

WRITING PROFICIENCY AMONG GRADUATE STUDENTS IN HIGHER  
EDUCATION PROGRAMS

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This study explored the extent to which graduate students enrolled in Higher Education courses were proficient at writing. While writing proficiency has been extensively studied in elementary students, high school students, and undergraduates, little attention has been paid to formally evaluating graduate student proficiency. Despite the relatively new idea of assessing graduate student writing, it is a concern for graduate faculty and a valid area for study. This study was based on a sample of graduate students enrolled in at least one course in Higher Education at public institutions of higher education in the United States. A total sample size of 97 students was obtained. Two instruments were administered to the participants: A General Information and Writing Experience Questionnaire (G-WEQ) and the SAT II: Writing Test, Part B. The G-WEQ was designed to capture demographic information about the participants, as well as allow participants to provide a self-assessment of writing and describe the writing experiences they are currently encountering in graduate school. To assess writing proficiency for the participants, the SAT II: Writing Test, Part B was used. The purpose of the test is to “measure [test takers’] ability to...recognize faults in usage and structure, and to use language with sensitivity to meaning” (Educational Testing Service, 1999-2000, p.7). The  $z$ -Statistic for a Single Sample Mean significance test was used to determine whether the sample mean scored significantly higher than the population mean on the SAT II: Writing Test. This was not the case ( $z=0.295$ ,  $p<0.38$ ). The graduate students in this sample did not score significantly higher on the

SAT II: Writing Test, Part B than the typical high school senior whose scores enter into the norm group.

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## CHAPTER 1

### INTRODUCTION

I then said that writing wasn't easy and it wasn't fun. It was hard and lonely, and the words seldom just flowed.

*Zinsser*

Language, both written and spoken, serves as a critical cornerstone for our culture. “The faculty of language stands at the center of our conception of mankind; speech makes us human and literacy makes us civilized” (Olson, 1977, p. 257). However, writing can be a painful and anxiety producing task for many individuals. And while the final goal of any writing is the same—communication—that goal is not always reached.

White (1994) indicates, “teaching people to write is one of the chronic problems of American education, right next to teaching them to think, a closely related but even more knotty problem” (p. xi). He further contends that periodically educators, employers, and others in this country “become aroused about writing performance of students. The recurring complaint that Johnny can't write is documented by egregious examples of student prose, . . . and solemn faculty opinion” (White, 1994, p. xiii). Further support for the longstanding nature of this problem is described by Hull (1987), when she writes that “over a hundred years ago, Harvard President Charles W. Eliot complained that ‘bad spelling, incorrectness as well as inelegance of expression in writing, [and] ignorance of the simplest of rules . . . of punctuation are far from rare among young men of eighteen’” (p. 8).

In an effort to explore the current nature of this phenomenon while adding a unique twist, this study focused specifically on writing proficiency among graduate students. Although not a population that is often studied with regard to writing proficiency, graduate students are required to write as experts, and faculty often complain about the amount of time they spend editing and



discussing graduate student writing (Michigan State University, [www.ed.gov/offices/OPE/FIPSE/99ProgBk/acCOMpp90.html](http://www.ed.gov/offices/OPE/FIPSE/99ProgBk/acCOMpp90.html)). Therefore, graduate students offer an opportunity for researchers who wish to evaluate writing proficiency after the bachelor's degree.

Interestingly, the Graduate Record Exam (GRE) Board has recently become concerned about the writing skills of graduate students and has developed a new test to measure graduate student writing ability, the GRE-Writing Assessment (GRE-W). The goal of the GRE-W is to allow test takers to demonstrate their ability to use high-level thinking and writing skills typically recognized as critical in most programs of graduate study. The GRE organization polled 347 graduate deans and department chairs, and 80% of those polled indicated that “they were either somewhat or very satisfied that the scoring criteria addressed the writing skills required of first-year graduate students” (GRE Writing Assessment Research, [www.gre.org/writesh.html](http://www.gre.org/writesh.html)). This leads to two conclusions: 1) graduate school faculty and administrators believe that problems exist with the quality of graduate student writing and that these problems need to be evaluated prior to admission to a program of study, and 2) graduate school involves use of high-level thinking and writing skills that require students to be competent and proficient writers. Considering the apparent enduring interest in writing proficiency among students and the increasing interest in writing proficiency among graduate students, graduate student writing proficiency merits individual study.

#### Statement of the Problem

The problem of this study was writing proficiency of master's and doctoral level graduate students enrolled in Higher Education courses throughout the United States.

## Purposes of the Study

The purposes of this study were to assess graduate students' ability to 1) express ideas effectively in written English, 2) recognize writing errors in usage and structure, and 3) use language with sensitivity to meaning. A fourth purpose was to determine if writing proficiency is correlated with selected demographic variables. A fifth purpose was to explore the types of writing experiences being had by graduate students enrolled in Higher Education courses.

## Research Questions

The problem and purposes of the study lent themselves to the following research questions:

1. Can graduate students in Higher Education courses express ideas effectively in standard written English?
2. Can graduate students in Higher Education courses recognize writing errors in usage and structure?
3. Can graduate students in Higher Education courses use language with sensitivity to meaning?
4. Is writing proficiency correlated with certain demographic variables?
5. How do graduate students in Higher Education courses perceive their writing experiences in general?

## Significance of the Study

This study focused on the writing proficiency of graduate students enrolled in Higher Education courses in the United States. While writing proficiency has been extensively studied in elementary students, high school students, and undergraduates, little attention has been paid to formally evaluating graduate student writing proficiency.

Although the GRE General Test, which is a typical requirement for admission to graduate study, includes a measure of verbal ability, this is not a specific measure of writing proficiency, nor is it performance based. As a result of their concern about writing skill deficiencies among graduate students, the GRE Board has developed a new assessment tool, the GRE Writing Assessment (GRE-W) (GRE Writing Assessment, [www.gre.org/writing.html](http://www.gre.org/writing.html)). Since October 1999, the GRE-W has been offered as a separate test independent of the GRE General and Subject Tests; however, this assessment is still not widely required by graduate programs. Additionally, as this is a relatively new instrument, validity studies are still in progress. In the online publication, *GRE Data Views*, it is reported that, “unfortunately, the best information [about the GRE-W] will not be available until a fairly large number of students have taken the test and progressed through at least part of their graduate training. Only then will indicators of student success...exist” (GRE Data Views, [www.GRE.org/writing.html](http://www.GRE.org/writing.html)). However, the development of the GRE-W indicates that there is a growing interest in assessing graduate student writing.

Interestingly, a review of the literature, while rich with studies relative to undergraduate writing assessment, revealed a marked paucity of studies involving graduate student writing assessment. Likewise, aside from the recently launched GRE-W, instruments for assessing graduate student writing specifically are not national norm-based instruments, but are instead idiosyncratic to institutions and departments.

Most educators agree that “[t]he ability to write clearly and fluently is undoubtedly one of the more important skills required of graduates” (Torrance, Thomas, & Robinson, 1999). However, it appears that a leap of faith is being taken by higher education in general and by graduate program faculties specifically. Both of these groups are operating under the assumption

that obtaining a bachelor degree equates with writing competence at a level befitting a college-educated person. In other words, it is assumed that upon completion of a bachelor's degree, students will be better writers than they were when they began their college studies (North, 1996; White, 1994). Students entering graduate school should be more proficient writers than they were upon entering college for the first time. While not everyone who obtains a bachelor's degree is an appropriate candidate for graduate study, a bachelor's degree is one requirement for pursuing graduate study. Since a bachelor's degree is a minimum requirement for attending graduate school, there must exist an assumption that admitted graduate students are competent writers; they have completed a bachelor's degree, and it is assumed they have learned to write competently during that undertaking.

Admittedly, graduate students, by having successfully completed undergraduate writing tasks, *do* possess some competence as writers (Biggs, Lai, Tang, & Lavelle, 1999). However, graduate students face writing challenges that differ from those encountered in undergraduate courses. Namely, graduate students must organize larger numbers of texts; they need to have a better understanding of the conventions of academic discourse; and their writing should be more focused and elaborate than that of undergraduates (Biggs, et al.). Based on the infrequency with which graduate students are evaluated specifically for writing proficiency, there seems to be a gap in logic: a bachelor's degree does not necessarily prepare a student for the rigors of graduate school writing. More evaluation is needed to ascertain that admitted graduate students are among those college graduates with exemplary writing skills.

To summarize, it might be safe to conclude that American colleges and universities are operating under the assumption that their graduates have a basic level of proficiency in using standard written English. It follows that by requiring a bachelor's degree as part of the admission

criteria for graduate school, graduate programs are also assuming that an undergraduate degree has adequately prepared students who are admitted for graduate study for the rigors of graduate level writing.

Despite the relatively new idea of assessing writing proficiency among graduate students, it would seem that graduate student writing proficiency is a concern for graduate faculty in the United States and a valid area for study. It could be of considerable value to know to what extent graduate students are actually proficient writers.

### Basic Assumptions

As in most research studies, this investigation was predicated on a number of assumptions. The assumptions identified include the following:

1. Students are better writers after earning a bachelor's degree than they were before entering college.
2. The ability to communicate effectively in writing is generally recognized as essential for graduate students.
3. The academic community is in agreement that the ability to articulate complex ideas clearly and effectively, express ideas logically, follow conventions of standard English grammar, and control the basic elements of standard written English is a mark of an educated person.
4. Individuals obtaining advanced degrees have attained the skills described in the above assumption.
5. Knowledge of the technical aspects of English grammar translates into proficient writing or production of quality text.

6. Graduate students in Higher Education courses have varying degrees of writing proficiency.
7. Writing proficiency is measurable.

#### Limitations

This study was subject to a number of limitations. Because it was not possible to randomly select the participants in the study, an availability sample was used. This type of sampling reduced the generalizability of the findings. Additionally, because the SAT II: Writing Test, Part B was administered to participant groups and also taken by individuals, a consistent or standardized testing environment was lacking. Also, only Part B of the SAT II: Writing Test was used. Part B is an objective, 60-item, multiple-choice test that can be scored by a computer. Part A consists of an essay assignment. Test takers have twenty minutes to write an essay on an assigned topic; two independent readers who are experienced high school or college teachers then score these essays. The logistics and the subjective nature of the scoring made the use of Part A an impossibility for this study.

#### Delimitations

Data were collected from graduate students enrolled in Higher Education programs or courses throughout the United States. The findings from this study are not applicable to graduate students in other disciplines. However, although the data collected in this study are limited to graduate students enrolled in Higher Education courses, the findings may be relevant to other graduate programs. In addition, participants were drawn from courses in Higher Education at public institutions of higher education in the United States. These findings are not applicable to private schools or to schools outside the United States.

