, if it exists. It is interesting that this view of knowledge is

precisely what Paul focuses on when he analyzes the characters of Oedipus in Sophocles' *Oedipus Rex* and Sandman in Neil Gaiman's *The Sandman*. Both heroes remain blind to the full consequences of their actions and decisions because their own limited perceptions prevent them from perceiving the full import of their decisions and actions. Throughout the research and composing processes, Paul also remained absorbed with a cultural view of the heroes as reflecting the values of their respective time periods. In addition, Paul presented both genres as audience-focused commentaries on the cultures that they represent, revealing his broad interest in multiple levels of knowledge related to a subject area.

Also in accordance with his complex knowledge views, Paul indicated that he was interested in both the big picture and the details of a subject and that his goal was constantly "just trying to strike a balance" (I-2, p. 11), which partially expressed itself in the essay as "just trying to explain the material and actually analyzing it in the context of my thesis" (I-2, p. 11). However, Paul's sense of "balance," which was evident in the mixture of his knowledge views, also emerged in his concern with the archetypal aspects of both works, which he was able to see because he was so well-read:

The thing with both worlds is that they are very much taking the things that we are dealing with in everyday life and making them something bigger and more symbolic. For example, with the masks in Greek drama, you are making everything very big and very archetypal. . . . You might say, well, this is unrealistic because you don't have this kind of thing in real life. No—this is just the way of presenting an abstract concept. . . . There is a similar thing with the comic book world, where they are literally taking abstract concepts and personifying them as dream, despair, death, destiny, and so on. (I-3, p. 10)

Paul's composing processes also reflected the high level of analysis that his complex knowledge views indicated, as Paul stressed the importance of his thinking time

and rereading strategies in enabling him to focus on content. As he wrote, his primary concern was clear communication of his ideas and keeping the essay understandable, especially since he was working with one rather unfamiliar work. His recursive composing strategies included almost constant revision, since rereading his own writing was as integral to his composing as rereading the texts was to his ability to understand and analyze. Paul reported that his main concern during the extended essay was to “keep the themes in line” (I-3, p. 8). In addition, Paul’s combined interest in details and ideas that he emphasized in the epistemological questionnaire and the interviews kept him focused on providing strong support for his points, as well as on keeping the essay “understandable” by subdividing the sections with clear headings that clarified the thought progression of the essay (I-3, p. 8).

Paul’s analytical stance and strong focus on complex thinking, as well as his pragmatic approach to knowledge, also led to a high level of reflective thinking concerning moral issues in both literary works. He was consistent in evaluating the moral dilemma of both the play and the comic series in terms of the individual cultural settings:

The morality of all that in *Oedipus* is very complex. You have Oedipus killing his own father, which is something he did not know that he was doing, but he was still just killing someone who he felt insulted him. He dooms himself by rage and then by pride. I’m not quite sure how to look at this in terms of right or wrong or morality. I’m just looking at it in terms of hubris and pride. . . . Sandman has very similar elements of pride, but what he does, his murder is considered an act of mercy because it’s actually something that he was cutting a deal on—it makes it a lot more certain. (I-3, p. 11-12)

Paul’s strong knowledge views are also revealed in his concentrated focus on analysis throughout the final paper. His interest in the complexity and uncertainty of knowledge, as well as his sense of the changing perceptions of truth, keep him highly

absorbed in developing his unique comparison between two literary figures within different genres representing different cultures and value systems. In addition, as Paul views knowledge as part of a construct, he remains conscious of his audience by maintaining a constant focus on including specific commentary designed to make his writing clear to readers who might not be familiar with the works that he is discussing. Like the other students, Paul embarked on his written analysis initially without including secondary sources, even though he consulted them at the start of his research and continued to consult them at different points in the development of the essay. Paul's stance toward secondary sources reflects his strong sense of independence and confidence in his willingness to consult but not necessarily follow the views of critical authorities. In the final paper, in spite of his extensive reading, Paul only includes the few sources that he found most pertinent to his argument. Overall, the strength of Paul's paper results from the high level of engagement in his topic and his concern for clarity in communication, both of which reflect his expansive approach to the complexity of knowledge and learning.

Shauna: Experiencing Language Complexity and Adaptable Order

Unlike the initial data from the other key informants, Shauna's freewrite and epistemological questionnaire did not suggest the depth of her views or the strength of her analytical ability. While her freewrite avoided direct encounter with any theoretical perspectives on knowledge and learning and her questionnaire responses failed to disclose definite preferences in any the five knowledge domains, the subsequent interviews revealed the highly reflective thinking and analytical ability that was evidenced in the quality of the final essay. However, in retrospect, Shauna's interest in

balance was apparent even in the first freewrite response, where she stepped outside of a theoretical mode and focused on involvement in activities, such as sports, clubs, religion, and social activities, indicating that valuable learning can take place outside of the academic realm.

Also, although Shauna showed only limited support for overall knowledge complexity on the scaled questionnaire responses, when she explained her views during the first set of epistemological interviews, she stated that she became confused by the contradictions she saw hidden in the questionnaire statements. She compared the questionnaire to a true-false test where apparently simple statements can be interpreted multiple ways depending on word meaning, context, situation, and individual perception. In addition, her belief in more than one type of truth meant that responses could be framed quite differently depending on whether one defined truth in absolute or relative terms, both of which held validity in Shauna's mind. In fact, as Shauna suggested, perceptions might be different depending on an individual's particular theoretical stance at a given moment in time. Consequently, in spite of somewhat uncertain beginnings, Shauna's overall responses on both the questionnaire and interviews revealed consistent points of belief that reflected high level thinking. For example, although Shauna indicated a firm belief in absolute truth, she did not see that truth as something that was obvious or readily accessible. As discovery and theories remained open to question in her mind, she felt free to evaluate advice from experts as well as firmly reject both simple knowledge and quick learning. However, Shauna's interest in certain knowledge was reflected in the high value that she placed on order, which in turn was reflected in her need to group ideas, develop concept maps, and rearrange information when she studied. However, her

constant focus on ideas allowed her to redefine the type of order to fit the situation and to integrate new ideas within a prior knowledge framework.

Shauna's complex knowledge views were first apparent in her decision to select poetry as her topic for analysis. As with Bridget, Shauna was attracted to poetry's illusiveness and subtlety. She became interested in examining the function of language in communication and how language has the power to hide or reveal truth in any given situation. This interest led her to Adrienne Rich's "Cartographies of Silence," which deals with the precise topic of Shauna's interest.

As Shauna developed her extended essay, her inquiry approach was particularly evident in her fascination with shifting meaning in the poetry that she examined, with the ability of language to "reveal or shadow the truth" (I-4, p. 5). Awareness of the ambiguities inherent in language also made Shauna particularly cautious when framing her own statements, as was evidenced in her recursive writing strategies and constant evaluation of her own thinking through ongoing content revision. In fact, concern for precise wording actually caused difficulty in crafting first sentences and introductions. Shauna emphasized that the beginning needs to "sound right" (I-2, p. 1) in order to ensure that the reader will not become confused at the onset of the analysis. In addition, Shauna's view of the illusiveness of absolute truth kept her from drawing premature conclusions or ignoring contrary views, as it also enabled her to leave unsettling difficulties alone, at least temporarily, until she could process them more thoroughly.

In accordance with her rejection of the idea of omniscient authority, Shauna personally analyzed the text first, trusting her own interpretative ability and feeling quite comfortable discarding published critical views that conflicted with her own perception

of meaning in the work. She freely challenged critical views that did not match her own interpretations, although she acknowledged the value of exploring contrary views as a means of reevaluating and clarifying one's own perceptions.

As Shauna approached "Cartographies of Silence," her strong sense of order immediately led her to separate the language features into categories in an attempt to establish a logical progression of ideas in her narrative. However, in Shauna's mind, order took various shapes, depending on the particular problem at hand. For example, in her essay, she not only recognized but also honored the shifting nature of knowledge as the human mind contemplates and explores complex issues, as she changed the organizational pattern of her analysis to reflect Rich's natural thought progression, which she considered essential to the unfolding meaning of "Cartographies of Silence."

It is interesting that Shauna commented in the first interview that she did not think she could write the extended essay "without having had the background in thinking that came from TOK," because she thought that "the extended essay has to incorporate the basis of knowledge in general, like it is necessary to know how to use those different aspects of knowledge. I think that is one of the criteria" (I-1, p. 5). Throughout the interviews, Shauna continued to express strong interest in how the study of language had influenced her thinking:

For example, does something have to be recorded to be true, to be important? It is really, really interesting. And do words validate things just because something is in writing? Does that mean it is true? Not necessarily. Is nothing still nothing if it is defined as something by giving it a word? (I-2, p. 6)

As Shauna contemplated these and other complex questions, her problem-solving approach to analysis of Adrienne Rich's own examination of language enabled her to put discovery in an even broader context:

The main meaning of the poem is just the value of language, its ability to influence, its ability to do good or bad—how language has the power to change the meaning of something or to change how we perceive something, a situation or a conversation, anything like that. That relates to the perception of truth—and the discerning of truth. (I-3, p. 2)

Throughout the extended essay process, Shauna remained open to exploration. She felt equally comfortable with her own analysis and the interpretations that she encountered in outside sources, as she also felt free to accept or reject ideas that did not seem to fit her understanding of the meaning of the text.

When Shauna's paper was subjected to analysis, it emerged with a strong focus on content, as well as a highly effective organization that supports the thought progression of the poem and lends itself to the unfolding of ideas throughout the essay. Although Shauna's mixed responses to the epistemological questionnaire appeared to be statements of uncertainty, the interviews revealed that Shauna embraced complex knowledge views across the domains. These balanced views resulted in strengths that enabled Shauna to construct a top quality extended essay. Unlike most of the other students, Shauna embarked on analysis of the poem without considering length. As she focused on and developed a line-by-line analysis of the poem and concentrated on the connotative meanings of the words and development of Rich's points in the poem, the length requirement of the essay took care of itself. Consequently, the strong relationship between commentary and supporting detail emerges naturally as part of the analysis. The result is a focused and exemplary literary analysis essay that reflects strong belief in

knowledge complexity and uncertainty, as it remains centered on precise examination of the topic with appropriate support from the secondary sources that were available.

Overview of Student Beliefs, Composing Process, and Final Products

This section presents an overview of how students' composing processes and final products as a group related to their stance on the five knowledge domains that were targeted on the epistemological questionnaire and discussed during the four interview sessions. Cross-case analysis of the multiple data sources collected from the five key informants in the course of this study revealed significant similarities and differences relative to the relationship between student knowledge beliefs as defined by the domains of the epistemological questionnaire and the choices students made during composing their extended essays. While the knowledge domains of innate ability and omniscient authority seemed to have minimal impact on student decisions in the course of this study, student knowledge views in the domains of quick learning, certain knowledge, and simple knowledge suggest emergent themes relative to students' composing strategies and crafting of final essays (see Table 3).