## Definition of Terms

For the purpose of this study, the following definitions of terms were applied:

1. advanced degree – a master’s degree or a doctorate.
2. graduate student – a person enrolled in a course of graduate study (master’s or doctoral). No differentiation will be made between graduate students in their first semester and those in any subsequent semester.
3. sensitivity to meaning – writing proficiency that exemplifies competence and command of the English language (e.g., students are asked to improve but not change the meaning of sentences while employing the rules of standard written English).
4. standard written English – textbook or academic English that follows rules of grammar and structure according to English grammar handbooks.
5. writing errors – faults in grammatical structure or usage as prescribed by the rules of standard written English.
6. writing proficiency – ability to express ideas effectively in written English, to recognize writing errors in usage and structure, and to use language with sensitivity to meaning. Meant to describe a hierarchical description of graduate students’ performance on above listed writing tasks, from the simple to the advanced, as measured by the SAT II: Writing Test, Part B.

## CHAPTER 2

### REVIEW OF THE LITERATURE

Writing can be an alternately joyful or painful experience. Unfortunately, for the majority the prospect of writing evokes anxiety and self-doubt more often than confidence and anticipation. Writing is "a process that requires extensive self-regulation and attentional control....writers must change ideas into text, repair organization and mechanics, and monitor their success--all while trying to formulate a coherent message" (Ransdell & Levy, 1996, p.93). It is easy to see why a task of this magnitude can be overwhelming and exhausting. However, despite the somewhat intimidating nature of writing, the ability to communicate effectively in writing is a skill that is overtly valued in our society. "One of the central aims of education is teaching students to communicate with the written word" (Hayes & Flower, 1986, p.1106). And from kindergarten through graduate school, writing is emphasized, evaluated, and expected. We spend countless hours teaching students to write, an endeavor that does not end with graduation from high school. We invest time and resources in making sure college freshmen are placed in writing courses appropriate to their skill level; we expect that college graduates are competent writers, and we assume that if the criteria for admission to graduate school are met, writing skills are in place. There is a spoken and unspoken expectation that educated individuals are competent writers. However, in spite of a surface straightforwardness -- people can either write well or they can't -- the reality of teaching and assessing writing skills is a complicated undertaking.

Interestingly, concerns about writing and English usage in general are not new. In the late 1800s, Charles W. Eliot, Harvard President, lamented the lack of writing skills of Harvard freshman (as cited in Hull, 1987). Further, in the early 1900s Harvard found it "necessary to send out to the schools a pamphlet stating the most flagrant errors in English among its Freshmen" (Lewis, 1912, p. 9). In 1901, the College Board deemed it necessary to initiate its first writing



examinations (Breland & Gaynor, 1979), and in 1912 an article by Edwin M. Hopkins of the University of Kansas bemoaned the impossible task facing English teachers. Hopkins wrote, for every year the complaints become louder that the investment in English teaching yields but a small fraction of the desired returns....[e]very year thousands of pupils drift through the schools, half-cared for in English classes where they should have constant and encouraging personal attention, and neglected in other classes where their English should be watched over at least incidentally (p.1)

Hopkins summarizes by voicing ideas that continue to echo today: proficiency in English expression is necessary for a successful industrial and business future, and education's investment in English must be increased.

#### Historical Background

The historical origins of writing are interesting and provide insight into the functional aspects of written language. According to Nystrand (1982), writing developed in the fourth millennium B.C. as an application of a recording system that had originated in western Asia during early Neolithic times. Farmers in the Zagros region of Iran used clay tokens to keep track of their crops and herds. These tokens predate Chinese ideograms by 6000 years and Maya hieroglyphs by 5000 years. Nystrand surmises, "the tokens are clearly abstract in their notation, suggesting that writing was genuinely symbolic from the start, not pictographic as is commonly assumed" (p. 12). This simple token system evolved into a more complicated network of communication that served the accounting needs of increasing trade, crafts, and governments that developed during the early Bronze Age.

The major transition was made when shippers began to include representative tokens with shipments of goods. These tokens were sealed in clay casks and let the receiver know what the shipment contained, viz., an inventory of sorts. Eventually, shippers switched from putting tokens into sealed casks to simply noting the contents on the outside of the cask. This inevitably led to doing away with the tokens altogether, and only the notations remained on the casks. This system of secondary symbolism quickly transitioned from clay casks to clay tablets and

eventually to marks on paper. Nystrand (1982) asserts that the recording needs of agriculturally driven societies necessitated the development of writing. As agriculture fed into increasing trade and commerce an efficient record-keeping system evolved. Schmandt-Besserat (1978) has concluded that "the substitution of two-dimensional portrayals of the tokens for the tokens themselves would seem to have been the crucial link between the archaic recording system and writing" (p. 59).

In *The Phaedrus*, Plato indicates that writing fosters forgetting (Nystrand, 1982). It is doubtful, however, that he knew the full ramifications of his observation: by writing, societies' members can use lists and texts to track, record, and store nearly infinite information. Without writing systems, this type of data storage would be impossible. As noted by Stubbs,

writing systems assist and extend the limits of natural memory; they facilitate history making; and they foster critical inquiry by making thought and knowledge public and available to more people for a longer period of time than speaking can....writing serves and fosters certain civil functions that inevitably arise when societies develop special needs for certain kinds of information processing (as cited in Nystrand, 1982, p.14).

Assuredly, higher education is one of society's most substantial creators and repositories of information in the form of writing. As indicated by several researchers, the nature of knowledge was forever changed with the invention of the alphabetic system of writing; the use, organization, and cognitive processes involved in schooling and literacy evolved into today's recognizable form of education as an artifact of the ability to produce written text (Olson, 1977; see also Cole, Gay, Click, & Sharp, 1971; Greenfield, 1972; and Scribner & Cole, 1973).

#### Theoretical Framework: Writing Processes

Aside from its long and interesting history, writing still remains somewhat of a mystery to researchers with regard to how the process of writing occurs and what makes it proficient. While it can at times seem like an almost automatic process, writing is an exceptionally complicated process that requires the simultaneous functioning of several cognitive activities. Writers have to "generate their ideas, which need to be monitored, selected, and prioritised; to

translate the ordered ideas into text, using correct lexicon, grammar and genre rules; and to review the text in order to clarify meaning and eliminate errors" (Biggs, et al., 1999, p. 294).

While it is a common misconception that writing is nothing more than an extension of thinking, this is a greatly oversimplified notion (Mandel, 1984). More useful theories exist to explain the process or concept of writing as an activity. Most of these theories have sprung from the studies of Flower and Hayes (1980) and are tied to the concept of writing as a cognitive process involving several components (Sanders & van Wijk, 1996). Flower and Hayes (1980) have studied writing by looking at the involved mental operations as they interact recursively: planning and generation of knowledge, translation of the plan into speech, and editing or reviewing the plan or the newly created text (See Table 1). Thus, the experience of writing is a cognitive task in which writers draw on "information stored in long-term memory.... as [they juggle] a number of simultaneous constraints" (Flower and Hayes, 1980, p. 31). The cognitive model proposed by Flower and Hayes has spurred a great deal of research by providing an impetus and an inroad for research on the writing process. By designating writing as an interaction of the basic tasks of planning, translating, and reviewing, Flowers and Hayes have created an influential organizing framework for writing research (McCutchen, Covill, Hoyne, & Mildes, 1994).

Table 1 (Benton, Kraft, Glover, & Plake, 1984, p. 822)

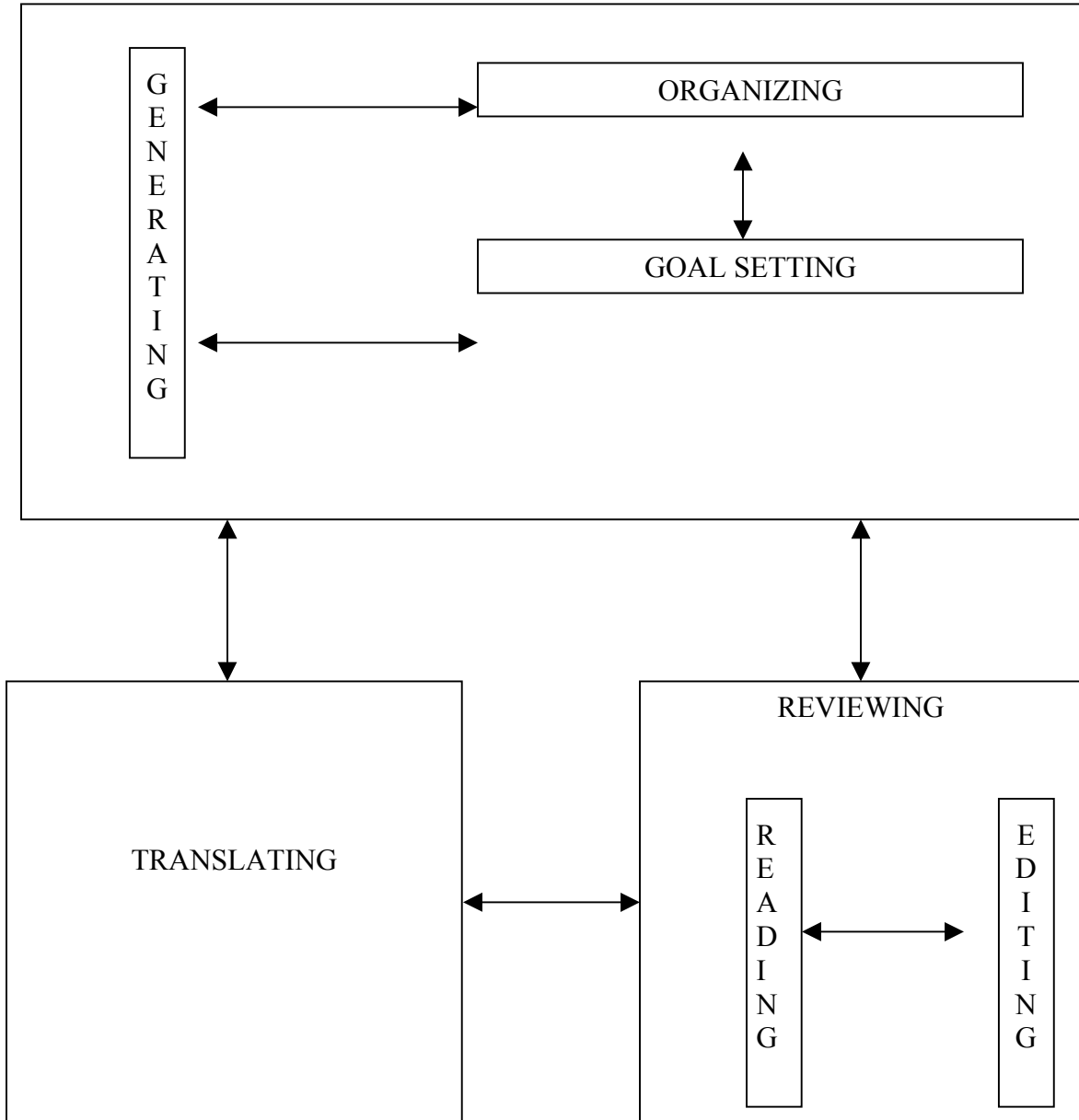
Processes and subprocesses presumably tapped by various tasks

<u>Process/ subprocess</u>	Task	Description
Planning		
Generating	1. Iconic memory task	Accessing visual information from task environment
Organizing	1. Ordered letters	Maintaining ordered information in working memory
	2. Letter reordering	Holding and manipulating information in working memory
	3. Word reordering	Holding and manipulating information in working memory
	4. Sentence reordering	Holding and manipulating information in working memory
	5. Paragraph assembly	Holding and manipulating information in working memory
Goal setting		
Reviewing		
Reading		
Editing	1. Word reordering	Holding and manipulating information in working memory
	2. Sentence reordering	Holding and manipulating information in working memory
Translating	1. Ordered letters	Maintaining ordered information in working memory

Researchers who have conducted studies inspired by Flower and Hayes' model have repeatedly found that differences in planning and reviewing are related to individual differences in writing skill. Planning relieves some of the cognitive strain of writing, and revising relates directly to the quality of the end product. In short, planning more comprehensively and revising more effectively results in better writing (Bereiter & Scardamalia, 1987; Flower & Hayes, 1981; Hull, 1987; McCutchen, et al., 1994; Stallard, 1974). McCutchen, et al. (1994) have taken the research further by also specifically exploring the role of translation. By looking at the interactive nature of the writing process and the limitations of working memory, they concluded "writing and all its component processes must be organized within the limits of working memory" (McCutchen, et al., 1994, p. 264). And "the relation between translating fluency and writing ability was clearly demonstrated...even highly skilled adult writers seem to benefit from their exploitation of highly fluent (but not automatic) translating processes (McCutchen, 1988 as cited in McCutchen et al., 1994, p. 264). The specific processes and sub-processes involved in planning, translating, and revising have been summarized by Benton, Kraft, Glover, and Plake (1984) (See Figure 1).

The concept of working memory is of great interest to researchers in the area of writing. The constraints of working memory relative to the production of text have served as the basis for many studies. As described by Torrance, et al. (1999), "a traditional view of writing expertise suggests that the combined burden of generating content and finding appropriate words [planning, translating, and revising] in which to express it overwhelms our cognitive process" (p. 190). In other words the limited capacity of our memory processes makes writing difficult. This relates directly to the juggling of several activities that makes writing a recursive and nonlinear task. The classic linear approach to teaching writing mandates that writing pedagogy be based on the idea of "think before you write" and "always do an outline." Writing teachers admonish their students to study compare and contrast format and the five-part essay. While teachers and how-to

Figure 1 - Cognitive Capacity Among Writers  
(Benton, Kraft, Glover, & Plake, 1984, p. 821)



books might advocate this type of linear approach to writing, it has been challenged by researchers who recognize working memory as a critical component of the writing process. "Written language production requires the constant monitoring of a variety of complex subtasks...." (Ransdell & Levy, 1996, p. 93). Therefore, because of the interactive nature of the process of planning, translating, and revising, working memory is a critical variable in writing skill that cannot be managed by discrete or sequential tasks. In fact, advances or improvement in writing skills is a result of gaining the ability to coordinate ideas within a text. This mastery of coordination allows a writer to master "the movement from loosely connected to tightly connected discourse and the movement from a single argument thesis defense to a defense that anticipates counter arguments" (Jeffery & Underwood, 1996, p. 268).

Individuals who show a greater capacity in working memory are able to more fluently generate words when given the task of essay writing; in other words they can keep more balls in the air while they write (Ransdell & Levy, 1996). The cognitive processes of writing are interactive, and that interaction takes place in working memory resulting in expert writing being nonlinear (Benton et al., 1984; Flower & Hayes, 1980; Hayes & Flower, 1980; Johnson, Linton, & Madigan, 1994; Torrance et al., 1999). While it might be tempting to try to reduce writing to a series of progressive steps, this will not give us an appreciation of the almost miraculous *experience* of writing. Perhaps it was best described by Mandel (1984), who said that writing "is a mystery and that structures of logic and rationality pass the time in class but do not illuminate the mystery" (p.363).

#### Novice and Expert Writers

Good writers emerge from this tangle of processes and cognitive functions with a variety of characteristics. While it is doubtful that any group of researchers or academicians will agree on a universal list of qualities common to good writers, there are some basic characteristics of good writers described in the literature. Hayes and Flower (1983) studied expert and novice writers at Carnegie-Mellon University in Pittsburgh and made some interesting discoveries about writers. Aside from determining that no two writers, expert or novice, write the same way, they

discovered that writers of different skill levels have markedly different approaches to writing. They discovered that "good writers respond to all aspects of the rhetorical problem [while] poor writers [are] concerned primarily with the features and conventions of a written text, such as number of pages" (Hayes & Flower, 1983, p.51). Drawing on the work of Flower and Hayes, Torrance (1996) indicates that good writers need to ask themselves questions relevant to the rhetorical problem: 1) who am I writing for?, 2) what effect do I want to have on my reader?, and 3) how do I want to present myself throughout the text? Hayes and Flower also reported that good writers are more adept at stating their purpose or problem; consequently, good writing contains a network of goals or directives to help lead readers.

On the other hand, novice writers may write with a blissful lack of awareness of their readers. Unlike spoken language, written language requires a level of reflection that may escape novice writers. Novice writers have a tendency to write like they talk, not recognizing the error in this approach. This can leave the reader of a novice writer's text with a sense of confusion or incoherence. When transitioning from spoken language to written language, writers must mentally formulate a model of their reader(s) in order to achieve maximum comprehension in their text (Alcorta, 1996; Becker, 1986; Breetvelt, Bergh, & Rijlaarsdam, 1994). This dynamic can escape novice writers who simply write for themselves or to meet assignment criteria. Additionally, compared to expert writers, novice writers exert much less effort. Expert writers engage in more pre-writing activities and use a detailed analytical approach to writing. While experts take the time to both process the literature and integrate it with their own ideas before writing, novices have a tendency to launch into draft writing with little forethought or planning (Breetvelt et al., 1994; Torrance, 1996).

Torrance (1996) has also explored the ways that expert and novice writers differ. He promotes a general theory about the differences in cognitive processes that occur between novices and experts. Torrance writes, "novice performance tends to be context free, intuitive and detached. By contrast, expert performance tends to be domain specific, intuitive and involved" (1996, p. 3). Further, novice writers use general and weak search heuristics to explore problems,



they progress slowly and with great effort, and explicit decisions are made. Conversely, experts use a narrow, domain-specific knowledge base to find solutions to problems. Because the domain searched is limited, problem solving may appear fairly effortless. Torrance, therefore, concludes that domain-specific knowledge is the main point of differentiation between novice and expert writers. He suggests that writing expertise, like other kinds of expertise, depends on the knowledge base of the writer.

### Writing Proficiency and Assessment

In addition to understanding the cognitive processes and skill levels involved in producing written text, measuring proficiency is also an important element of written communication. And it is likely to be of greater practical interest to faculty and administrators at institutions of higher education. Writing proficiency is a term that can be hard to conceptualize and even harder to define because it is a "slippery term" that hides "an even more slippery concept" (White, 1994, p.150). Proficiency may be thought of as skill, adequacy, sufficiency for a defined purpose, or capability. Regardless of how proficiency is specifically defined, it can be seen as something that "is socially determined by communities of readers and writers" ([www.ling.upenn.edu/~garrett/104cwp.html](http://www.ling.upenn.edu/~garrett/104cwp.html)).

In their pursuit of higher education, students are initiated into a style of writing dictated by the academic community. Gere (1987) argues that "learning to write means learning to use the language of a given community" (p. 96). Regardless of how one chooses to describe proficiency, there is arguably an understanding that college students will be better writers when they graduate than they were when they began their studies (North, 1996). After all, "if a college degree does not in itself certify a high level of literacy, one might well wonder if it means anything at all" (White, 1994, p. 153). There is a general expectation that college graduates will write in a manner befitting those who have traversed the halls of academe. Aside from the intellectual or academic merit of writing like an educated individual, there is also a practical aspect to being a proficient writer; employers of college graduates expect that their employees will be able to communicate effectively in the workplace (Trimbur, 1996).

Along these lines of expectations of writing competence among college graduates is an even more interesting, if not well-masked, assumption: college graduates who apply and are accepted to graduate school will be able to write at an adequate proficiency level given the rigors of graduate-level study. Admittedly, by having obtained a bachelor's degree, a minimal and commonplace requirement for attempting graduate study, graduate students certainly possess *some* degree of writing competence -- but what degree? Whereas undergraduates are typically given canned, or structured, writing tasks, graduate students are expected to show higher order writing skills in the production of original texts. Writing problems facing graduate students are not typically in the form of essay questions or short term papers, but are instead problems requiring organization of multiple texts; knowledge about scholarly writing appropriate to discipline is more critical, and presenting and sustaining a coherent discussion of a complex issue also becomes critical (Biggs, et al., 1999; Powers & Fowles, 1997). Graduate students are, for the most part, instilled with the idea that they need to either be or quickly become adept at producing documents of publishable quality if they hope to procure an academic career.

Interestingly, despite our educational system's current tendency to invest extensive efforts and finances into English testing and placement of elementary, secondary, and undergraduate students, this effort is rarely carried over to graduate students. As early as 1874, Harvard used general knowledge exams with entering students; however, upper-division assessment of writing skills specifically is a relatively new phenomenon that has been supported in institutions of higher education only since about the 1960s (North, 1996; White, 1994). Today, college level placement testing continues to be typically confined to undergraduates; apparently this is based on the notion that "more testing and segregation of students into different levels will create better learning" (Elbow, 1996, p.131). These assessments take many forms, viz., entrance level placement exams, exit exams for freshmen composition, upper-division or junior level entry exams, or graduation or degree barrier exams. It may seem strange to those outside the academic community to require certification of writing skills additional to the bachelor's degree, but as previously discussed, the assumption that a college degree equates with writing literacy may not

be a safe one. These assessments indicate that there may be a basic mistrust of the undergraduate curriculum (i.e., if the undergraduate curriculum were adequate, the literacy of college graduates would never be questioned). However, the changing nature of *who* gets a higher education feeds into the need for additional assessments of writing and other skills assumed of an educated person.

Historically, higher education was reserved for the sons of the white elite. These benefactors of higher education eventually expanded to include the sons of the middle class. However, after World War II higher education experienced democratization and a radical transformation with the admission of a much greater variety of students, for example, more females, more socioeconomic classes, and more races. This evoked what might be termed a "crisis" of integrity for higher education. "If colleges that these students never could have attended before were going to admit them...could future graduates possibly be as 'good' as past ones? Could the baccalaureate mean what it once meant, serve the purpose it once served?" (North, 1996, p.149). One way to answer these questions was to use writing as a yardstick. Writing has typically maintained the status of a discriminator in education, and assessments and barrier exams dependent on writing proficiency continue to sift the chaff from the grain.

#### Assessing Graduate Student Writing

With the increased democratization and diversity in higher education, it is no wonder that interest in assessment has shown continuous growth. However, despite the relative prevalence of writing assessments for undergraduates on college and university campuses, there are few systems in place to ascertain the writing abilities of graduate students. There remains imbedded in our academic culture a belief that college graduates who apply and are admitted to graduate school will have the writing abilities necessary to function in graduate courses. The two most commonly used means of evaluating the writing ability of graduate school applicants are 1) the Graduate Record Exam (GRE) verbal score, and 2) committee evaluations of the personal statement. The GRE verbal score is a marker of general language ability, but it is not a measure of performance or of applied writing skill for the applicant. Admittedly, while a language skill

score might be expected to correlate to some degree with writing ability, the GRE verbal score alone might not be enough to truly ascertain the baseline writing proficiency levels of entering graduate students.