Innate Ability

For the purposes of this study, a strong belief in *innate ability* was framed in terms of assumptions related to success as a factor of natural intelligence rather than hard work. The key informants as a group did not indicate a high level of support for this domain, suggesting that all held strongly to a belief that success is not exclusively dependent on innate ability. The majority of the supporting answers from the group were in response to questions about the definition of genius (Q11) or expert (Q 21), the impact of a course in study skills (Q15), and whether or not students were "stuck with limited

Table 3

Relationship of Knowledge Views to Research and Composing Strategies and Choices

Knowledge Views	Research and Composing Strategies and Choices
Complex Knowledge	<p>Selection of complex, interpretive literary genres and topics</p> <p>Interest in subtlety and illusiveness of poetry, paradox, enigmatic and nontraditional comparisons, complexity of word meaning</p> <p>Recursive composing strategies; revision integral part of composing process</p> <p>Recognition of function of bias</p> <p>Led to reflective thinking</p> <p>Offset negative influences from high level of belief in knowledge certainty</p>
Simple Knowledge	<p>Focus on plot, quick task completion, tangible evidence, surface features, length requirement</p> <p>Linear or chronological reporting of events</p> <p>Simple composing plan</p>
Certain Knowledge	<p>Interest in order and structure (an established framework, thesis, logical progression and connectedness of ideas, closure); if extreme, order and structure may be externally imposed</p> <p>Correct and incorrect interpretations of literature</p> <p>Can be catalyst for discovery in search of absolute truth</p> <p>If extreme, can result in tendency to compartmentalize and draw predetermined conclusions</p> <p>Possible rejection of theory in favor of absolutes</p>
Relative Knowledge	<p>Awareness of the changing nature of knowledge in analysis of literature</p> <p>Ability to recognize static characters and situations</p> <p>Recognition of value in contrary views</p> <p>Resistance to formal outlining</p> <p>Awareness of the recursive nature of the writing process</p> <p>Caution towards drawing premature conclusions</p>
Rejection of Omniscient Authority	<p>Desire to work independently</p> <p>Reluctance to consult secondary sources</p> <p>Focus on personal responsibility in self and literature</p>
Rejection of Quick Learning	<p>Awareness of the need for time</p>

ability” (Q4). In the interviews, the students revealed that they responded to these questions largely in reference to the general population and not to themselves. Out of the ten supporting answers across the group, there was only one positive response to a key question of whether or not “really smart students . . . have to work hard to do well in school” (Q38). Not only were all five participants successful senior magnet students in a high academic program at the time of the study but all also indicated in the interviews that their success in the program was directly related to hard work. In addition, all of the students expressed a high level of confidence in their ability to work independently on an assignment such as the extended essay, as all also stated that they had selected literary analysis because they had already had considerable experience in that subject area. As a result, in this study, the composing strategies and essay results did not reveal a particular relationship to student responses on the innate ability portion of the questionnaire.

Omniscient Authority

For the study, a belief in *omniscient authority* was presented in terms of a focus on experts, textbooks, and teachers, with the expectation that a person who has a strong belief in omniscient authority will depend on, accept indiscriminately, and not question advice from experts, information from textbooks, or answers from teachers. Interview and questionnaire responses from all of the students were almost unanimous in indicating strong disagreement with the idea of omniscient authority. Throughout the interview process and drafting stages, all students expressed or demonstrated a preference for working independently, as well as a resistance to depending on secondary sources or mentors for guidance. Most also indicated that they felt a strong sense of personal

responsibility in meeting the demands of the assignment and that they considered themselves capable of meeting the challenge.

Although the questionnaire was designed to reveal the negatives of strong belief in omniscient authority, the students in this study possibly held views that were too extreme in opposition to omniscient authority. Three of the students seemed to resist consulting authorities in the form of mentors and secondary sources to the point of excluding themselves from much-needed assistance as they faced the new challenges of the extended essay. Although Bridget ultimately learned from the experience, she turned to her mentor and secondary sources only out of desperation during the final drafting stages in order to extend her paper. Likewise, even though Fred benefited from the one critical article that he used, he resisted seeking additional information beyond that. Megan also persisted in her desire to analyze everything herself and only viewed the secondary sources as providing support for her own ideas. Only Shauna and Paul seemed to feel at ease in using secondary sources and mentor advice in positive ways to stretch their thinking without compromising their inclination towards evaluating and questioning omniscient authority.

Quick Learning

The *quick learning* domain relates closely to innate ability, as it focuses on the fact that successful students are able to understand quickly and that learners should be able to comprehend concepts the first time they hear them without much effort, to the extent that questioning and exploration would be considered a waste of time. Again, since the students who participated in the study remained challenged by the rigor of their academic program, they all expressed strong agreement with the idea that learning is not

quick. In addition, in the interviews most of the students talked about the importance of thinking time in order to process complex ideas. Since students select their extended essay topics at the end of the junior year, they have time during the summer to do preliminary reading and planning in preparation for the first draft, which is due in September. Paul and Shauna both worked extensively over the summer, reading, gathering ideas, and conversing with mentors in preparation for the first draft of the paper. Bridget reported that she did not invest much time over the summer, simply because she already had a preliminary paper in place, but she did plan for extensive work during the subsequent drafting periods in the fall. Megan reported that she also spent time reading and rereading her primary sources, even though she misjudged the total amount of time that the paper required and ran out of time before the deadline for the final paper. However, in the final interview, Megan commented that she normally “procrastinated a lot” but that as a result of her experience with this paper, she had learned the importance of “studying every night even though I know I don’t have a quiz the next day, which I’ve never done before. I feel like I’m learning a lot more versus just memorizing” (I-4, p. 7). Although Fred was the only student with no responses in support of quick learning on the questionnaire, indicating that he clearly recognized the importance of time in the learning process, he was also the only student who reported little advance preparation and who wrote at the last minute. Fred’s assumption that writing the extended essay was a simple process apparently led him to misjudge the time needed, which appeared to be a significant factor in Fred’s failure to meet the length requirement of the extended essay. Thus, evidence of overall student belief in this domain was strong in favor of the time

commitment that students shared as a result of their realization that learning is generally a slow process.

Certain Knowledge

As defined by the questionnaire statements, a belief in *certain knowledge* was framed in terms of belief in the existence of unchanging truth, viewed not only as an ultimate form of reality, but also as an entity able to be determined and agreed upon through inquiry and discovery, as well as representing the ultimate goal for all learning and knowledge-seeking. The wording and scoring of the epistemological questionnaire also presupposed the pairing of a focus on facts, definitions, and scientific pursuit within the certain knowledge framework.

The certain knowledge domain produced a wide range of response across the group of key informants. Although all of the students indicated some level of belief in the existence of unchanging truth on the questionnaire, in the interviews all also expressed strong belief in the shifting nature of perceived truth. All students expressed that their belief in the existence of absolute truth did not include knowledge claims that defined that truth. Consequently, for all students, primary interest within the learning environment focused on examining relative truth claims. This focus on relative truth became evident in several students' interest in comparative analysis, as Paul explored the different cultural morals and standards represented by tragic heroes in Sophocles' *Oedipus Rex* and Neil Gaiman's *The Sandman*, and as Megan examined the individual responses of Willy Loman and Garcin to their respective environments in Miller's *Death of a Salesman* and Sartre's *No Exit*. In addition, Bridget was intrigued by the lack of resolution in Keats's "Ode on a Grecian Urn," while Shauna explored the shifting nature

of language in Adrienne Rich's "Cartographies of Silence." Although Fred acknowledged the existence of both relative and absolute truth and asserted that he did not consider it a waste of time to explore complex issues, he tended to view exploration in the realm of ideas and theory as inconclusive because they could not be supported by tangible evidence. This stance appeared to be a factor in Fred's general lack of interest in exploring uncertainties in literature, as well.

However, some level of belief supporting certain knowledge also appeared to have a positive effect on students' composing practices. Desire for certainty seemed to actually propel several of the students in the direction of discovery, as they sought to create order out of apparent disorder or rearrange information into a more comprehensible order. Bridget, Megan, and Shauna, all of whom indicated a fairly high response in favor of certain knowledge, maintained strong interest in developing a logical progression of ideas leading to a clear conclusion as they composed. They also remained sensitive to connectedness and ideas that "fit" already established structure. However, strong support for certain knowledge, as with Bridget and, to some extent, Megan, appeared to lead to an over-emphasis on order and premature desire for closure. For example, Bridget felt secure with her previously written paper, to the point that she did not want to alter the framework to accommodate the extensions that it needed to become an extended essay. Megan's focus on her conclusion paralyzed her discovery process so that she was unable to expand her vision to be able to incorporate important points that related to her topic. Consequently, while it appears that some belief in knowledge certainty can benefit student writing by encouraging both discovery and structure, a

strong attachment to certain knowledge can be a deterrent to the flexibility that allows ideas to unfold as part of the recursiveness of the writing process.

Simple Knowledge

In the *simple knowledge* domain, support questions focused on facts and correct answers to the exclusion of multiple methods of instruction, multiple interpretations, complex meanings, and integration of ideas. All students except one indicated strong disagreement with the concept of simple knowledge and strong support for the complexity of knowledge, with few undecided responses across the group. The four students who strongly rejected simple knowledge and supported complex knowledge consciously selected literary analysis because they were interested in the multiple meanings that they saw in the literary art forms of drama, poetry, and the graphic novel. All indicated that they liked to think about complex ideas and ask questions, such as why people make the decisions that they do, how culture impacts decision-making, and how language functions to limit or advance communication. In the course of the study, these students also demonstrated the ability to maintain a constant focus on analysis, as they expressed interest in complex word meanings, paradox, character responses, and nontraditional literary forms. In addition, their writing processes remained highly recursive, as all resisted initial outlining, engaging instead in constant content revision as they developed their analysis.

In contrast, Fred, the only student who ranked relatively high in responses that favored simple knowledge, displayed very different characteristics throughout the extended essay process. From the beginning of his topic selection, which was based on what he liked rather than what provided a rich field for exploration, he focused heavily on

the length requirement for the essay and on events rather than the idea structure of the novel. The selection of a single novel in itself was problematic, since the narrative nature of novels tends to make them appear deceptively simple when in reality they are quite difficult to analyze. He also stated that he saw literary analysis as less precise and more open to expressing opinion without supporting facts than research in other subject areas. In addition, Fred's composing plan consisted of dividing the length requirement by the number of paragraphs needed and then trying to fill in the topic and supporting sentences. Even the tendency to wait until the last minute to write a paper suggests a mindset towards assuming that composing is a simple and straightforward linear event, a possible reflection of this student's strong simple knowledge views.

Concluding Observations

In this study, since the five key informants were all high ability magnet seniors in an advanced academic program, there was little apparent differentiation across the group in the domain of innate ability. In addition, since all of the students had been well-trained in literary analysis in four English literature classes prior to the start of the extended essay and had been encouraged to question and challenge ideas throughout the academic program, responses were almost unanimous in rejection of the idea of omniscient authority, even to their detriment in several situations. In the area of quick learning, again there was strong agreement that learning is not quick, leading in most cases to students' planning adequately for the extensive thinking time required to both process complex ideas and compose a lengthy essay.

However, the two knowledge domains of certain knowledge and simple knowledge appeared to reveal significant differences in student beliefs that led to varied

composing strategies and levels of success on the final essays. In the area of certain knowledge, even though an extreme position in support of certainty did appear to relate to negative results in an overemphasis on structure, some level of support seemed to encourage interest in discovery and inquiry. While support of certainty in the certain knowledge domain seemed to prompt both positive and negative approaches to discovery and processing, support of simple knowledge appeared to have a consistently negative impact on discovery and processing for this group of students. In the area of literary analysis, strong belief in the complexity of knowledge clearly generated the highest level of reflective thinking and even appeared to offset some negative influence from a strong belief in knowledge certainty. In spite of graduated responses on certain knowledge, Bridget, Megan, and Shauna responded at the same level on the simple knowledge domain in favor of the complexity of knowledge. Even though their level of engagement with complex ideas varied, all demonstrated an interest in inquiry and a fascination with exploring subtlety in the literary works they examined. In contrast, whereas Paul and Fred were almost equal in their responses on certain knowledge, Paul indicated a high response in favor of complex knowledge, while Fred leaned significantly towards simple knowledge. The difference in level of engagement during the composing process and in the quality of the final essays paralleled the difference in their simple/complex knowledge views. These results would seem to suggest that sustained focus on complex thinking not only builds analytical ability but also fosters student interest in problem solving that emerges as depth of exploration during the composing process. These results would also seem to suggest that the knowledge domains do not function as independent

factors in student learning but work in tandem as part of a complex construct of student thoughts and responses.