Sternberg and Williams (1997), while not specifically studying graduate student writing, looked at the GRE as a meaningful predictor of success in graduate training. These researchers based their research on the fact that the use of GRE scores as a criterion for admission is prevalent in graduate programs across numerous institutions. Their research was grounded in Sternberg's Triarchic Theory of Human Intelligence. The Triarchic Theory of Human Intelligence distinguishes among academic, creative, and practical abilities. It should, however, be noted that "these kinds of abilities are not wholly independent....but research indicates only a weak relationship among the three abilities" (Sternberg & Williams, 1997, p. 633). According to these researchers, performance on the GRE will be most affected by analytical abilities while creative and practical abilities will thus not be as readily apparent from GRE test scores.

Sternberg and Williams (1997) projected that the GRE, while a good predictor of initial graduate grades, would not be a strong predictor of success among advanced graduate students. Specifically, they predicted "that the GRE would be, at best, very weakly predictive of more meaningful criteria of graduate program success: in particular...of dissertations" (Sternberg & Williams, 1997, p. 634). Sternberg and Williams found that GRE scores, while predictive of first-year graduate school grades, did not prove useful as predictors of a number of graduate school performance measures. Notably they were not correlated with faculty ratings of dissertation quality. This is of particular relevance to the current research study due to the intensive writing component involved in producing a quality dissertation. While analytical abilities are important in writing, creative and practical abilities are also of relevance. The GRE Verbal scores, while relative to language, still rely heavily on analytical skills, not creative or practical skills (Sternberg, 1985, 1996; Sternberg, Ferrari, Clinkenbeard, & Grigorenko, 1996). Using this score as an indicator of graduate students' writing ability, especially the ability to

produce writing as complex as the dissertation, is a misuse of the score and can lead to frustrated faculty and defeated students.

In response to increasing complaints from graduate faculty regarding the poor quality of graduate student writing, the GRE Board has developed a new test, the GRE Writing Assessment (GRE-W) ([www.gre.org/writing.html](http://www.gre.org/writing.html)) This writing exam became available in October 1999 and offers a standardized, applied assessment of writing ability. Due to the relatively brief amount of time the test has been available, validity data are not yet available for the test. More students who have taken the GRE-W will need to be studied in order to determine to what degree the GRE-W score correlates with successful writing at the graduate level. At this time, students who have taken the GRE-W have not had time to advance very far in their studies, so conclusions about the usefulness of the GRE-W cannot be drawn.

The second form of attempting to evaluate graduate student writing proficiency, the personal statement (sometimes called statements of purpose or goals, or letters of intent), is a popular method of direct assessment of writing proficiency. Many graduate programs require applicants to submit personal statements as part of their application materials. These statements usually reflect the applicants' motivation for attending graduate school and outline the intended career goals of the applicants. While providing information about aspiring graduate students' personal qualities, the personal statement is also often viewed as a valid indicator of writing ability (Powers & Fowles, 1997; Powers, Fowles, & Willard, 1994). Although personal statements are typically used as direct assessments or measurements of writing ability, defining personal statements as direct measures of writing ability is somewhat misleading. Messick contends that measurement is direct only in a very limited sense; skills and knowledge are more correctly inferred from a product as opposed to being measured directly. Writing ability is, therefore, inferred from applicants' personal statements more than it is measured by such means (as cited in Powers, et al., 1994). While it is "widely acknowledged that an instrument [such as a personal statement] is not valid in an of itself....it is the inferences about the meaning and use of test scores that are to be validated" (Powers & Fowles, 1997, p. 76).

## Research Studies

Two studies, one by Powers and Fowles (1997) and the other by Powers, Fowles, and Willard (1994) explored the use of the personal statement as both a criterion for admission to graduate school and as a valid indicator of graduate student writing ability. In 1992, the staff of the GRE program conducted a nationwide study. Graduate deans and faculty were surveyed in an effort to determine if there was interest in a GRE writing test. While a number of the respondents were receptive to the idea of a test designed specifically to evaluate writing ability, a number of the respondents indicated that the information obtained from a writing test would be redundant with the information contained in the personal statement (i.e., personal statements serve as sufficient indicators of writing proficiency). Many of the respondents to the GRE survey indicated a belief that "personal statements were better indicators of writing skill than were standardized writing measures" (Powers & Fowles, 1997, p. 77). The earlier findings of Anderson and Ekstrom (1994) echoed this sentiment. In a similar investigation, they found that writing samples from graduate departments in arts and humanities, on average, carried as much weight as GRE verbal scores and undergraduate course of study. Additionally, the writing samples were more heavily weighted than GRE quantitative, analytical, and Subject Test scores, letters of recommendation, undergraduate institution quality, and personal interviews. One faculty respondent from an economics department made the following comment: "I cannot see what we would gain from another test score. The applications already contain a statement of purpose, which gives a direct writing sample" (Powers & Fowles, 1997, p. 77). To summarize the findings of the GRE survey, "those who viewed a writing test as largely unnecessary valued the personal statement as a sufficient indicator of writing ability" (Powers & Fowles, 1997, p. 77).

This could have been the end of this line of inquiry had the responses of some of those surveyed been considered definitive. However, there are a number of problems associated with equating the personal statement with a measure of writing ability. Powers and Fowles (1997) attempted to answer the following question: Is a standardized measure of writing skill largely

redundant with the personal statement (statement of purpose) for determining writing skills?" (p.79). They were interested in determining the relative merit of the two means of assessing writing skill: the personal statement and a standardized test. They hypothesized that, for a number of reasons, writing skill would be best reflected by a standardized writing measure as opposed to a personal statement. Their hypothesis was based on the following: 1) a standardized writing measure would "better reflect writing skill than the personal statement"; 2) a standardized test "is based on topics that have survived careful pretesting to ensure that they are accessible to most examinees and they elicit a sufficient range of response"; and 3) because it is administered under standardized conditions, a formal test "should reflect fewer sources of irrelevant variation than the personal statement" (Powers & Fowles, 1997, p. 79).

Powers and Fowles (1997) recruited 475 GRE General Test examinees from among those who took the GRE between January and May of 1994. The participants went to testing centers at 15 locations across the United States, where under standardized conditions, two-thirds of them wrote two expository essays in which they sustained an argument or an opinion about an issue that had been stated in a test prompt. The study participants also provided the following non-test indicators of writing proficiency: 1) self-estimates of writing skills, 2) self-evaluations of success with various writing processes, 3) self-evaluations of success with several kinds of writing, 4) self-reports of grade averages in college courses that involved writing, 5) grade on most recent writing assignment, and 6) information on writing-related accomplishments. Participants were also asked to submit a recent sample of undergraduate writing, and a copy of their personal statement if they had submitted one as part of their application to graduate school. Of special interest was a survey question posed to the participants asking them "to indicate how much help they had received in drafting and in editing and revising their statements" (Powers & Fowles, 1997, p. 80).

In Powers and Fowles' 1997 study, college faculty who qualified as trained essay readers evaluated the personal statements and the expository essays. Test essays were independently scored by two readers, and a 6-point holistic score scale was used with a score of "1" indicating a

serious deficiency in writing skills, and a score of "6" indicating mastery of the elements of effective writing. Test essays were scored using the same 6-point scale, and the readers were encouraged to read the essays as would admissions committee members by limiting their evaluation of the statements to writing quality. They were reminded to evaluate the statements only on the basis of writing quality while ignoring any desirable personal qualities communicated in the personal statement of the participants. Even though the readers were encouraged to not consider content, they reported that their judgments of the personal statements were sometimes influenced by content and the tone of the writing.

The results of Powers and Fowles' 1997 study proved quite interesting. In response to the question regarding the amount of help they had received when crafting their personal statements, 59% of the participants revealed that they had received at least some help in editing and revising their statements. Thirty-four percent indicated that they had received moderate or substantial help. Thirty-six percent acknowledged receiving assistance when drafting their statements, and 19% indicated that they had received moderate or substantial help. Fifteen percent indicated that when drafting, editing, and revising their statements, they had received moderate or substantial help. Thirty-eight percent of the participants stated that they had not received any help in writing their personal statements.

The inter-reader correlation for the personal statements was .78, and the inter-reader correlations for the test essays ranged from .77 to .80 across the four different essay prompts. Powers and Fowles (1997) report that "the correlation between scores assigned to the test essays and those assigned to the personal statements was low, only .15. Therefore, on the basis of our sample, the timed essay and the personal statement cannot be considered to provide interchangeable information" (p. 83). These findings underscore the idea that personal statements are not necessarily adequate in providing graduate school faculty and deans with valid information about an applicant's writing ability, and it might be unsafe to assume that an effective personal statement is indicative of writing ability on par with graduate faculty expectations regarding student writing. The researchers ultimately concluded that "although the



personal statement may provide certain unique and important information about applicants...its validity as an indicator of writing skill...needs to be better established” (p.75).

In a similar study done by Powers, Fowles, and Willard (1994), writing assessment was examined with the focus on the relationship between direct assessment and direct validation. In this study, sets of six student-produced essays (ranging in quality from poor to excellent) were sent out to be scored on a 6-point scale by graduate school personnel (department chairs, faculty, and deans) at 115 graduate institutions. Again, in this study, as in the one previously discussed, a score of "1" indicated a serious deficiency in writing skills, and a score of "6" indicated mastery of the elements of effective writing. The scorers were asked to respond to the writing ability exhibited in the essays, not to the content.

One-thousand-one hundred individuals were contacted by Powers, Fowles and Willard, and 347 people responded to the survey. Two-hundred-thirty-one of the respondents submitted satisfaction ratings for the sample essays. Despite the somewhat low response rate, all classifications of graduate institutions were represented. Also, deans, department chairs, and faculty were represented in the responses, and their responses showed no significant differences. Interestingly, when a sample of non-respondents was contacted for follow-up, the main difference between respondents and non-respondents was that non-respondents indicated a lower interest in a GRE writing measure. When examining the individual ratings of the sample essays, the researchers discovered that "although the correspondence between score level and satisfaction is strong, the relation is not necessarily linear, particularly for dissatisfaction" (Powers, Fowles, & Willard, 1994, p. 96). In other words, raters were much more likely to indicate that they were “very dissatisfied” with sample essays receiving the lowest scores than they were to indicate that they were “very satisfied” with the writing samples that had received the highest scores.

The researchers concluded that "some performance assessments, such as those involving direct measurement of writing skills, may enable validation that requires somewhat smaller inferential leaps than those needed for less direct measurements" (e.g. multiple choice tests)

(Powers, Fowles, & Willard, 1994, p. 97). However, the authors were careful to explain that unless direct assessments are constructed and administered carefully, the inferential leap is actually more hazardous. Namely, "limited content coverage, poor generalizability, difficulty in maintaining test security, and increased opportunity for bias due to subjective scoring all pose plausible threats to the validity of these assessments under some conditions (Powers, Fowles, & Willard, 1994, p. 97; Dunbar, Koretz, & Hoover, 1991). Powers, Fowles, and Willard also added an interesting aside in their discussion; they related that the faculty respondents expressed a distrust of the writing samples currently required by several of the graduate schools surveyed. The faculty members commented that it is impossible to know how much help an applicant has received in writing, revising, and editing personal statements or other writing samples not obtained in a secured testing environment. This concern would seem to be consistent with Powers and Fowles' subsequent 1997 study findings.