CHAPTER 8

DISCUSSION AND IMPLICATIONS

This qualitative study explored the epistemological views and composing strategies of advanced students as they moved through the process of researching and writing a literary research paper. The participants in this study were senior students in an International Baccalaureate Diploma Program, which requires a 4,000-word extended research essay as part of the core requirement for the IB diploma. The study focused on in-depth examination of individual perceptions and strategies for five key informants, as well as on identifying areas of commonality reflected in the composite views and processes for the students as a group. Constant comparative analysis and open, inductive coding were used to explore emerging patterns and themes and to permit individual epistemological views and voices to unfold from analysis of multiple data sources, including freewrites, questionnaires, essay drafts, final essays, and four in-depth phenomenological interviews for each of the five key informants. Findings relating to individual epistemological views, composing processes, and final products are presented in Chapters Four through Six. Chapter Seven provides a synthesis of how each key informant's beliefs about knowledge and learning relate to the particular choices each student made during the composing process and crafting of the final paper and concludes by examining the similarities and differences observed across the group on the relationship of epistemological views to students' research and composing strategies during the extended essay process. Finally, this chapter draws overall conclusions,

situates the study within existing research, discusses the implications particular to the study, and suggests directions for future inquiry.

Conclusions and Connections to Previous Research

As this study explored student knowledge views and composing processes that resulted in production of final essays, major themes emerged indicating relationships between student beliefs about knowledge and learning and the writing of the extended essay. Significant relationships were indicated between knowledge views and concept formation, knowledge views and composing strategies, problem solving and the research experience, and reflective thinking and academic challenge.

Knowledge Views and Concept Formation

One of the most valuable findings revealed by this study concerns the awareness that students do approach tasks such as the research essay with an established system of beliefs about knowledge and learning that guide their exploration and writing practices (Beers, 1984; King & Kitchener, 2002; Schommer, 1990). Based on the Perry model (1968/1999), the Schommer (1989) epistemological questionnaire provided an effective tool for raising initial questions about students' knowledge views within and across five key knowledge domains. Although the questionnaire proved inadequate by itself in relating knowledge views to student performance in the context of this study, the domain framework established by the Schommer (1989) study opened up avenues for further exploration into students' views during four sets of in-depth phenomenological interviews conducted at key drafting stages of the extended essay. Results showed that the innate ability domain was not significant in this study because of the high ability level of all of the key informants. In addition, while the omniscient authority domain did

appear to have some relationship to student views, the effects were largely reflective of students' rejection of omniscient authority to the point that they resisted using secondary sources. This finding supported results of the Schommer (1989) study, where factor analysis excluded omniscient authority as a significant knowledge view directly related to student comprehension.

However, in the course of this study, examination of student's knowledge views revealed that strong beliefs in complex knowledge and knowledge uncertainty, paired with the understanding that learning is a slow rather than quick process of building up knowledge, typically led to more sophisticated and sustained interest in analysis and inquiry. Throughout the study, students with strong complex knowledge views developed diverse ways of approaching literary and secondary texts and engaged in multiple levels of analysis (McGinley & Tierney, 1989), in one case even to the extent of offsetting negative tendencies to confine and constrain information in order to fit a certain knowledge framework. In contrast, a high level of belief in simple knowledge was paired with foundational deficiencies that resulted in reduced planning, engagement, and writing proficiency (Singer & Bashir, 2004). Simple knowledge beliefs were also reflected in a focus on the more elementary levels of knowledge-telling and transferring of facts and ideas from primary and secondary source texts, rather than the more advanced approach of knowledge transforming associated with complex knowledge views (Many, Fyfe, Lewis, & Mitchell, 1996; Singer & Bashir, 2004)). These results supported previous findings in the Schommer (1990) study, which examined how students' knowledge beliefs affected comprehension of complex and uncertain information. In addition to the exclusion of omniscient authority as a primary factor in comprehension, the Schommer

(1990) study revealed that increased exposure to advanced knowledge correlated with more tentative views of knowledge, that students with strong beliefs in knowledge certainty tended to distort information in order to be consistent with their beliefs, and that different tasks resulted in perceptual shifts.

Schommer (1990) also found that students who hold strong beliefs in quick learning are more likely to write oversimplified conclusions, as well as inaccurately assess their own level of comprehension. However, in the current study, the one student who wrote oversimplified conclusions and inaccurately assessed his level of understanding held the strongest belief against quick learning. In the interviews conducted as part of the current study, as students discussed their views relative to the five knowledge domains, the complexity of student views became clear, such that a particular stance in one domain did not necessarily result in predictable academic behavior patterns, as stage theories imply (Beers, 1984; Perry, 1968/1999). In a follow-up study, Schommer (1994) as well moved away from a linear stage theory and suggested that “personal epistemology is a system of more or less independent dimensions” (p. 27), which the current study supports. However, unlike both the Schommer (1990, 1994) and Perry (1968/1999) findings, this study revealed that a sophisticated critical response related more to strong student support of complex knowledge beliefs (rejection of simple knowledge) than to rejection of knowledge certainty. Overall, the results of this study suggest that although the knowledge domains provide an effective means of looking at student views, in reality they are not separate and distinct but rather work together as part of a complex construct that includes prior knowledge and experience, as well as interest and motivation.

Related findings of this study also supported Vygotsky's psychological views of concept formation, which suggest reasons for the key roles played by the complex knowledge views as revealed by the questionnaire and interviews. Vygotsky (1934/1986) pointed out the importance of linkages to assimilate new information into a prior knowledge base, as well as the importance of a problem-solving approach in initiating concept formation, as a clearly nonlinear function. The open-ended nature of the research assignment for the extended essay encouraged elaborate individual exploration, as students focused on making connections between different character responses, divergent poetic views, and contrasts between their views and those of the critical sources they consulted. Two students also explored secondary sources to build their knowledge base prior to starting on their analysis and research essay. In addition, Vygotsky (1931) pointed out that academic concepts cannot be mastered through straightforward learning and that concepts and facts are not the same. Failure to recognize the difference between concepts and facts clearly contributed to the limitations evidenced in the responses of one student who held a high level of belief in simple knowledge.

Although this study primarily addressed the relationship of student knowledge views to individual composing strategies, another result of the study was that student awareness of knowledge views helped to give students insight that in turn affected their approach to the literature, as well as to their composing processes. Part of the students' prior knowledge base that resulted in a high level of complex knowledge views among the key informants was their participation in a philosophy-based Theory of Knowledge course (a requirement of the International Baccalaureate Diploma Program), which exposed the students to complex thought processes related to the nature of knowledge

and knowledge claims across the academic domains. All of the students except one repeatedly acknowledged the role that exposure to the philosophical perspectives generated by exploration of different theories of knowledge had played in their interest in complexity and their ability to analyze in multiple subject areas. In addition, students had previously engaged extensively in literary analysis over their three years in the International Baccalaureate Program prior to starting work on the extended essay. For four of the five students in the study, this exposure attracted them to literary analysis, as it also sparked considerable interest in complex ideas associated with literature. Students with a tendency to think in complex terms were drawn to exploring complexity in literature, as uncharted works and literary comparisons offered rich fields for study, especially since literary analysis was a familiar domain. Throughout the study, depth of prior exposure to complex knowledge views definitely seemed to impact student interest in analysis and inquiry.

Knowledge Views and Composing Strategies

Another important result of this study was the relationship between complex knowledge views and advanced composing strategies, as well as command of the writing process. As the students had the freedom to choose the literary work or works that they wanted to analyze, they seemed drawn to literary pieces and topics that reflected their own epistemological interests, Bridget to truth and paradox, Shauna to language, Megan to individual views of different characters, Fred to the failure of religion, and Paul to the cultural differences of tragic heroes. The students with the strongest views of complex knowledge also selected literary genres that invited exploration, presented challenging ideas, or suggested unusual comparisons, whereas the student with strong views in favor

of simple knowledge selected a novel and remained heavily plot-focused throughout the essay experience. In addition, the complex thinkers leaned towards similar composing strategies, including establishing a thesis or controlling idea at the beginning of the planning stage, which they envisioned as a tool for managing ideas rather than a constraint. However, the student with high simple knowledge views determined essay divisions based on the length requirement without developing a thesis, while the two students with the strongest views of certainty became adamant about fitting all additions into the framework of the existing thesis or conclusions identified in the first essay draft. This tendency supported one of the findings in the Schommer (1990) study, which indicated that students with high certain knowledge views tend to distort information in order to privilege consistency over other considerations.

During the composing process, the students also generally rejected outlining as an initial planning stage, with most students stating that when outlines were required, they constructed them after writing the paper, since they all indicated that they actually formulated many of their ideas as they wrote (Elbow, 1973). As the students composed their papers, they all demonstrated largely recursive writing strategies, including rereading and reevaluating content almost constantly during both drafting and revision (Berkenkotter, 1983; Hayes, 2000). Most of the students' recursive revision strategies related to content revision, with all reporting that a conscious focus on surface editing took place primarily at the time of the final draft (Faigley & Witte, 1981; Sommers, 1980). In addition, the students focused primarily on the texts that they were exploring, as most expressed that they liked their own thoughts and resisted incorporating the thoughts of others. Their high confidence level in their own ability to analyze literature also clearly

reflected the extensive past experience that they had all had with writing, especially literary analysis, throughout their academic program. In support of the high cognitive processing which writing demands, students were frequently provided with opportunities to write in order to explore ideas through journals of various types, including quote journals (Bereiter, 1980; Elbow, 1973; Emig, 1977). Several students referenced the value of these varied writing experiences as they discussed their confidence in literary analysis and composing.

Gender differences also emerged from the results of this study, as the students selected and examined their subjects and genres for analysis. The two male students demonstrated a much more direct approach to their topics and analysis. They relied heavily on logical order, which surfaced as a plot focus for one and a need to divide the essay into labeled sections for the other. In addition, the selected topics related to issues of power and authority, such as the main character's misuse of power in Kingsolver's *The Poisonwood Bible* and the conflict between personal will and external powers of fate faced by two tragic heroes, one ancient and one modern. On the other hand, the female students demonstrated a higher level of interest in subjectivity, as they viewed authority as internal and remained largely uninspired by the use of secondary sources. Their topic choices dealt with truth and reality, different individuals' perceptions of their environment, and the ambiguity of language, all of which concerned perceptual or relational issues. These differences support the findings in Many, Howard, Cardell, and Lewis (2002), which revealed that males focused more on objective topics with an interest in power, authority, and global issues, whereas females tended to focus more on personal issues.

In addition, compared to the male students, the three female students in this study indicated a much higher level of support for the certain knowledge domain, which is often paired with “received knowing” or “listening to the voice of others” when the stages of the Perry (1968/1999) study are aligned with the various levels of the *Women’s Ways of Knowing* construct (Belenky, Clinchy, Goldberger, & Tarule, 1986). However, in this study, the two females who held the strongest beliefs in certain knowledge also indicated strong belief in subjective knowledge, which possibly contributed to their conviction that, in literary analysis, “truth” could be found within the intent of the author as well as within their own interpretations of the literature and not in secondary sources. At the same time, the female students in this study also demonstrated a high level of reasoning ability, as well as interest in inquiry and constructed knowledge, which would indicate a position closer to the Belenky et al. (1986) “integrating the voices” stance, although their rejection of omniscient authority largely limited inclusion of selected voices to their own, the voices they heard through the literature, and the voice of reason as they perceived it to operate in the world. In addition, for the female students in this study, the exposure to complex thinking within the academic program seems to have challenged them to explore multifaceted issues that were reflected in their topic selection and desire to engage in in-depth analysis as they constructed their extended essays. As a result, their higher acceptance of certain knowledge concepts did not completely dominate their interests or their composing processes, though it did impact their strong desire for order and organization. These findings suggest that although students’ knowledge views appear to be influenced by gender, even gender-related knowledge

views do not appear as linear stages but instead as complex constructs shaped by multiple perceptions and experiences.

Problem Solving and the Research Experience

One important related result of this study involves the need to question the instructional validity of the traditional research paper itself, especially with respect to its placement within the English curriculum. Since its inception in the mid-nineteenth century, the research paper has remained a staple in junior and senior high school English classes, as well as freshman English at the college level (Berlin, 1984; Kitzhaber, 1990). However, in the International Baccalaureate Program, the research paper takes the shape of an extended essay, described as “an in-depth study of a limited topic within a subject” for the purpose of providing “an opportunity to engage in independent research” (International Baccalaureate Organization, 1998, p. 7). The specific requirements for an essay submitted in the literary analysis category include intensive study of a suitable literary topic, engagement in “personal critical judgment of literature,” and inclusion of “established critical comment” (p. 20). Since the literary extended essay is designed to invite independent interpretation rather than support the reporting focus of the traditional research paper, success is defined in terms of high expectations for individual engagement in literary analysis. This approach reflects Ballenger’s (1999) findings that the research essay, unlike the traditional research paper, builds on the type of writing supported by the English curriculum, as it also promotes academic inquiry by encouraging students to engage in complex thought exploration. The focus on literary analysis and criticism that characterizes the literary research essay over the traditional research paper in the English curriculum also supports the blend of the poetic (literary

studies) and the rhetorical (composition) that so many concerned educators have called for in order to challenge students to engage in higher level thinking and analysis (Berthoff, 1986; Clifford & Schilb, 1985; Harkin, 2005; Peterson, 1995; Tierney, Soter, O'Flahavan, & McGinley, 1989).

As a result, from the start, the nature of the extended essay assignment created a different task impression than that implied by the positivistic focus of the traditional research paper (Ballenger, 1999). Left to decide direction independently, students chose the literary research essay as a genre that invited inquiry as well as a path of familiarity, which both benefited and hindered them. The benefit came from the strong focus on literary analysis, as even the weakest essays achieved an acceptable level of engagement with the primary text and reasonable attempts at analysis. The primary hindrance came from incorrect assumptions about the nature of the assignment and from the unfamiliar length, which caught three of the five students in a web of non-productive planning strategies, such as using a previously written essay as a core, focusing on a pre-determined conclusion, and following the natural chronology of plot.

The requirements of the extended essay also presented a unique challenge with the International Baccalaureate Program's expectation that students essentially work through the research and writing stages independently without any classroom instruction, although they are assigned teacher mentors who are available to assist them at student request. Consequently, the process of independently planning and writing an extended essay of 4,000 words became an ill-structured domain where former strategies did not always work and students were caught off guard by unanticipated challenges (King & Kitchener, 2002; Spiro, Feltovich, & Coulson, 1996). A student who was accustomed to

focusing heavily on opinion or who customarily wrote essays at the last minute simply lacked the tools necessary to know how to function in this new environment. In addition, even though students were not faced with prescriptive instruction on the research paper process, the one prescriptive element in the assignment, the 4,000-word length, initially commanded the attention of all of the participants. Although a few students became so captivated by their topics that they essentially lost sight of the length factor, in general the 4,000-word requirement caused thinking to stagnate at the 2,000- to 2,500-word level that students had experienced in the past. Students also seemed to focus on the word “extended” and picture an elongated version of previous essays rather than envision the extended essay as an altered form that needed to be approached from a new analytical perspective.

The nature of the extended essay assignment also reduced emphasis on secondary sources, since student voice is considered more valuable than methodical inclusion of published critical opinions. Students are expected to “include” reference to secondary sources (International Baccalaureate Organization, 1998, p. 20), which served to reinforce the task impression that students had already formed of the extended essay as a long literary analysis essay. Although students had written traditional research papers where they focused on constructing knowledge from multiple sources, their initial task impressions of the nature of the extended essay centered on using secondary sources to provide background knowledge and support for their own interpretations of the literary texts. However, as several of the students encountered difficulties meeting the length requirement of the essay, they were forced to alter their views of secondary sources and arrive at more inclusive approaches to critical articles. For one student, inclusion

consisted of recognizing the value of the analytical perspective he encountered in the critical article, which resulted in transferring insights in summary form to his paper, while another student was challenged to stretch her thinking in a totally new direction, which served to both enliven and extend her analysis. Although most students possibly held too distant a view of omniscient authority, which was reflected in minimal use of secondary sources in the essays themselves, the focus on student voice in the majority of the final essays was strong compared to the typically dry tone found in the majority of literary research papers in the English classroom (Ballenger, 1999; Elbow, 1986).

As a result, students' difficulty in envisioning the whole for both the paper and the process of the extended essay probably presented the greatest challenge to the students in this study, as they were faced with additional length and the absence of supervision. A study conducted by Singer and Bashir (2004) revealed the importance for students to visualize the shape of a text prior to starting on a composing task, as inability to visualize resulted in foundational deficiencies that surfaced in a basic level of knowledge telling, which two of the five students demonstrated at various points in the current study. Even though all of the students did develop more complex academic concepts as a result of encountering problems (Vygotsky, 1931), some students proved to be more successful at problem solving than others. For example, not only were two students who created a broad conceptual framework from the beginning able to write an effective analysis without even considering length as a problem, but another student was also able to partially recover from the failure of her original strategy by designing a new conceptual framework that incorporated related additions. However, a student who did not redesign ended up with an analytical part of an essay followed by unrelated additions,

and the student for whom length was a major stumbling block throughout the essay process never moved past the 2,500-word roadblock simply because he lacked the ability to “visualize the shape” of his text. Even though students experienced difficulties as they charted the new domain of the extended essay, the study clearly demonstrated the importance of the literary essay as a means of evaluating the complexity of students’ knowledge claims and the importance of approaching the research task from a problem-solving perspective, especially within the English curriculum, since the high assessment expectations for literary analysis include perceptive insight, effective organization, persuasive substantiation, and meaningful conclusion.

Although not directly designed as part of the study, motivation also emerged as an obvious factor in students’ attitudes towards the research process and performance on the IB extended essay. In IB assessment, the grade that is awarded does not directly penalize the student but, depending on the quality of the essay, simply adds or does not add points to a student’s total IB diploma examination score. The only penalty that can occur, failure to receive the IB diploma, results if a student fails to submit a paper for evaluation. Although motivation is not one of the knowledge domains, findings from this study suggest that individual investment in inquiry appears to be directly related to the desire to engage in problem solving, which in turn affects the motivation to perform well on the essay, regardless of the grade issue. Several of the students in this study expressed the desire to explore their topics and write a well-developed essay simply because they were excited about the inquiry and wanted to share their discoveries through their writing. In a sense, motivation may also be related to the ability that a student already has in the learning domain, since students who expressed a high level of confidence in literary

analysis tended to invest more time and effort for intrinsic rather than extrinsic reasons. Additional personal motivational factors that emerged during the study were that some students envisioned the extended essay as a sample writing that they might submit with their college applications as evidence of the level of work that they were capable of performing.

Reflective Thinking and Academic Challenge

Academic challenges like the extended essay require that students employ advanced skills of critical analysis and reflective thinking, which Dewey (1933, 1938) indicated are called for when individuals encounter problems that cannot be solved with certainty. Although the students in this study indicated strong support for complex knowledge views and seemed attracted to the intellectual challenge presented by the ambiguity of relative truth and diverse individual perspectives, they encountered unexpected problems in the process of researching and composing the extended essay that called for more advanced cognitive and processing skills than they had previously developed. For example, knowledge views on omniscient authority initially led students to welcome the open-ended guidelines of the extended essay concerning the use of secondary sources and mentors. However, as students viewed the function of secondary sources as insertions into their own texts instead of idea sources to stimulate reflective thinking and as they failed to take advantage of the mentoring opportunities that were available to them, they excluded valuable sources within the literary community and thereby restricted their own interpretive response to the literature. Within a transactional community, both secondary sources and mentors can serve as mediators in the process of

cognitive development that enable students to reach towards their potential (Bereiter, 1980; Elbow, 1986; Vygotsky, 1935/1978).

Building on Dewey's concept of reflection, King and Kitchener (2002) developed a reflective judgment model, which targets personal epistemology and critical thinking skills and considers the problems that individuals confront in the midst of ill-structured situations. Although the King and Kitchener Reflective Judgment Interview (RJI) was not used in this study, student responses to interview questions provided insight into their stance relative to the seven stages on the King and Kitchener model (see Appendix I), which move from pre-reflective thinking (Stages 1, 2, and 3) to quasi-reflective thinking (Stages 4 and 5) to reflective thinking (Stages 6 and 7). The students who participated in this study demonstrated views that ranged between Stage 4 (knowledge is uncertain, with knowledge claims justified by giving reasons and evidence that are often idiosyncratic) and Stage 6 (knowledge is constructed into individual conclusions about ill-structured problems and are justified by comparing evidence from different perspective). These descriptors indicate fairly complex knowledge views, thereby helping to confirm the findings of this study that were based on the five knowledge domains as determined by the students' interpretations of the epistemological questionnaire (Schommer, 1989).

Although the overall complexity of the students' knowledge views did not enable the students to avoid consequences for some of the choices they made as they faced the problems that arose, the strength of their complex knowledge views did help them evaluate the experience itself. Consequently, while the process of researching and composing the extended essay functioned as an ill-structured domain for the students during the course of this study (Spiro, Feltovich, & Coulson, 1996), at the end of the

process, most students indicated that they felt an increased degree of confidence in their ability to handle a similar situation in the future:

I kind of thought that I had said everything that there was to be said, so that [reading a critical article] really kind of opened a window, because I really saw that there wasn't an end. (Bridget, I-4, p. 5)

If you're doing a literary analysis like this, I think you really need to look at the different interpretations of the work to get that broad spectrum. (Fred, I-4, p. 5)

I learned a lot about time management, but I used the same writing techniques that I've always used. I wouldn't say that it had a huge impact on me. (Megan, I-4, p. 5)

I've had the practice, and I've had the trial route, and so I could easily see myself advancing to more difficult things, more in-depth work, stuff that's requiring a lot more research and just a lot more analysis, because I've had the background for it now (Paul, I-4, p. 2).

First of all, 4,000 words isn't as long as it seems. I mean it's the longest paper I've ever written, but in the end it didn't seem as long as it looked from far away. I also learned about the value of writing about something that I am passionate about and that I enjoy. It makes the writing process rather enjoyable, and I feel as though I got a lot out of the method—the multiple drafts, the revisions, and, of course, the final product. (Shauna, I-4, p. 1)

Student comments such as these reveal valuable insights about the diverse ways that students approach difficult academic requirements, such as researching and composing a literary extended essay, as well as the benefits that students experience when they are presented with challenging learning tasks. In addition, the major themes that emerged during the course of this study relative to the relationship of students' knowledge views and composing processes provide key areas of consideration for instructional design, as well as for evaluating the effectiveness of a curricular component such as the research paper.