Both of the previously cited studies are explorations of graduate student writing. While they approached the topic by examining personal statements and by studying validity of direct assessment, these studies allow for more general conclusions. Namely, graduate student writing assessment is a fairly new area of study; using the personal statement as an indicator of writing proficiency is erroneous; and graduate student writing merits further investigation. It should not be taken for granted that being a graduate student equates with being a proficient writer.

#### Graduate Student Writing

As further evidence of the error of thinking that graduate students are "automatically" proficient writers, Becker describes his experiences teaching a seminar at Northwestern University for graduate students in sociology. He indicates that the experience was "so interesting and the need for something like that class [was] so obvious" (Becker, 1986, p. vii). He was surprised when not only graduate students enrolled in the course, but several post-Ph.D. researchers and younger faculty members also enrolled. Becker pointed out that while all of these individuals had taken and completed freshman English, most likely taught by competent individuals who understood the methods and theories of teaching composition, it hadn't helped

them achieve mastery of writing. He makes the statement that "the beginning writer does not know how writers behave" (Becker, 1986, p.xi). Although it might be tempting to dismiss this concept as irrelevant and say that graduate students are not beginning writers, according to Becker they are oftentimes beginning writers. He believes that graduate students, for the most part, do not see their instructors drafting and writing; therefore, it remains a mystery to students how professors produce chapters and articles. The students in his course indicated that they were not aware that people who write professionally had to routinely rewrite. They did not expect to have to edit, revise, and rewrite, which are typical beginning writer misconceptions. Instead, Becker's students related "they thought that 'good writers' (people like their teachers) got everything right the first time" (1986, p. 6).

Many graduate students have writing habits that they have carried over from high school and undergraduate course work. High school and undergraduate courses teach students to write term papers that are usually developed from an outline and written only once. Rewriting is a luxury few undergraduates engage in because they typically have several papers due at the same time. This situation makes it so that students are rewarded for quick preparation of short, passable papers. They are not encouraged or rewarded for rewriting, and they quickly learn that it's the first draft that counts (Becker, 1986). Though this method can work for undergraduates, it will not satisfy the demands of graduate school writing.

Writing changes from the typical undergraduate one-shot, one draft activity to a revising, redrafting, sequentially complicated activity in graduate school. Becker (1986) describes the social organization of writing and reputation that emerges in graduate school: "teachers talk about your papers, for good or bad, to their colleagues and to other students. With luck, the papers grow into qualifying papers or dissertations, read by several faculty members" (p. 11). Students who are term paper experts fall apart in graduate school. They cannot hold in mental storage a paper or writing project longer than a term paper, and as they advance in graduate school, they find that term paper skills are inadequate. Inevitably, professors will require them "to write longer papers, [and make] more complex arguments based on more complicated data"

(Becker, 1986, p.11). Nowhere is this type of writing more evident than in the doctoral dissertation. However, graduate students may reach the dissertation stage without being able to think, rethink, and think again about what they are writing. They do not have editing and revising skills, and their control of the basic elements of the English language may be weak or faulty. Trying to write longer papers required in graduate school courses proves to be a daunting task to some graduate students, and they begin to realize that they lack the ability to write. Instead of proficient writing, this under-prepared writer produces texts that may contain interesting ideas, but the writing is superficial, barely coherent, and lacking a clear thesis or underlying argument (Becker, 1986).

Unfortunately, not all graduate students develop an appreciation for the need to write proficiently. Becker (1986) remarks that while a paper that uses statistics incorrectly may be harshly criticized by professors or rejected by editors, one that is badly written will probably be met with just a heavy sigh and an air of resignation. Oftentimes content is emphasized over quality or correctness, and it is rare for professors to fail students who write badly (Becker, 1986). If this is the experience graduate students have, they will have no motivation to learn more about writing than they knew when they began their graduate studies. Instead of learning to write, they make take other approaches to justifying or rationalizing their shortcoming. For example, Becker writes about the tendency for some students to "treat the skill of writing as a gift from God which they just happen not to have received" (p.91). Becker tells the story of serving on a thesis committee for a student who earnestly explained that he knew his thesis was poorly written, but he was not to blame for this because "he wasn't verbal" (p.91). A second technique for dealing with writing inadequacy may be to subscribe to the idea that someone else can do it. In other words, students may appeal to friends or family members who are adept in English, or they may hire editors. Neither of these "solutions" squares well with the idea of what it means to possess a doctorate. Graduate students seeking a doctorate with the hopes of entering academia will not embark on successful careers if they lack the ability to write. Instead, they will face an embarrassing and frustrating situation as they endeavor to earn tenure.

## The Current Study

This study explored writing proficiency among graduate students in Higher Education programs across the United States. It was not an attempt to prove or disprove an hypothesis, or gain definitive information about the general state of graduate student writing. Instead, the intention of this study was to explore the current state of writing proficiency for a selected population. Although the findings are obviously limited in their generalizability to disciplines outside of Higher Education, they may prove useful as general information about graduate student writing proficiency in the United States. Based on the lack of previous extensive study of graduate student writing proficiency, and the compelling nature of the problem, this topic merited further investigation.

Graduate school is a writing-intensive experience, and the more that faculty and administrators know about the skills of their students the more positive the experience can be for all involved. The cognitive skills required to produce writing as described by Flowers and Hayes (1980,1981,1986) and others cited in this review would seem critical in the graduate student population. "Writing is how we think our way into a subject and make it our own. Writing enables us to find out what we know--and what we don't know--about whatever we are trying to learn" (Zinsser, 1988, p.16). Perhaps nowhere more so than in academics is this statement true. Graduate students strive to become experts in their chosen fields and to be accepted by the community of scholars. As they work toward the attainment of the doctorate it is critical that they think their way into their chosen field and make it their own. By ascertaining to what degree graduate students can write, faculty and administrators may glean a better understanding of how to help their students use writing to transition from student to scholar.

## CHAPTER 3

### METHOD AND PROCEDURES

#### Participants

An availability sample of graduate students enrolled in at least one course in Higher Education at public institutions of higher education in the United States participated in the study. A total sample size of 97 students was obtained. Participants came from the following universities: Clemson, Oklahoma State University, University of Louisville, University of Maine, University of Michigan, University of North Texas, and Virginia Polytechnic Institute and State University. Demographic data were collected from the study participants. The majority of respondents was female (65.6%).

A few of the respondents (6.2%) appeared to be fairly new in their program (having fewer than 12 hours); the majority (68.0%) had accumulated 25 or more hours of graduate credit. Table 2 contains descriptive statistics for the sample demographic variables.

Table 2  
Demographic And Miscellaneous Responses to G-WEQ

Is English your first language?	Percent
Yes	91.75
No	8.25
What is your current age?	Percent
Less than 25 Years	18.56
25 to 28 Years	9.28
29 to 35 Years	20.62
36 to 50 Years	34.02
Over 50 Years	17.53
Gender	Percent
Male	34.37
Female	65.63
Number of graduate hours completed	Percent
Less than 12	6.19
12 to 24	25.77
25 to 40	19.59
41 to 60	23.71
More than 60	11.34
ABD	13.4
Program enrolled in	Percent
Master's in Higher Education	26.8
Doctorate in Higher Education	54.64
Master's in other field	3.09
Doctorate in other field	15.46
Doctoral degree sought	Percent
Ed. D.	50.7
Ph. D.	49.3

#### Human Subjects Approval

Prior to beginning this study, a request was made to the University of North Texas Institutional Review Board for permission to use human subjects. Following approval of the

study, participants were recruited for the study. Each participant received a cover letter explaining the requirements of their participation in the study. In the cover letter it was explained that the data would be kept confidential, that the study presented no risk of physical or psychological harm, and that as a volunteer in the study they were free to end their participation at any point in the study with no penalty or repercussion (see Appendix A). Participants were also provided with a detailed set of directions for completing the instruments (see Appendix B). In the case of the data being collected in a group setting, the administering professor was given data collection instructions (See Appendix C). In lieu of signatures, participants' returning the completed instruments served as an indication of their consent to participate.

### Instruments

Two instruments were administered to the participants. A General Information and Writing Experience Questionnaire (G-WEQ) (see Appendix D) and the SAT II: Writing Test, Part B<sup>1</sup>. The author, following an extensive review of the literature, developed the G-WEQ. The G-WEQ was designed to capture demographic information about the participants. Additionally, the G-WEQ required participants to provide a basic self-assessment of writing skills. The G-WEQ also allowed participants to describe the writing experiences they are currently encountering in graduate school. The items designed to assess the writing experience were based on Likert-type scales, Reliability was determined by computing internal consistency and a reliability coefficient using Cronbach's coefficient alpha ( $\alpha$ ) and reported in the Results section of this paper (Gall, Borg, & Gall, 1996).

To assess writing proficiency for the participants, the SAT II: Writing Test, Part B was used. The SAT II: Writing Test, Part B is a timed, 60-item multiple-choice test developed by

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<sup>1</sup> A copy of the SAT II: Writing Test, Part B can be obtained from College Board SAT Program, P.O. Box 6200, Princeton, NJ 08541-6200; [sat.help@ets.org](mailto:sat.help@ets.org); [www.collegeboard.org](http://www.collegeboard.org).



Educational Testing Service (ETS). The purpose of the test is to “measure [test takers’] ability to...recognize faults in usage and structure, and to use language with sensitivity to meaning” (Educational Testing Service, 1999-2000, p.7). The multiple-choice questions deal with such common writing problems as “being consistent, expressing ideas logically, being clear and precise, and following conventions” (Educational Testing Service, 1999-2000, p.7). This instrument has demonstrated reliability (R. Goodman, personal communication, August 22, 2000). Although it might seem unconventional to use the SAT II, an instrument typically associated with high school level testing, the use of this instrument was warranted based on a number of reasons:

- ETS professionals who developed the test assert that “most students take the...SAT II tests...during their junior or senior year in high school, *but there are no age or grade restrictions* [italics added] (Handbook for the SAT Program, 1999-2000, p.5).
- The SAT II is typically taken by college-bound seniors and is used by many colleges for “admission, placement, and advising” purposes (Handbook for the SAT Program, 1999-2000, p.7).
- Given the assumption being tested (i.e., after earning a bachelor’s degree, students who wish to pursue a graduate degree and are accepted to a graduate program of study are prepared to write at a level adequate for graduate level work), it is sensible to use a test typically given to college-bound seniors. In other words, graduate students should score significantly higher than the SAT II average if they did indeed obtain the writing skills assumed of a bachelor’s degree holder.
- The SAT II is a normed instrument. A normed instrument was ideal for this study based on a number of reasons. Namely, by using a normed instrument, the scores obtained were

scaled relative to people who have previously taken the test. If a raw score is obtained (e.g., 40 correct), it is meaningless unless information is available about how other people scored on the same test; norms anchor a test. The SAT II served as an anchor, or point of comparison, for the scores obtained from the participants. This instrument has “been established as a common standard against which students performance can be compared. Meticulous care goes into the writing, development, research, and evaluation of [the SAT II] (Handbook for the SAT Program, 1999-2000, p.5).