Implications and Recommendations

The strong hold of the research paper assignment on the English curriculum over the past fifty years has created instructional and learning challenges that call for innovative solutions. Although concerned educators have developed numerous creative variations in approach to try to spark student interest and promote critical thinking, research has revealed little change in curriculum design or student performance on the research paper in the English classroom, even with advanced ability students (Ballenger, 1999; Ford, 1995; Moulton & Holmes, 2003). As this qualitative study explored the complexity of student beliefs during the planning and composing stages of a literary research paper, results emerged that suggest important directions for research paper design and instruction within the language arts curriculum.

Although the traditional research paper format can serve to teach valuable research and organizational skills and expand student awareness through exploration, the prescriptive focus of typical research paper instruction supports a view of knowledge as “exogenic,” or external to the learner (Fitzgerald, 1993). Such a focus on form and procedure rather than on problem solving results more in fact gathering, reporting, and summarizing than on inquiry. In addition, studies have shown that the traditional research paper assignment generally follows the directive of statewide assessment; for example, when the state focus is on persuasive writing, research assignments are typically designed to be persuasive, often with a limited focus on current issues (Hillocks, 2002). Thus, as the standards movement continues to promote statewide graduation writing tests, the particular type of writing validated by high stakes testing can be expected to receive increased attention within the English curriculum to the possible exclusion of more

authentic types of writing and inquiry. As this study has shown, complex thinking develops through exposure to challenging ideas, which can be extended well beyond the immediate experience of individual students through the study of literature and involvement in literary analysis by addressing a more expansive view of knowledge than the traditional research paper supports. Consequently, one important implication of this study is validation of movement away from the positivist approach of objective research towards complex problem solving as part of the research process, particularly within the language arts curriculum. As this study suggests, such a movement could be supported by an instructional shift to the conceptual focus of a research essay away from the factual focus of a traditional research paper (Ballenger, 1999). Certainly, as student knowledge views were examined during this study, reflective thinking was encouraged by involvement in the complex issues presented by confronting contrasting values, decision making, and communication barriers that students explored through the literary genres that they selected. Although in English a conceptual approach is well served by a literary emphasis, particularly for advanced students, non-literary topics can also be explored in ways that promote complex thinking and exploration. Regardless of the specific topic or area of focus, research assignments should support problem solving over information collection and summary reporting.

Clearly the positivist approach of traditional research paper instruction, which typically includes the lengthy sequence of establishing a thesis, writing an outline, collecting bibliography cards, recording notes on note cards, writing a rough draft, revising, and writing a final draft, invites linear thinking and conveys the idea that writing a research paper is similar to following a roadmap to a predetermined destination.

However, as this study revealed, a “roadmap” approach proved quite problematic, particularly as students were ushered into the unfamiliar cognitive domain of an extended length requirement, which demanded thinking beyond the familiar guidelines of previous assignments (Spiro, Feltovich, & Coulson, 1996). For three students in this study, concept formation was clearly blocked by linear views of the task they were facing (Vygotsky, 1934), including adding sections to a core paper, focusing on plot development, and drawing premature conclusions. In addition, the fact that concept formation cannot advance in a prescriptive environment begs further for altering the linear direction of the traditional paper in favor of problem solving and idea processing. When content becomes the primary focus, students develop the conceptual direction of the essay first and then explore a structural framework that not only effectively communicates ideas but also allows expansion to include additional information and ideas from outside sources. Consequently, placing the research paper within a transactional construct that includes text, writer, language, and an expanded literary community all engaged in active exchange of ideas validates such a change of focus to encourage moving students beyond the realm of mere adoption of others’ ideas and information to analysis and reflective thinking, which embraces dialogic inquiry (Berlin, 1984; Elbow, 1986; King & Kitchener, 2002).

Within the context of this study, student comments revealed that not all knowledge views are domain general. Students repeatedly referred to different views pertaining to science and history compared to literature and literary analysis, as some subjects require a heavier focus on facts and different approaches to studying. In addition, different knowledge beliefs led students to select different topics areas for their extended

essay. As a result, research needs to be conducted differently depending on the subject area. In addition, English teachers should not be expected to teach the research paper as a generic form that fits all types of inquiry, since fact-based research possibly better correlates with subject domains other than English.

As themes emerged indicating significant relationships between student beliefs about knowledge and learning and the writing of the extended essay in the course of this study, examination of students' epistemological views relative to particular types of instructional tasks proved to be highly informative. However, the first question that must be raised concerns methods of accurately determining a student's epistemological views in order to provide individualized instruction and guidance. As exploratory tools, such as the Schommer (1989) epistemological questionnaire that was used in this study, the Schraw and Bruning (1996) reader belief questionnaire, and the King and Kitchener (2002) Reflective Judgment Model continue to be developed and used to identify students' knowledge views, it is imperative that researchers realize the limitations of prescriptive methods of inquiry. For example, although questionnaires can serve to identify surface trends, where individual situations are concerned, other more exploratory methods need to be included. As this study revealed, students' knowledge views are considerably more complex than can be identified or defined by an objective instrument such as a questionnaire, which by its very nature functions in a limited and reductive capacity, much like dictionary definitions, which can only suggest the complex connotations of associated word meaning. In addition, in setting up a priori boundaries, any prescribed instruments used to identify students' knowledge views automatically restrict those views (Vygotsky, 1934). Consequently, research in the area of knowledge

beliefs needs to recognize the limitations of prescribed measures such as questionnaires and inventories and expand exploration by utilizing additional qualitative methods of exploration that allow the complexity of individuals' views to unfold.

An additional area of focus that emerged as a result of this study concerns possible instructional methods that provide student support as part of the research and composing processes in order to help students avoid obvious pitfalls and therefore experience greater success throughout the research process. For example, at the point in the study when the student with a strong inclination towards simple knowledge selected a novel with a clear plot for his subject and talked repeatedly about the events of the novel, mentor intervention and instructional scaffolding on how to locate and use secondary sources might have helped him refocus on an aspect of the novel that would have encouraged analysis over description. In addition, the students who were constrained by a predetermined conclusion or an intact paper at the beginning of the research process might have been helped to rethink in terms of a more encompassing framework and to craft a guiding thesis or research question that would have opened up additional directions for exploration. Realizations that came to the students after exposure to the process, such as the need to look at different interpretations or the awareness that writing without conceptual shape becomes vague and abstract, might have occurred sooner if assistance could have been provided in time before the students embarked on courses that were likely to lead to entrapment in nonproductive practices. This finding has particularly strong implications for the mentor involvement that is already in place as part the International Baccalaureate extended essay instructional design, since the study indicates that mentoring should be an integral part of the process design rather than a provision that

leaves initiative solely up to the students. In several instances in this study, the students were unaware of how decisions would affect their essays until they were faced with having to make substantive rather than simple changes.

Implementing the principles of cognitive flexibility theory in the instructional setting would also help to build for student success in domains that are complex and ill-structured, such as the research essay (Spiro, Feltovich, & Coulson, 1996). Cognitive flexibility principles include incorporation of instructional and learning activities that provide multiple versions of the content, instructional materials that avoid oversimplifying information in the content domain, and instruction that focuses on knowledge construction rather than information transmission (Spiro & Jehng, 1990). For the research essay or paper, these principles again would suggest the importance of intervention at key stages, such as topic selection, research approach, organizational planning, composing strategies, and use of secondary sources. For example, helping students to visualize the scope of an essay topic in terms of its idea structure would minimize concerns about length, which was a critical factor in the current study.

In addition, students need to be guided through positive ways of using secondary sources that inform and support rather than constrain or compromise writers' arguments within a reflective essay. In the context of this study, since students were encouraged but not required to consult secondary sources, their avoidance not only related to their confidence in their own ability to engage in literary analysis, but also reflected unfamiliarity with how to use critical articles effectively. As several of the students moved to secondary source texts to extend their own essays, their views towards sources as exterior authorities shifted as they realized the limitations of their initial approach and

modified their perspectives as a result of the encounter with new ideas, which ultimately led to more advanced concept formation. Exposure to a new critical perspective challenged Bridget to make additional connections; contrary views of Rich's purpose led Shauna to explore language complexity more deeply; and reading a critical viewpoint on the novel enabled Fred to incorporate several strong analytical passages in an otherwise largely plot-focused essay. Within the context of classroom instruction, exposure to varied critical views would help students to learn to view primary works through multiple literary lenses and thereby expand their ways of seeing and interpreting literature.

In addition, extending teacher mentoring within the regular classroom, as well as within the design of the IB extended essay, would provide a valuable link in matching student views with strategies for success. For example, one of the students in the study not only read and reread texts and secondary sources, but he also exchanged frequent emails with individuals he knew who had an interest in his topic, as well as tested the effectiveness of his writing by having a family member who was unfamiliar with the literary texts read and comment on his drafts. Various writing workshop designs and collaborative support groups, which are rarely used with independent research assignments, would provide for this type of helpful exchange in either an actual classroom setting or a virtual community. In the case of the IB extended essay, even though students learn through the experience of working independently during the research and composing processes, the results of this study would seem to indicate that including peer and mentor support within the design of the project would increase scaffolding within an ill-structured domain to help students experience greater success with both the process and the products of their efforts.

Finally, another area of instruction that is essential in helping students to think critically is writing across the content domains, especially when the focus is on process rather than linear research and writing methods. The students in the study commented that they had engaged in frequent writing in all of their subject areas and had gained practice in academic writing through extensive use of analytical responses and journal writing, including quote journals (Elbow, 2000). Familiarity with multiple types of writing and experiencing writing on a regular basis clearly stretches students to think in diverse ways by engaging them in reflective discourse where they confront and react to ideas (Emig, 1971). Such experiences require students to explore concepts, as well as justify opinions as part of their regular learning experience. When writing is viewed as a means of exploring ideas instead of a tool for transferring information, linear writing practices, such as detailed outlining prior to composing, become obsolete. As one student expressed during the study, when outlining is assigned as a planning device that precedes writing, it soon becomes “irrelevant,” since ideas unfold and take new shape during the writing process. Consequently, when writing instruction takes a prescriptive direction, such as with the traditional research paper, students are essentially being told not to think but simply to record factual information or report what other people have said. As a result, if a primary goal of education is to build towards the complex thinking that the exploration of students’ knowledge views revealed in this study, instruction needs to revolve around constant opportunities for students to solve problems and exchange ideas in order to promote exploration and discovery (Dewey, 1933, 1938). Thus, the research experience needs to be consciously designed and mentored so that it contributes towards accomplishing that goal. All students need to conclude that “I’ve had the practice, and

I've had the trial route, and so I could easily see myself advancing to more difficult things, more in-depth work, stuff that's requiring a lot more research and just a lot more analysis, because I've had the background for it now" (Paul, I-4, p. 2).

Suggestions for Future Research

In order to extend the results of this study, future research needs to focus on continuing to explore students' ways of knowing in relationship to their learning and academic success in all subject areas across the curriculum. Although the complexity of individual knowledge views precludes categorizing and defining, searching for ways to identify the key knowledge views that seem to impact student performance in the classroom would provide valuable information in order to be able to individualize and differentiate instruction. This insight might also lead to more meaningful types of instruction and engagement throughout the learning environment. Such a focus would not only impact specific areas such as the research paper but would also provide guidance across the curriculum.

In addition, epistemological studies need to be conducted in all of the subject domains, since disagreement seems to exist concerning whether or not epistemological views are domain specific (Hofer & Pintrich, 2002). Although a number of studies have been conducted in the areas of mathematics and science (Bell & Linn, 2002; De Corte, Eynde, & Verschaffel, 2002; Qian & Pan, 2002), additional research needs to be more directly focused on the multiple disciplines within the humanities, as well as with different student ability levels. While this study concentrated on five students with high ability levels in a challenging academic program as they engaged in literary analysis,

results might be completely different but equally as interesting and informative with other individuals, student groups, and subject domains.

Longitudinal studies also need to be conducted with individual students to examine how students' reasoning and reflective thinking levels change over time (Hofer & Pintrich, 2002). For example, exploring how students' views change from ninth to twelfth grade and through the college years would provide valuable guidelines for effective curriculum planning and alignment. As Hofer and Pintrich (2002) point out, such studies would also allow examination of differences in educational level, ethnicity, gender, other constructs in the intellectual domain, and personality constructs, all extremely valuable insights when the instructional goal is to build students' ability to reason and experience success in complex situations.

Finally, as Pintrich (2002) points out, if personal epistemology is to provide meaningful insight in the field of education, internal and external "mechanisms of change" also need to be explored. Future studies need to examine the effects of different types of educational experiences on the depth of students' reasoning, such as the Theory of Knowledge course seemed to have on the level of reflective thinking of students in this study. Across the curriculum, it would be valuable to know which instructional methods challenge students to think at higher reflective levels and to be able to identify specific situations where those instructional methods are most effective. Educators have long desired to penetrate the minds of their students to be able to know how to spark student interest in their particular subject area, as they have explored different learning styles, different instructional methods, and different textbooks, as well as enlivened the classroom with music, bright colors, and technology. Although all of these approaches

can and do make a difference with some students, the student mind, the key area where learning takes place, still remains largely closed to the classroom teacher. Further research in the area of personal epistemology certainly seems to offer a vast frontier for exploration that might give insight into some of those valuable connections. In addition, extensive studies in this field would provide valuable information for teacher educators who work with initial teacher preparation and professional development programs at all levels and across the multiple subject areas of the curriculum.

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APPENDIXES

APPENDIX A

GEORGIA STATE UNIVERSITY DEPARTMENT OF MIDDLE-SECONDARY EDUCATION AND INSTRUCTIONAL TECHNOLOGY STUDENT INFORMED ASSENT FORM

Title: How Students' Views of Knowledge and Learning Inform Research and Writing Strategies During the Research Paper Process

Principal Investigator: Judy Romanchuk, IB Coordinator, Campbell High School; PhD Student, Georgia State University, Atlanta, GA

I. Purpose: You are being asked to participate in a research study that is designed to investigate how advanced students view research and to examine the strategies they use to develop a literary research paper. The purpose of the study is to better understand student choices in order to help students experience greater success with research projects. You are invited to participate because you have chosen literary analysis as your IB Extended Essay topic. The study will require about two hours of your time over the next five months from October 15, 2006 through March 15, 2007.

II. Procedures: If you decide to be part of this study, you will complete a questionnaire and participate in three to four interviews. Each interview will be approximately 30 minutes in length and will take place in the IB Research Center following each of your main drafts for the Extended Essay. The interviews will be scheduled so that you will not miss any academic class time. The interview questions will ask about your research and writing strategies, as well as your thoughts about learning and research. The interviews will be tape recorded and transcribed. Rough drafts, final drafts, and research journal responses will also be used to study your writing process. Any grading of the drafts will be used only for this study and will not determine any part of your class or IB grade on the essay. Your meetings with your mentor will also be recorded to be able to explore the benefits and needs of the advisement process during independent research. Freewrites, questionnaires, and interview responses completed during the 2006 preliminary pilot study will also be used as part of this study.

III. Risks: In this study, you will not have any more risks than you would in a normal day of life. Agreeing to participate will not improve or hurt your grades, placement, or treatment in the program in any way. Final grades for these essays are awarded by international graders, not by teachers in the program. Deciding not to participate will also not improve or hurt your grades, placement, or treatment at school in any way.

IV. Benefits: Participation in this study may benefit you personally. You will have an opportunity to reflect and to talk about your plans for research and get feedback on both the research process and writing strategies. The goal of the study is to gain information about how students approach the research paper to help improve how we teach this process. This information should benefit all students.

V. Voluntary Participation and Withdrawal: Participation in this research study is completely voluntary. You have the right to refuse to be in this study and to drop out any time without penalty. You also have the right to skip or not answer questions. If you decide to drop out of this study, you will not lose any benefits gained while participating. You will also be allowed to decide if data collected prior to withdrawal should be discarded.

VI. Confidentiality: Your records will be kept private to the extent allowed by law. A study number will be assigned to you to protect your identity on all study records. Only the researcher will have access to the research information. The tapes and transcribed records will be stored in a secure location. The key identifying the participants and the audiotapes will remain the property of the researcher solely for the purpose of data analysis and will be stored in a secure location separate from the tapes and transcribed records. Tapes will be destroyed at the end of the study. The findings of the study will be summarized and reported in group form. Your name and other facts that might point to you will not appear on any records of the interview. If the results of this study are published, no information identifying you will be included in the publication.

VII. Contact Persons: If you have any questions concerning this research project and/or your participation in it, please contact me (Judy Romanchuk) by phone at 678-842-6856 or by email at judy.romanchuk@cobbk12.org or my faculty advisor, Dr. Dana Fox at 404-651-0181 or dfox@gsu.edu. If you have questions or concerns about your rights as a participant in this research study, you may contact Susan Vogtner in the Office of Research Integrity at 404-463-0674 or svogtner1@gsu.edu.

VII. Copy of Consent Form to Subject: We will give you a copy of this consent form to keep. If you are willing to volunteer for this research, please sign below:

 Participant

 Date

 Researcher Obtaining Consent

 Date

**GEORGIA STATE UNIVERSITY
DEPARTMENT OF MIDDLE-SECONDARY EDUCATION AND
INSTRUCTIONAL TECHNOLOGY
PARENT PERMISSION FORM**

Title: How Students' Views of Knowledge and Learning Inform Research and Writing Strategies During the Research Paper Process

Researcher: Judy Romanchuk, IB Coordinator, Campbell High School; PhD Student, Georgia State University, Atlanta, GA

I. Purpose: Your child is being asked to participate in a research study that is designed to investigate how advanced students view research and to examine the strategies they use to develop a literary research paper. The purpose of the study is to better understand student choices in order to help students experience greater success with research projects. Your child is being invited to participate because he/she has chosen literary analysis as his/her IB Extended Essay topic. The study will require about two hours of your child's time over the next five months from October 15, 2006 through March 15, 2007.

II. Procedures: Each child who decides to be part of this study will complete a questionnaire and participate in three to four interviews. Each interview will be approximately 30 minutes in length following each of your child's main drafts for the Extended Essay. Interviews will take place in the IB Research Center, which functions as an open resource center for classes and individual students before, during, and after the school day. The interviews will be scheduled so that your child will not miss any academic class time. The interview questions will ask about your child's research and writing strategies, as well as his/her thoughts about learning and research. The interviews will be tape recorded and transcribed. Rough drafts, final drafts, and research journal responses will also be used to study your child's writing process. Any grading of the drafts will be used only for this study and will not determine any part of your child's class or IB grade on the essay. Your child's meetings with his/her mentor will also be recorded to be able to explore the benefits and needs of the advisement process during

independent research. Freewrites, questionnaires, and interview responses completed during the 2006 preliminary pilot study will also be used as part of this study.

III. Risks: In this study, your child will not have any more risks than would occur in a normal day of life. Agreeing to participate will not improve or hurt your child's grades, placement, or treatment in the program in any way. Final grades for these essays are awarded by international graders, not by teachers in the program. Deciding not to participate will also not improve or hurt grades, placement, or treatment at school in any way.

IV. Benefits: Participation in this study may benefit your child personally. He/she will have an opportunity to reflect and to talk about plans for research and get feedback on both the research process and writing strategies. The goal of the study is to gain information about how students approach the research paper to help improve how we teach this process. This information should benefit all students.

V. Voluntary Participation and Withdrawal: Participation in this research study is completely voluntary. Your child has the right to refuse to be in this study and to drop out any time without penalty. Participants may skip or not answer questions. If you or your child decides to drop out of the study, your child will not lose any benefits gained while participating. In addition you or your child will be allowed to decide if data collected prior to withdrawal should be discarded.

VI. Confidentiality: All records will be kept private to the extent allowed by law. A study number will be assigned for each student to protect each student's identity on all study records. Only the researcher will have access to the research information. The tapes and transcribed records will be stored in a secure location. The key identifying the participants and the audiotapes will remain the property of the researcher solely for the purpose of data analysis and will be stored in a secure location separate from the tapes and transcribed records. Tapes will be destroyed at the end of the study. The findings of the study will be summarized and reported in group form. Your child's name and other facts that might point to your child's identity will not appear on any records of the interview. If the results of this study are published, no information identifying participants will be included in the publication.

VII. Contact Persons: If you have any questions concerning this research project and/or your child's participation in it, please contact Judy Romanchuk by phone at 678-842-6856 or by email at judy.romanchuk@cobbk12.org or my faculty advisor, Dr. Dana Fox at 404-651-0181 or dfox@gsu.edu. If you have questions or concerns about your child's rights as a participant in this research study, you may contact Susan Vogtner in the Office of Research Integrity at 404-463-0674 or svogtner1@gsu.edu.

VII. Copy of Consent Form to Subject: We will give you a copy of this consent form to keep. If you are willing to allow your child to volunteer for this research, please sign below:

Parent

Date

Researcher Obtaining Consent

Date

**GEORGIA STATE UNIVERSITY
DEPARTMENT OF MIDDLE-SECONDARY EDUCATION AND
INSTRUCTIONAL TECHNOLOGY
STUDENT INFORMED ASSENT FORM**

Title: How Students' Views of Knowledge and Learning Inform Research and Writing Strategies during the Research Paper Process

Principal Investigator: Dr. Dana Fox

Student Principal Investigator: Judy Romanchuk

I. Purpose: You are being asked to participate in a pilot research study. The purpose of the study is to investigate how advanced students view research and what strategies they use to develop a literary research paper. You are invited to participate because you have chosen literary analysis as your IB Extended Essay topic. A total number of 12 participants will be recruited for this study. The study will require about two hours of your time over the next five months from April 30, 2006 through September 30, 2007.

II. Procedures: If you decide to be part of this study, you will complete a freewrite, answer a questionnaire, and participate in two interviews. Each interview will be 30-45 minutes in length and will take place in the IB Center during May, 2006, and September, 2007. The interviews will be scheduled so that you will not miss any academic class time. The first interview will ask you questions about your thoughts about learning and research and your reasons for selecting your research topic. The second one will ask you questions about your early search for research sources and composing processes. The interviews will be tape recorded and transcribed. Rough drafts will be also be used to study students' writing process; any grading of the drafts will be used only for the study and will not determine any part of your class or IB grade.

III. Risks: In this study, you will not have any more risks than you would in a normal day of life. Participation will not affect your grades or placement in any way. Agreeing to participate will not improve or hurt your grades, placement, or treatment in the program in any way. Deciding not to participate will not improve or hurt your grades, placement, or treatment at school in any way.

IV. Benefits: Participation in this study may benefit you personally. You will have an opportunity to talk about your plans for research and get feedback on the process. We hope to gain information about how students approach the research paper to help improve how we teach this process. This information should benefit all students.