Finally, to investigate students’ performance on the instrument, cursory observations about the instrument were made through the use of a pilot study of the instrument. To determine variation among responses to the 60 items on the test, the SAT II: Writing Test, Part B was piloted with six graduate students in Higher Education at the University of North Texas. The data were collected, and two of the students’ response sets were removed because they indicated that English was not their first language. Only one of the four remaining students was able to complete the 60 items in the allotted time. Interestingly, it was found that there was variance among two-thirds of the items on the instrument. This suggested that the instrument would yield useful information since there were individual differences in the responses of the pilot sample. If everyone had selected the same responses to the test items, this instrument would not yield useful information for the study. However, because variance was discovered and the instrument has been determined to be reliable by ETS, it is safe to assume that this instrument provided useful and informative results. Further, this should dispense with any concern about using an instrument typically associated with high school testing, since it is clear that even with a small pilot sample ( $n = 4$ ), a significant amount of variation was present.

## Procedure

In the original attempt at data collection, a list of all public institutions of higher education in the United States that offer graduate degrees in Higher Education was obtained from the Educational Resources Information Center (ERIC) Clearinghouse on Higher Education ([www.eriche.org/resource/public.html](http://www.eriche.org/resource/public.html)). The institutions were sampled to ensure that both master's and doctoral programs were represented. This resulted in a non-proportional stratified sample of institutions that offer graduate degrees in Higher Education (Gall, Borg, & Gall, 1996).

Following the selection of the program pool, the researcher accessed program websites to obtain the names of contact persons. The identified contact person for each program in the sample was then contacted by phone or e-mail. The study was described, and a request was made that the contact person help recruit graduate students to participate in the study.

After considerable effort, it was discovered that this was an ineffective means of recruiting study participants. Twenty-five institutions were contacted and only two professors had agreed to help collect data from graduate students. It was then determined that multiple means of collecting data would be necessary.

Study participants subsequently were recruited in three ways: 1) by contacting Higher Education professors at various programs, 2) through Higher Education graduate student organizations, and 3) through a request for study participants posted on the ASHE list serve. This resulted in a convenience sample of graduate students in Higher Education.

Professors of Higher Education courses were contacted and asked if they would be willing to recruit volunteers for the study from their classes. If they agreed, data collection materials were sent to the professor, the instrument was administered in a group setting by the professor, and the

completed materials were returned to the researcher by the professor. Seventy-three participants were obtained using this method of recruitment. Individuals were also recruited to participate in the study. This was done in two ways: by obtaining permission to post a request for subjects on the ASHE list serve, and by asking graduate student coordinators or graduate student organization officers to forward an e-mail request for participants to students enrolled in courses in Higher Education. Students who received the posted messages and were interested in participating in the study contacted the researcher by e-mail, and arrangements were made to send a packet of data collection materials to the student. Twenty-four participants were obtained using these methods of recruitment. In the case of an individual providing data, as opposed to the data being collected in a group setting, a Statement of Honesty (see Appendix E) was required in an attempt to ensure that all data collected were legitimate and provided under similar circumstances. Each program or individual that participated in the study was offered a copy of the findings for the study.

#### Analysis of the Data

The analyses of data were performed using the Statistical Analysis System (SAS) version 8.2 for the IBM Mainframe. For inferential statistical analyses, probability levels associated with the resulting statistics are reported. Probability levels greater than .05 were not reported as significant.

## CHAPTER FOUR

### RESULTS

#### The SAT II: Writing Test, Part B

Participants in this study completed the SAT II: Writing Test, Part B. These tests were scored using the answer key provided by SAT, and raw scores were converted to scaled scores according to the conversion table provided by SAT, (SAT II: Subject Tests, 2000). The average multiple-choice scaled score from the SAT Writing Test, Part B was 59.30 (the range is 20 to 80), and the sample standard deviation was 10.27. The distribution had a very slight negative skew (-0.129), implying that the mean score was slightly lower than the median. Based on published norms, the population mean is 59 and the population standard deviation is 10 (Inside SAT II, 1999). This norm is based on “scores earned by 1998 college-bound seniors who took the SAT II: Writing Test at any time during high school” (Inside SAT II, 1999, p.12).

When a sample of data is obtained and the population mean and standard deviation are known, an appropriate test for a significant difference between the sample and population mean is the  $z$ -Statistic for a Single Sample Mean (May, Masson, & Hunter, 1990). Hence, this significance test was used to determine whether the sample mean was significantly higher than the population mean. Clearly, this is not the case ( $z=0.295, p<0.38$ ). The graduate students in this sample did not score significantly higher on the SAT II: Writing Test, Part B than the typical high school senior whose scores enter into the norm group. For the purpose of full reporting, a distribution of scaled scores from this sample can be found in Table 3.

Table 3  
 Frequency Distribution of Participant SAT II: Writing Test Scaled Scores

Scaled Score	Frequency	Percent
36	1	1.03
37	2	2.06
39	1	1.03
40	1	1.03
42	1	1.03
44	1	1.03
45	1	1.03
46	2	2.06
48	5	5.15
49	2	2.06
50	2	2.06
51	2	2.06
52	6	6.19
53	2	2.06
54	5	5.15
55	3	3.09
56	4	4.12
57	1	1.03
58	4	4.12
59	1	1.03
60	5	5.15
61	5	5.15
62	1	1.03
63	4	4.12
64	3	3.09
65	3	3.09
67	5	5.15
68	7	7.22
70	3	3.09
71	3	3.09
73	2	2.06
75	4	4.12
76	2	2.06
77	1	1.03
80	2	2.06

## Demographic Variables and SAT II: Writing Test Scores

Statistical tests were used to determine whether significant differences in writing scores existed for selected demographic variables. This was done in an exploratory manner, with the goal of understanding whether significant differences existed based on these selected variables. There was no specific theoretical framework used to test formalized hypotheses. Instead, these variables were selected based on a deductive review of the literature.

An Analysis of Variance (ANOVA) was employed to determine whether the SAT II: Writing Test scores varied as a function of undergraduate major. The study participants' SAT II: Writing Test scaled scores were used as the dependent variable, and undergraduate major was used as the independent variable. The undergraduate majors of the 97 participants were coded into four broad categories. These categories were as follows: English ( $n=10$ ), Math/Science ( $n=17$ ) Social Science ( $n=48$ ) Education ( $n=16$ ). There were six participants who indicated that they had majored in "Business" as undergraduates. This group was too small to include in the analysis.

A non-significant ANOVA indicated that SAT II: Writing Test scores did not vary as a function of undergraduate major ( $F(3, 87) = 1.01, p < .40$ ). English (undergraduate) majors did score higher than the other participants, but not significantly so. The test had low power due to low sample size (number of subjects within each cell). Larger samples may have shown significant difference.

A second ANOVA was used to determine whether SAT II: Writing Test scores differed significantly based on program. Since there were only 3 people who indicated that they were receiving a master's degree in a program outside of Higher Education, these observations were eliminated from the analysis. Three groups remained: those getting a master's in Higher Education ( $n=26$ ), those getting a doctorate in Higher Education ( $n=53$ ) and those getting a

doctorate in another field ( $n=15$ ). There was no significant difference for SAT II: Writing Test scores ( $F(2,91) = 1.95, p < .15$ ).

An Independent Samples T-Test was run to investigate whether there was a significant difference in SAT II: Writing Test scores for males and females. The test showed that females scored significantly higher ( $t(94)=2.17, p < .05$ ). Females had an average SAT II: Writing Test, Part B scaled score of 60.86, and males had an average score of 56.15.

A second Independent Samples  $t$ -test was run to investigate whether those participants who participated on an individual basis had significantly different test scores than those who completed the instruments as part of a class. The result was that those who participated individually scored significantly higher (average SAT II: Writing Test score of 65.21 vs. 57.46) than those who participated in a classroom setting ( $t(95)=-3.32, p<.01$ ).

A third Independent Samples  $t$ -test was run to investigate whether those participants who were working toward an Ed.D. had significantly different SAT II: Writing Test scores than those pursuing a Ph.D. The result was that those who were pursuing a Ph.D. scored significantly higher (average SAT of 63.26 vs. 56.75) than those who indicated they were pursuing an Ed.D. ( $t(69)=-2.78, p<.01$ ).

### General Writing Experience

On the G-WEQ, participants were asked to provide information about their writing experiences. The questions asked formed three dimensions: self reported writing skills (Skills); self reported writing success (Success); and, assessments of support in developing and improving writing skills (Support). For the first dimension, Skills, several questions were asked about participants' perceptions of their own writing ability. For instance, the first question asked was "compared to your peers in graduate school, would you say that your writing skills are: much



better than others (26.3%); somewhat better than others (32.6%); about the same as others (32.6%); somewhat worse than others (6.3%); or much worse than others (2.1%). More than half (59%) felt their writing skills were better than those of their peers. Table 4 contains a summary of participants' responses to four more specific questions about how effective they perceive themselves to be as writers.

Table 5 contains a summary of responses to the six questions that form the Success dimension of the G-WEQ. Specifically, participants were asked to rate their success on several different writing tasks (e.g., creative writing, analytical writing).

Table 4

## Writing Process Effectiveness Self-Ratings

Question	Not Effective						Very Effective		Mean	Std Dev
	1	2	3	4	5	6	7			
Thinking about the writing assignment	0.0	0.0	5.2	12.4	32.0	37.1	13.4	5.41	1.04	
Organizing your writing so that readers can easily follow your ideas	0.0	0.0	6.2	17.5	27.8	37.1	11.3	5.30	1.08	
Revising your paper once you have written an initial draft	0.0	5.2	10.3	15.5	15.5	39.2	14.4	5.16	1.41	
Developing an effective writing style that suits the purpose for which you are writing	0.0	3.1	7.2	13.4	36.1	30.9	9.3	5.12	1.17	

Table 5

## Writing Tasks Success Self-Ratings

	Not very successful					Very successful		Mean	Std Dev
	1	2	3	4	5	6	7		
	Personal writing (e.g., e-mail, letters).	0.0	0.0	2.1	9.3	12.4	26.8		
Creative writing	1.0	8.3	11.3	20.6	28.9	13.4	16.5	4.74	1.52
Analytical writing (e.g., reporting on research findings)	0.0	1.0	6.2	14.4	24.7	40.2	13.4	5.37	1.14
Criticism (e.g., critiquing journal articles)	0.0	0.0	14.6	19.8	29.2	21.9	14.6	5.02	1.26
Description or explanation	0.0	0.0	4.1	10.3	26.8	39.2	19.6	5.60	1.05
Exam Writing	0.0	1.0	9.4	12.5	32.3	29.2	15.6	5.25	1.24

Overall, for the first dimension, Skills, there weren't great differences among average ratings for the items. The one notable detail is that there was more dispersion for the question around revising an original draft. Apparently, there is more variability (higher standard deviation) for participants' self-views of their ability to revise their own work. For the second set of items, those querying success at various writing tasks, participants provided the lowest ratings for their success at creative writing endeavors and the highest levels of success for personal writing.