V. Voluntary Participation and Withdrawal: Participation in research is voluntary. You have the right not to be in this study. You may skip questions or stop participating at any time. Whatever you decide, no one will be upset and you will not be treated any differently at school.

VI. Confidentiality: We will keep your records private to the extent allowed by law. We will use a study number rather than your name on study records. Only the researchers will have access to the research information. The tapes and transcribed records will be stored in a locked cabinet in the IB Office. The key identifying the participants and the audio tapes will be destroyed as soon as the data are analyzed. Your name and other facts that might point to you will not appear when we present this study or publish its results. The findings will be summarized and reported in group form. Student names will not appear on any records of the interview. If the results of this study are published, no information identifying you will be included in the publication.

VII. Contact Persons: Contact Judy Romanchuk by phone at 678-842-6856 or by email at judy.romanchuk@cobbk12.org or my faculty advisor, Dr. Dana Fox, at 404-651-0181 if you have questions about this study. If you have questions or concerns about your rights as a participant in this research study, you may contact Susan Vogtner in the Office of Research Integrity at 404-463-0674 or svogtner1@gsu.edu.

VIII. Copy of Consent Form to Subject: We will give you a copy of this consent form to keep. If you are willing to volunteer for this research, please sign below.

Participant

Date

Researcher Obtaining Consent

Date

**GEORGIA STATE UNIVERSITY
DEPARTMENT OF MIDDLE-SECONDARY EDUCATION AND
INSTRUCTIONAL TECHNOLOGY
PARENTAL PERMISSION FORM**

Title: How Students' Views of Knowledge and Learning Inform Research and Writing Strategies during the Research Paper Process

Principal Investigator: Dr. Dana Fox

Child Principal Investigator: Judy Romanchuk

I. Purpose: Your child is being asked to participate in a pilot research study. The purpose of the study is to investigate how advanced students view research and what strategies they use to develop a literary research paper. Your child is invited to participate because he/she has chosen literary analysis as his/her IB Extended Essay (research paper) topic. A total number of 12 participants will be recruited for this study. Participation will require about two hours of your child's time over the next five months from April 30, 2006 through September 30, 2007.

II. Procedures: Each child who decides to be part of this study will complete a freewrite, answer a questionnaire, and participate in two interviews. Each interview will be 30-45 minutes in length and will take place in the IB Center during May, 2006, and September, 2007. The first interview will ask questions about your child's thoughts about learning and research and the reasons for selecting the research topic; the second one will ask questions about the early search for research sources and composing processes. The interviews will be tape recorded and transcribed. Rough drafts will be also be used to study students' writing process; any grading of the drafts will be used only for the study and will not determine any part of your child's class or IB grade.

III. Risks: In this study, your child will not have any more risks than would occur in a normal day of life. Participation will not affect grades or placement in any way. Deciding to participate or not to participate will not affect grades, placement, or treatment at school in any way.

IV. Benefits: Participation in this study may benefit your child personally. Your child will have an opportunity to talk about plans for research and get feedback on the process. We hope to gain information about how students approach the research paper to help improve how we teach this process. This information should benefit all students.

V. Voluntary Participation and Withdrawal: Participation in research is voluntary. Each child has the right not to be in this study. Participants may skip questions or stop participating at any time. If you or your child decides to drop out of the study, no one will be upset and neither of you will be treated any differently at school. Your child

will not lose any benefits gained while participating.

VI. Confidentiality: We will keep all records private to the extent allowed by law. We will use a study number rather than child names on study records. Only the researchers will have access to the research information. The tapes and transcribed records will be stored in a locked cabinet in the IB Office. The key identifying the participants and the audio tapes will be destroyed as soon as the data are analyzed. Child names and other facts that might point to your child's identity will not appear when we present this study or publish its results. The findings will be summarized and reported in group form. Your child's names will not appear on any records of the interview. If the results of this study are published, no information identifying participants will be included in the publication.

VII. Contact Persons: Contact Judy Romanchuk by phone at 678-842-6856 or by email at judy.romanchuk@cobbk12.org or my faculty advisor, Dr. Dana Fox, at 404-651-0181 if you have questions about this study. If you have questions or concerns about your child's rights as a participant in this research study, you may contact Susan Vogtner in the Office of Research Integrity at 404-463-0674 or svogtner1@gsu.edu.

VIII. Copy of Consent Form to Parent: We will give you a copy of this consent form to keep. If you are willing for your child to volunteer for this research, please sign below.

Parent/Guardian/Legally Authorized Representative

Date

Researcher Obtaining Consent

Date

APPENDIX B

EPISTEMOLOGICAL QUESTIONNAIRE

Knowledge Statements with Domains (in italics)

1. Truth is unchanging. *Certain Knowledge*
2. Good students generally have to memorize facts. *Certain Knowledge* (moved from *Simple Knowledge*) *Being a good student generally involves memorizing facts.
3. How much a person gets out of school mostly depends on the quality of the teacher. *Omniscient Authority*
4. Some people are born good learners; others are just stuck with limited ability. *Innate Ability*
5. The most important part of scientific work is original thinking. *Simple Knowledge*
6. Most words have one clear meaning. *Simple Knowledge*
7. Successful students understand things quickly. *Quick Learning*
8. The best thing about science is that most problems have only one right answer. *Simple Knowledge* (Perry)
9. If you ask too many questions, you will just get confused. *Quick Learning*
*For success in school, it's best not to ask too many questions.
10. The most important aspect of scientific work is precise measurement and careful work. *Simple Knowledge*
11. Genius is 10% ability and 90% hard work. *Innate Ability*
12. Things are simpler than most professors/teachers would have you believe. *Simple Knowledge*
13. Even advice from experts should be questioned. *Omniscient Authority*
14. A tidy mind is an empty mind. *Simple Knowledge*

15. A course in study skills would be valuable. *Innate Ability*
16. The most successful people have discovered how to improve their ability to learn. *Innate Ability*
17. A really good way to understand a textbook is to re-organize the information according to your own personal scheme. *Simple Knowledge*
18. Learning is a slow process of building up knowledge, not something you are told. *Omniscient Authority* (modified and moved from *Quick Learning*) *Learning is a slow process.
19. You usually get all of the information you need from a textbook during the first reading. *Quick Learning* *Almost all the information you can learn from a textbook, you will get during the first reading.
20. Getting ahead takes a lot of work. *Innate Ability*
21. An expert is someone who has a special gift in some area. *Innate Ability*
22. Usually you can figure out difficult concepts if you eliminate all outside distractions and really concentrate. *Quick Learning*
23. Scientists can ultimately get to the truth. *Certain Knowledge*
24. I really appreciate instructors who organize their lectures meticulously and then stick to their plan. *Simple Knowledge*
25. The only thing that is certain is uncertainty itself. *Certain Knowledge*
26. It is waste of time to work on problems which have no possibility of coming out with a clear-cut [*and unambiguous] answer. *Certain Knowledge* (Perry)
27. You should evaluate the accuracy of information in a textbook if you are familiar with the topic. *Omniscient Authority*
28. When I study, I look for the specific facts. *Simple Knowledge*
29. Working hard on a difficult problem for an extended period of time only pays off for really smart students. *Quick Learning*
30. Educators should know by now which is the best method, lectures or small group discussions. *Simple Knowledge* (Perry)
31. To me, studying means getting the big ideas from the text rather than details. *Simple Knowledge*

32. You never know what a book means unless you know the intent of the author.
Simple Knowledge
33. Sometimes you just have to accept answers from a teacher even though you don't understand them. *Omniscient Authority*
34. If professors/teachers would stick more to the facts and do less theorizing, one could get more out of course. *Certain Knowledge* (Perry)
35. Everyone needs to learn how to learn. *Innate Ability*
36. A good teacher's job is to keep students from wandering off the right track.
Simple Knowledge (Perry)
37. Students who are "average" in school will remain "average" for the rest of their lives. *Innate Ability*
38. The really smart students don't have to work hard to do well in school. *Innate Ability*
39. You will just get confused if you try to integrate new ideas in a textbook with knowledge you already have about a topic. *Simple Knowledge*
40. Learning definitions word-for-word is necessary to do well on tests. *Certain Knowledge* (moved from *Simple Knowledge*)
41. You can believe almost everything you read. *Omniscient Authority*
42. If a person can't understand something within a short amount of time, he/she should keep on trying. *Quick Learning*
43. Wisdom is not knowing the answers but knowing how to find the answers.
Innate Ability
44. Students have a lot of control over how much they can get out of a textbook.
Innate Ability
45. I find it interesting to think about issues that authorities can't agree on. *Certain Knowledge*
46. I try my best to combine information across chapters or even across classes.
Simple Knowledge
47. A sentence has little meaning unless you know the situation in which it is spoken.
Simple Knowledge

48. The ability to learn is innate (you are born with it). *Innate Ability*
49. If a person forgot details and yet was able to come up with new ideas from a text, I would think they were bright. *Simple Knowledge*
50. If you are ever going to be able to understand something, it should make sense to you the first time you hear it. *Quick Learning*
- *Wording as it appeared on the Schommer (1989) questionnaire (for major changes)

Statements Not Used from the Original Questionnaire

- § I don't like movies that don't have an ending.
- § It is annoying to listen to a lecturer who cannot seem to make up his mind as to what he really believes. (Perry)
- § If scientists try hard enough, they can find the truth to almost everything.
- § Nothing is certain but death and taxes.
- § Today's facts may be tomorrow's fiction.
- § Whenever I encounter a difficult problem in life, I consult with my parents.
- § When you first encounter a difficult concept in a textbook, it's best to work it out on your own.
- § People who challenge authority are over-confident.
- § I often wonder how much my teachers really know.
- § Self-help books are not much help.
- § If I find the time to re-read a textbook chapter, I get a lot more out of it the second time.
- § Going over and over a difficult textbook chapter usually won't help you understand it.
- § If a person tries too hard to understand a problem, they will most likely end up being confused.

Adapted from Schommer, M. A. (1989). The effects of beliefs about the nature of knowledge on comprehension. *Dissertation Abstracts International*, 50 (08), 2435. (UMI No. 8924938)

APPENDIX C

SAMPLE GUIDING QUESTIONS FOR INTERVIEWS

1. Describe what you think the main purpose of a research paper should be.
2. What do you think a “good” research paper should look like?
3. How do you view your role in the process?
4. How do you normally go about selecting a writing topic?
5. What initially attracted you to your topic for this paper?
6. How do you normally approach writing a paper? What are the basic steps that you follow from the time you first get a writing assignment until you hand it in?
7. Describe your composing patterns for this paper.
8. As you worked on your research, how did the scope of your topic change?
9. Have you encountered any problems as you have engaged in research for your paper?
10. If so, how have you resolved them?
11. How much thinking time would you say that you have spent on this endeavor?
12. What is your vision of the reader(s) of your paper?
13. What aspects of your paper do you think that you will focus on during revision?
14. As you look back at your first draft, how would you characterize your first essay at this point?
15. What kinds of problems unfolded as you moved toward your second installment?
16. What is your view of the revision process? How would you describe your revision patterns?
17. Do you feel that your initial content (the “meaning”) has remained basically the same as you originally envisioned it?
18. Have you experienced any dissonance as you have revised?
19. How much thinking time would you say that you have spent on your paper during the revision time?
20. How would you describe your conferences with your mentor?
21. How would you evaluate your paper according to the assessment criteria that the IB examiner will be using?
22. Where do you envision yourself to be at this point as far as completion of the paper?
23. What were the main changes that occurred since your last draft?
24. Why did you make those changes?
25. What do you see as the main strengths of your paper at this point? Weaknesses?
26. What is your primary goal with this assignment? What do you hope to accomplish?
27. If comparing two works: What do you see as the main relationship between the works that you are comparing?

28. If comparing characters: When you examine the characters and their actions, how do you see them in terms of right and wrong?
29. What do you think makes one character fall apart while others survive?
30. How do the characters gain knowledge of their environment?
31. What criteria did you use to evaluate the characters in the work?
32. Have you thought about any other ways to view the characters?
33. What have you learned through this process?
34. Have your perceptions changed any as you have explored the connections in the literature?
35. Do you feel that there is a **correct** interpretation of the work(s) that you explored?
36. As you have looked at critical commentary, have you encountered any conflicting interpretations?
37. Concerning your interpretation, how would you go about evaluating its strength?
38. How thorough was your search for meaning? Do you feel satisfied with your search?
39. Why do you think IB includes this as a requirement for the IB Diploma?
40. Is there any part of the process that you would change, if you were to go through it again?

APPENDIX D

REVISION CODES

Code	Level	Degree	Type
SF-SP	Surface	Formal	Spelling
SF-TN	Surface	Formal	Tense
SF-CP	Surface	Formal	Capitalization/Punctuation
MP-ADS	Surface	Meaning Preserving	Additions, Deletions, Substitutions
MP-PDC	Surface	Meaning Preserving	Permutations, Distributions, Consolidations
MI-ADS	Meaning	Microstructure	Additions, Deletions, Substitutions
MI-PDC	Meaning	Microstructure	Permutations, Distributions, Consolidations
MA-ADS	Meaning	Macrostructure	Additions, Deletions, Substitutions
MA-PDC	Meaning	Macrostructure	Permutations, Distributions, Consolidations

Adapted from Faigley, L., & Witte, S. (1981). Analyzing revision. *College Composition and Communication*, 32, 400-414.

APPENDIX E

EXPLANATION OF CODING FOR RHETORICAL STRUCTURES

CODES	MEANING	INTERPRETATION
RS	Rhetorical Structure	Thought units (may be part of a sentence or an entire sentence) that serve a rhetorical purpose, such as thesis statement, topic sentence, concluding sentence, or transition
CD	Concrete Detail	Thought units (may be part of a sentence or an entire sentence) that provide specific details in support of a point or observation made as part of the analysis
CM	Commentary	Thought units (may be part of a sentence or an entire sentence) that provide insight or commentary about the target subject and form an essential part of the analysis

Developed from approaches to discourse analysis referred to in the following:

Goldman, S. R., & Wiley, J. (2004). Discourse analysis: Written text. In N. K. Duke & M. H. Mallette (Eds.), *Literacy research methodologies* (pp. 62-91). New York: The Guilford Press.

Schaffer, J. C. (1995). *The Jane Schaffer method: Teaching the multiparagraph essay: A sequential nine-week unit*. San Diego, CA: Jane Schaffer Publications.

APPENDIX F

DOMAIN DESCRIPTORS FOR EVALUATING STUDENT ESSAYS

CONTENT AND IDEAS:

- Effective controlling idea
- Analytical focus
- Relevant supporting ideas
- In-depth development and elaboration
- Support that includes specific details and examples

ORGANIZATION:

- Appropriate organizing strategy/pattern
- Logical sequence and grouping of ideas (within paragraphs and across parts of the paper)
- Engaging introduction
- Effective and varied transitions that link ideas
- Conclusion that provides closure without repetition

STYLE:

- Effective word choice suitable to topic (tone)
- Precise and engaging language
- Carefully crafted phrases and sentences
- Sustained awareness of audience
- Sentence variety (length, structure, and type)
- Strong sense of voice

CONVENTIONS:

- Full command of sentence formation
- Consistent clarity of meaning
- Consistent correct usage (agreement, verb tense, word forms)
- Consistent correct mechanics (spelling, capitalization, punctuation)
- Correct formatting (paragraph indentation, documentation)

Adapted from Georgia Department of Education [GADOE]. (2005). Georgia high school writing test rubrics. Atlanta, GA: Georgia Department of Education.
Retrieved December 10, 2006 from http://www.doe.k12.ga.us/ci_testing

APPENDIX G

HOLISTIC SCORING GUIDE FOR LITERARY ANALYSIS

Sample Scores	Descriptors (at least 5 must be marked within a category to qualify for score)
9-8 (A)	<ul style="list-style-type: none"> • <i>perceptive insight</i> into the topic • <i>clear grasp</i> of relevant significant factors • <i>close engagement</i> with the text with evidence of personal voice • <i>clear reference</i> and <i>persuasive substantiation</i> for all points • <i>clear and logical organization</i> with effective use of transitions • <i>meaningful conclusion</i> that displays original thought • <i>highly appropriate</i> register, format, and language
7-6 (B)	<ul style="list-style-type: none"> • <i>sound insight</i> into the topic • <i>clear awareness</i> of relevant significant factors • <i>appropriate engagement</i> with the text • <i>appropriate reference and substantiation</i> for majority of points • <i>appropriate logic and organization</i> with evidence of transitions • <i>appropriate conclusion</i> that displays some evidence of independent thought • <i>appropriate</i> register, format, and language
5 (C)	<ul style="list-style-type: none"> • <i>adequate understanding</i> of the topic • <i>adequate awareness</i> of relevant significant factors • <i>satisfactory engagement</i> with the text • <i>substantiation</i> for major points • <i>adequate</i> organization with some evidence of transitions • <i>evidence</i> of closure with some measure of independent thought • <i>satisfactory</i> register, format, and language
4-3 (D)	<ul style="list-style-type: none"> • <i>rudimentary</i> knowledge and understanding of the topic • <i>superficial</i> awareness of significant factors • <i>insufficient</i> engagement with the text • <i>insufficient</i> support for topics selected for analysis • <i>weak</i> organization with little evidence of transition • <i>weak</i> closure with little evidence of independent thought • <i>errors</i> in register, format, and/or language
2-1 (F)	<ul style="list-style-type: none"> • <i>unsatisfactory</i> knowledge or understanding of topic • <i>inappropriate or insignificant</i> investigation or presentation • <i>little or no</i> justification of aspect selected for analysis • <i>unclear or lacking</i> organization and/or development • <i>no ordered or logical sequence</i> • <i>serious errors</i> in register, format, and/or language

Adapted from International Baccalaureate Organization. (1999). *English A1 training manual*. Geneva, Switzerland: International Baccalaureate Organization.

APPENDIX H

LIST OF WORKS REFERENCED IN STUDENT ESSAYS (Documentation as it appeared in student papers)

Aristotle. "The Poetics." Gutenberg Project. 1999. 9 Sept. 2006

<http://www.gutenberg.org/dirs/etext99/poetc10.txt>

Brooks, Cleanth. *The Well-Wrought Urn: Studies in the Structure of Poetry*. Methuen, 1968.

Ognibene, Elaine R. "The Missionary Position: Barbara Kingsolver's *The Poisonwood Bible*." *College Literature* 30 (2003): 19-36. 24 Aug. 2006

Summers, Joseph H. "The Poem as Hieroglyph." In *George Herbert and the Seventeenth-Century Religious Poets*, ed. Mario A. Di Cesare, 255-263. New York, NY: W. W. Norton & Company, 1978.

APPENDIX I

SUMMARY OF REFLECTIVE JUDGMENT STAGES

Pre-Reflective Thinking (Stages 1, 2, and 3):

Stage 1 – *“I know what I have seen.”*

View of knowledge: Knowledge is assumed to exist absolutely and concretely; it is not understood as an abstraction. It can be obtained with certainty by direct observation.

Concept of justification: Beliefs need no justification since there is assumed to be an absolute correspondence between what is believed to be true and what is true. Alternate beliefs are not perceived.

Stage 2 – *“If it is on the news, it has to be true.”*

View of knowledge: Knowledge is assumed to be absolutely certain or certain but not immediately available. Knowledge can be obtained directly through the senses (as in direct observation) or via authority figures.

Concept of justification: Beliefs are unexamined and unjustified or justified by their correspondence with the beliefs of an authority figure (such as a teacher or parent). Most issues are assumed to have a right answer, so there is little or no conflict in making decisions about disputed issues.

Stage 3 – *“When there is evidence that people can give to convince everybody one way or another, then it will be knowledge; until then, it’s just a guess.”*

View of knowledge: Knowledge is assumed to be absolutely certain or temporarily uncertain. In areas of temporary uncertainty, only personal beliefs can be known until absolute knowledge is obtained. In areas of absolute certainty, knowledge is obtained from authority.

Concept of justification: In areas in which certain answers exist, beliefs are justified by reference to authorities’ views. In areas in which answers do not exist, beliefs are defended as personal opinion since the link between evidence and beliefs is unclear.

Quasi-Reflective Thinking (Stages 4 and 5):

Stage 4 – *“I’d be more inclined to believe evolution if they had proof. It’s just like the pyramids: I don’t think we’ll ever know. Who are you going to ask? No one was there.”*

View of knowledge: Knowledge is uncertain and knowledge claims are idiosyncratic to the individual since situational variables (such as incorrect reporting of data, data lost over time, or disparities in access to information) dictate that knowing always involves an element of ambiguity.

Concept of justification: Beliefs are justified by giving reasons and using evidence, but the arguments and choice of evidence are idiosyncratic (for example, choosing evidence that fits an established belief).

Stage 5 – *“People think differently and so they attack the problem differently. Other theories could be as true as my own, but based on different evidence.”*

View of knowledge: Knowledge is contextual and subjective since it is filtered through a person’s perceptions and criteria for judgment. Only interpretations of evidence, events, or issues may be known.

Concept of justification: Beliefs are justified within a particular context by means of the rules of inquiry for that context and by the context-specific interpretations as evidence. Specific beliefs are assumed to be context specific or are balanced against other interpretations, which complicates (and sometimes delays) conclusions.

Reflective Thinking (Stages 6 and 7):

Stage 6 – *“It’s very difficult in this life to be sure. There are degrees of sureness. You come to a point at which you are sure enough for a personal stance on the issue.”*

View of knowledge: Knowledge is constructed into individual conclusions about ill-structured problems on the basis of information from a variety of sources. Interpretations that are based on evaluations of evidence across contexts and on the evaluated opinions of reputable others can be known.

Concept of justification: Beliefs are justified by comparing evidence and opinion from different perspectives on an issue or across different contexts and by constructing solutions that are evaluated by criteria such as the weight of the evidence, the utility of the solution, or the pragmatic need for action.

Stage 7 – *“One can judge an argument by how well thought-out the positions are, what kinds of reasoning and evidence are used to support it, and how consistent the way one argues on this topic is as compared with other topics.”*

View of knowledge: Knowledge is the outcome of a process of reasonable inquiry in which solutions to ill-structured problems are constructed. The adequacy of those solutions is evaluated in terms of what is most reasonable or probable according to the current evidence, and it is reevaluated when relevant new evidence, perspectives, or tools of inquiry become available.

Concept of justification: Beliefs are justified probabilistically on the basis of a variety of interpretive considerations, such as the weight of the evidence, the explanatory value of the interpretations, the risk of erroneous conclusions, consequences of alternative judgments, and the interrelationships of these factors. Conclusions are defended as representing the most complete, plausible, or compelling understanding of an issue on the basis of the available evidence.

From King, P. M., & Kitchener, K. S. (1994). *Developing reflective judgment*. San Francisco, CA: Jossey-Bass Publishers.