The final set of questions on the G-WEQ formed the Success dimension of the questionnaire. In terms of the descriptive nature of the items on the G-WEQ, this final set of questions, summarized in Table 6, are the most intriguing. For this set of questions, participants were asked to provide information about their writing experiences and how well they feel they have been prepared to write at a graduate level. Overall, there was a tendency for ratings to these questions to be lower than the ratings for other questions referenced above. Several questions yielded average ratings below 5.0. These questions had to do with how well participants felt they had been prepared as undergraduates to write at a graduate level (4.38); the extent to which they are able to collaborate with their professors on writing (3.10); opportunities to gain feedback on writing assignments before they are turned in for a grade (4.08); and the general help they receive from professors to improve at writing (4.11).

Table 6

## Self-Ratings for Writing Assistance and Preparation

	Negative		Neutral			Positive		Mean	Std Dev
	1	2	3	4	5	6	7		
To what extent do you think your undergraduate coursework prepared you for the level of writing required of you in graduate school?	10.3	12.4	10.3	17.5	14.4	15.5	19.6	4.38	1.99
To what extent do you collaborate on writing projects with your professors (e.g., research articles, chapters, presentations)?	29.9	17.5	11.3	13.4	13.4	10.3	4.1	3.10	1.91
Do your professors provide you with constructive feedback on your writing assignments?	2.1	7.2	8.3	12.4	22.7	29.9	17.5	5.06	1.57
Are you given sufficient opportunities to build your writing skills (e.g., assignments, projects, papers)?	0.0	2.1	5.2	6.2	16.5	39.2	30.9	5.78	1.22
Do you have the opportunity to gain feedback on your written work prior to final grades being assigned (e.g., re-write opportunities, having the professor provide comments on initial drafts)?	9.3	14.4	17.5	12.4	21.7	13.4	11.3	4.08	1.84
Overall, how much help do your professors provide to aid you in improving your writing skills?	8.3	14.6	12.5	16.7	27.1	11.5	9.4	4.11	1.75

In constructing the G-WEQ, it was determined that certain questions could be grouped together to form scales. It was assumed that the items discussed above would form three dimensions: self reported writing skills; self reported writing success; and, assessments of support in writing skills. Consequently, Cronbach's  $\alpha$  coefficient was computed for each of the scales (see e.g., Nunnally & Bernstein, 1994). This coefficient is a reliability (internal consistency) estimate, thus is indicative of the homogeneity of a group of measures. Reliability estimates in the range of 0.80 and above are generally considered good for general research purposes (Nunnally, 1978). The reliability estimate for Skills was 0.80, the estimate for Success was 0.78 and the estimate for Support was 0.74. Concerning the latter, the analysis revealed that eliminating the item pertaining to collaborating with professors increased the reliability to 0.79. For the final analyses reported below, this item was left out of the Support scale. This resulted in all scales being either within the range suggested by Nunnally, or very close.

Next, all items were standardized (converted to  $z$ -scores) and the appropriate items were summed to form scores for the three scales. This is a commonly recommended method of creating composite scores as it gives all of the items equal weight in the overall score (see e.g., Cronbach, 1990). The correlations among these three scores and the SAT II: Writing Test, Part B score was then computed. These correlations are detailed in Table 7. By examining Table 7, it can be found that self-reported success and skills are highly correlated (0.66), but both were uncorrelated with reports of support in preparing them to write and helping them to improve at writing. Furthermore, both self-reported writing skills and success were significantly correlated with the SAT II: Writing Test, Part B scaled scores (0.392 and 0.383 respectively). Again, reports of support received in developing writing skills were not related to the SAT II: Writing Test, Part B scores.

Table 7  
Correlations For G-WEQ Scale Scores and SAT II: Writing Test Scores

	SAT II Writing	G-WEQ Skills	G-WEQ Success	G-WEQ Support
SAT II Writing Test Scaled Score	1.000			
G-WEQ Self-Ratings of Writing Skills	<b>0.392</b>	1.000		
G-WEQ Self-Ratings of Writing Success	<b>0.383</b>	<b>0.662</b>	1.000	
G-WEQ Self-Ratings of Support in Writing Improvement	-0.024	0.0668	0.0145	1.000

Bold type face indicates values that are significant at  $p < .001$

As was mentioned previously, the SAT II: Writing Test, Part B measures three different aspects of writing proficiency: grammar, usage, diction (choice of words), and idiom; correctness and effectiveness of expression (inclusive of grammar, word choice, sentence construction, and punctuation); and organization and development relative to clarity and coherence. Subscale scores corresponding to the three subsections mentioned above were computed from these three sections following the general formula presented by SAT (2000) and reproduced below.

Raw Score = Correct + (0.25 x Wrong), where Correct corresponds to the number of correct responses, Wrong corresponds to the number of incorrect responses, and Raw Score is the raw score being calculated. Blank responses are not counted as incorrect. As would be expected, the correlations between the SAT Subscale scores and the overall SAT Scaled Score are quite high. Aside from this, the correlations of these subscales with the G-WEQ scales offered little new interpretive information.

In order to ascertain which individual items were most highly correlated with writing ability, as measured by the SAT II: Writing Test, Part B, correlations between the SAT II scaled scores and responses to individual G-WEQ items were used in forming the above mentioned

composites. The correlations between the individual G-WEQ items, SAT II Scaled Scores and SAT II Subscale scores are reported in Table 8. There are several noteworthy figures from this particular table. First, the two items that had the highest correlation with writing ability were the extent to which participants felt their undergraduate coursework prepared them to write at the graduate level ( $r = 0.447, p < .01$ ), and participants' ratings as to their ability to develop an effective writing style that suits the purpose for which they are writing. In general, self-ratings of effectiveness and success at writing correlated at a fairly high level with writing ability. Also, it is interesting to note that, for the most part, participants' ratings of the support they get to improve at writing, primarily from professors, is unrelated to their writing proficiency. The two exceptions are for the items about being given opportunities to build writing skills ( $r = 0.244, p < .02$ ), and collaboration with professors ( $r = -0.243, p < .02$ ). The correlation is unexpectedly negative on the latter. The meaning of this is unclear; however, it is small compared to some of the other correlations.



Table 8

Correlations between G-WEQ Questions and SAT II: Writing Test Scaled Score	
Thinking about the writing assignment	0.194
Organizing your writing so that readers can easily follow your ideas	<b>0.372</b>
Revising your paper once you have written an initial draft	<b>0.234</b>
Developing an effective writing style that suits the purpose for which you are writing	<b>0.444</b>
Personal writing (e.g., e-mail, letters)	<b>0.376</b>
Creative writing	-0.016
Analytical writing (e.g., reporting on research findings)	<b>0.351</b>
Criticism (e.g., critiquing journal articles)	<b>0.314</b>
Description or explanation	<b>0.246</b>
Exam writing	<b>0.316</b>
To what extent do you think your undergraduate coursework prepared you for the level of writing required of you in graduate school?	<b>0.447</b>
To what extent do you collaborate on writing projects with your professors (e.g., research articles, chapters, presentations)?	<b>-0.243</b>
Do your professors provide you with constructive feedback on your writing assignments?	-0.086
Are you given sufficient opportunities to build your writing skills (e.g., assignments, projects, papers)?	<b>0.244</b>
Do you have the opportunity to gain feedback on your written work prior to final grades being assigned (e.g., re-write opportunities, having the professor provide comments on initial drafts)?	-0.152
Overall, how much help do your professors provide to aid you in improving your writing skills?	-0.083

Note: Bold face type indicates correlations that are significant at  $p < .05$

Finally, examination of the correlations between the G-WEQ scale scores and the SAT Writing Scaled Score suggest that, to some degree, writing ability can be predicted from self-reports about writing ability and success. In order to examine this, a multiple regression was run predicting writing ability (SAT Scaled Score) from the G-WEQ dimensions discussed above. The regression equation was significant ( $F = 7.28, df = 3, 93, p < .01$ ). The two G-WEQ dimensions that had the highest correlation with writing ability had significant regression coefficients in the equation: self-ratings of ability on different writing tasks ( $\beta = 0.838, t = 2.07, p < .05$ ); and self-ratings on how successful participants feel they are at different types of writing ( $\beta = 0.519, t = 1.67, p < .05$ )<sup>2</sup>. The  $R^2$  for this equation was 0.190. This implies that there is considerable overlap between the two G-WEQ measures, otherwise the  $R^2$  would be expected to be much larger based on the univariate correlations.

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<sup>2</sup> Note, this probability is for a one-sided t-test, since the direction of the correlation would be expected to be positive.

## CHAPTER 5

### DISCUSSION, IMPLICATIONS FOR FURTHER RESEARCH, AND CONCLUSION

#### Review of the Research Questions

Five research questions guided the parameters of this study. They were the following: 1) Can graduate students in Higher Education courses express ideas effectively in standard written English? 2) Can graduate students in Higher Education courses recognize writing errors in usage and structure? 3) Can graduate students in Higher Education courses use language with sensitivity to meaning? 4) Is writing proficiency correlated with certain demographic variables? and 5) How do graduate students in Higher Education courses perceive their writing experiences in general? The series of analyses presented here helped to both answer these questions and to raise questions for future research.

When reviewing the literature to form the basis for this study, this researcher found that while there is great deal of interest in assessment of student writing, there is very little research available that addresses graduate student writing specifically. While educators are in agreement that writing proficiency is an important skill for graduate students, there seems to be a discrepancy between expectation and reality (Torrance, Thomas, & Robinson, 1999). To wit, graduate students are expected to write like experts, but graduate student writing quality elicits cries of despair and exasperation from faculty, (Michigan State University, [www.ed.gov/offices/OPE/FIPSE/99ProgBk/acCOMpp90.html](http://www.ed.gov/offices/OPE/FIPSE/99ProgBk/acCOMpp90.html)). This basic idea was the driving force behind this study. Is the state of graduate student writing as depicted by disgruntled faculty a myth or of anecdotal nature, or is there indeed a real issue with regard to graduate student writing proficiency, or lack thereof?

## Writing Proficiency

The  $z$ -Statistic for a Single Sample Mean was performed on the collected writing proficiency data. This significance test was used to determine if the study respondents mean score on the SAT II: Writing Test, Part B was significantly higher than the population mean. The sample population's mean was not significantly higher than the population mean. To recap, the graduate students in this sample did not score significantly higher on the SAT II: Writing Test, Part B than the typical college-bound, high school seniors whose scores constitute the norm.

### Implications

This finding is interesting for several reasons, some clear, some more ambiguous. Several assumptions predicated this study. Not the least of which was an assumption that students are better writers after earning a bachelor's degree than they were before entering college. For the purpose of clarity in this study, "better writers" is taken to mean more proficient, and regardless of personal definitions of the term "proficiency," there is arguably an understanding that college students will be more skilled writers when they graduate than they were prior to matriculation (North, 1996). It follows that this would seem to be a reasonable expectation on the part of graduate faculty – reasonable, yet unmet. By requiring a bachelor's degree as a prerequisite to admission to graduate study, it may be safe to assume that graduate admissions committees are assuming that, among other things, an undergraduate degree has adequately prepared students for the rigors of graduate level writing since most graduate programs are writing intensive.

The discovery that the graduate students sampled in this study did not in fact score significantly higher than college-bound high school seniors seems to justify faculty complaints

that graduate students can't write on a satisfactory level. Presumably, graduate faculty expects their students to write better than high school seniors. If the sample population used in this study is representative of graduate students in Higher Education courses across the United States, then the conclusion reached is that after four years of undergraduate study, and possibly even after some graduate study in the case of those with master's degrees, the graduate students sampled in this study were no more proficient writers than average college-bound high school seniors. This finding begs many questions. Namely, are the skills required to produce writing proficiency not adequately addressed in the undergraduate curriculum? Or is there simply not enough emphasis placed on writing proficiency as a prerequisite for admission to graduate school? Does this lack of emphasis on screening lead to the admission of graduate students who are inadequately prepared to produce the level of writing expected in graduate school? Also, is it possible that the faculty assumption that entering graduate students will be proficient writers is in error or unfair? Is it possible that graduate faculty should expect to teach writing skills to their students?

#### Convenience Sample

A second approach to interpreting this finding is to consider the possibility that it is incorrect or faulty. Aside from the possibility of a Type II error, there is the fact that a convenience sample was used. In some cases, this might result in the findings being questionable. However, for this study this would seem to be illogical in light of the sample population's failure to score significantly better than the population mean on a test of writing proficiency. All the participants were volunteers. Students who volunteered to complete the instruments on an individual basis comprised 24.7% of the sample. The remaining 75.3% of the sample population were recruited by graduate faculty and completed the instrument in a classroom setting. If it is assumed that the students who volunteered to participate in the study

did so because of an affinity for writing or because of a personal interest in the topic, then it would be *more likely* that a significant difference would have been found between the sample population and the norm population, with the sample population scoring significantly higher than the norm group. As this was not the case, it would appear to dispense with any question regarding the possible confounding effects of a convenience sample.

#### Instrument Limitations

A second issue regarding the validity of the findings centers on the use of the SAT II: Writing Test, Part B as the means of measuring writing proficiency for the sample population. The Sat II, Part B is a normed instrument that is a timed, 60-item multiple-choice test developed by Educational Testing Service (ETS). The purpose of the test is to “measure [test takers] ability to...recognize faults in usage and structure, and to use language with sensitivity to meaning. The multiple-choice questions deal with such common writing problems as “being consistent, expressing ideas logically, being clear and precise, and following conventions” (Educational Testing Service, 1999-2000, p.7). This instrument tests for three major components or subscales of English proficiency: grammar, usage, diction (choice of words), and idiom; correctness and effectiveness of expression (inclusive of grammar, word choice, sentence construction, and punctuation); and organization and development relative to clarity and coherence.

A second assumption of this study, knowledge of the technical aspects of English grammar translates into proficient writing or production of quality text, ties into the use of this particular instrument. Additionally, this assumption allows for the conclusion that the sample population, as reflected by mean score on the instrument, is no more adept at writing than college-bound high school students. However, if there is fault in this assumption, then there is

fault in this conclusion. More simply put, when measuring the technical aspects of writing proficiency, is it safe to assume that the SAT II, Writing Test, Part B measures *writing* proficiency or just *technical* proficiency? Is there incongruence between technical knowledge of English grammar and usage and actual generation of quality text?

A limitation of this study was that Part A of the SAT II: Writing Test was not used. Part A consists of an essay assignment. Test takers have twenty minutes to write an essay on an assigned topic. Two independent readers, who are experienced high school or college teachers, score these essays. Test takers receive a composite score “calculated by combining the multiple-choice score with a weighted writing sample score” (Inside SAT II: Subject tests, 1999, p. 5). The logistics and the subjective nature of the scoring made the use of Part A an impossibility for this study. However, this merits discussion. The following question arises: does technical knowledge of English grammar and usage necessarily translate to writing proficiency? In other words, is a multiple-choice test that measures technical skills (i.e., grammar, usage, diction (choice of words), and idiom; correctness and effectiveness of expression (inclusive of grammar, word choice, sentence construction, and punctuation); and organization and development relative to clarity and coherence) able to provide information about writing proficiency as it pertains to production of text when not combined with an essay test? It is hard to accept that graduate students are no more proficient at writing than college-bound seniors. Having completed an undergraduate education, students assuredly gained practice at writing, and by virtue of experience must surely possess some competence as writers (Biggs, et al., 1999). However, perhaps they have not gained significant knowledge of the technical aspects of writing. If this is the case, then by administering Part A, of the SAT II: Writing Test, a different picture of graduate student writing proficiency might emerge. Generation of text is qualitatively a different

task than proving knowledge of the technical aspects of writing on a multiple-choice test. To summarize, if both Parts A and B of the SAT II: Writing Test had been used with the sample population, and a composite score obtained for the study participants, then perhaps the sample population would have scored significantly higher than the norm base for writing proficiency.

Interestingly, when asked what grade they had received on their most recent writing assignment, 88.5% of the study participants indicated that they had received an “A.” This information lends itself to three conclusions: 1) there is some plausibility to the idea that technical knowledge does not affect or relate to writing proficiency with regard to producing text (e.g., research papers, writing assignments), 2) professors are complaining about student writing, but perpetuating the problem by not grading down for poorly written papers, or 3) the reported data does not give an accurate depiction of the respondents typical writing assignment grade. It should be noted; however, that when the composite score for Parts A and B of the SAT II: Writing Test is calculated, “the weighting makes the writing sample constitute only one-third of the combined score” (Inside SAT II: Subject tests, 1999, p. 5). While the SAT documentation does not provide an explicit reason for this weighting, from examining validity coefficients – correlations between the SAT II: Writing Test and freshmen writing performance – it would seem to be due to the fact that the multiple-choice portion of the test is a more valid predictor of actual writing performance. Therefore, it is in all likelihood, reasonable to assume that the SAT II: Writing Test, Part B alone provides an accurate picture of a test taker’s overall writing ability, viz. technical knowledge and ability to generate text.

#### Writing Proficiency and Demographics

Significance testing was done for writing proficiency scores and selected demographic variables. While on the whole this testing proved to be fairly unspectacular, it did unearth a few



points of interest. Undergraduate major was considered as one variable with a potential relationship to writing proficiency score. Although a relatively small  $n$  for three of the four major categories limits the usefulness of this information, it was not surprising to find that the study participants who were English majors as undergraduates did, as a group, have the highest scores on the SAT II: Writing Test. However, it should be noted, that the English majors did not score *significantly* better than the other participants.

Two Independent Samples T-Tests did prove to have significant results. First, females scored significantly higher than males on the writing test. This may exemplify the theory of gender's role in language ability in general. Females are typically found to score higher than males on tests of verbal ability (Cohen, Swerdlik, & Phillips, 1996). Perhaps this verbal ability translates to writing proficiency. This might also be the result of studying students who were, for the most part, Higher Education graduate students. As a social science, Higher Education programs are typically writing intensive, and may attract and admit students from a social science background. Females are more likely to be found in education and the social sciences than in other areas of study (Pascarella & Terenzini, 1991). Forty-eight of the ninety-seven participants in this study were social science majors as undergraduates, and the participants were predominantly female (65%). A loosely drawn conclusion then might be, that more females are undergraduate social science majors, they get more practice writing as undergraduates, they seek writing intensive graduate programs because of a comfort level with writing, and this translates to an overall higher writing proficiency.

Secondly, it was discovered that the participants in this study who were pursuing a Ph.D. scored significantly higher on the SAT II: Writing Test than those participants who were pursuing an Ed.D. Perhaps this is simply a function of the type of student who pursues the Ph.D.

versus the Ed.D. This finding might indicate that the more applied degree, the Ed.D., attracts students with less writing experience, interest, background, or skill. Also, it is a possibility that Ed.D programs have a different set of criteria for admission. For example, admission committees may look less upon writing proficiency as a significant factor in their decision to admit a student to graduate study in Ed.D. programs.

The most bothersome finding from this portion of the study involved a comparison of participants who completed the writing test on an individual basis versus those who completed the test as part of a class. The participants who did the test on an individual basis scored significantly higher than those who participated in a classroom setting. This is troublesome because of the nature of the writing test. The SAT II: Writing Test, Part B, is a timed, 60-item, multiple-choice test. Participants in the classroom setting were monitored for time (40 minutes) and use of reference materials (not allowed). However, individual participants were not monitored. Instead, they were asked to sign a Statement of Honesty indicating that they would observe the conditions of the test. The most reasonable explanation for this significant difference is that individuals who agreed to participate in the study had a particular interest or propensity for writing, and were therefore somehow more proficient writers than their cohorts who were recruited as a part of a group.

### Writing Experiences

Subjects were given the G-WEQ, an instrument designed to allow participants to provide information about their writing experiences. The questions asked formed three dimensions: self reported writing skills (Skills); self reported writing success (Success); and, assessments of support in developing and improving writing skills (Support).

## Skills

For the skills dimensions of the G-WEQ, participants were asked to provide information about their perceptions of their skills or ability as writers. More than half (59%) of the participants reported that they believed their writing skills were better than those of their peers. This is not surprising considering both the self-presentation and self-report theories posited in social psychology. When using self-report measures, it is wise to keep in mind that sometimes, “concerned about making a good impression, people don’t want to admit their faults or appear ignorant or prejudiced. Rather they present themselves in ways that are socially desirable” (Brehm & Kassin, 1991, p. 440). In this case, graduate students are being given a writing proficiency test, and asked about their writing ability. It follows that they would want to present themselves as good writers.

More interesting is the fact that when asked about how effectively they believed they were able to revise a paper once an initial draft was written, there was more dispersion of ratings. This finding stands out because of the higher dispersion than that found with other G-WEQ items. This elevated level of variability indicates that there is a great deal of discrepancy among the participants’ comfort level with revision. This does not bode well for graduate writing, and could certainly lend itself to the continued complaints of faculty that graduate students are poor writers.

Writing is an exceptionally complicated process that requires the simultaneous functioning of several cognitive activities, and the ability to revise is an important element of writing proficiency. Writers have “to review the text in order to clarify meaning and eliminate errors” (Biggs, et al., 1999, p. 294). Likewise, Flowers and Hayes (1980) have studied the recursive interactions of mental operations involved in production of text. And editing or

reviewing the newly created text is an important element in their theoretical framework concerning writing and research about writing. Effective revision of text results in better writing (Bereiter & Scardamalia, 1987; Flower & Hayes, 1981; Hull, 1987; McCutchen, et. al, 1994; Stallard, 1974).

Becker (1986) describes graduate writers as beginning writers in their oftentimes apparent lack of understanding of the need to edit, revise, and rewrite. Many graduate students carry over writing habits that they developed in high school; namely, the tendency to write papers with a one-shot attitude. This technique then fails them when writing changes from an undergraduate one-draft activity to a revising, redrafting, sequentially complicated activity in graduate school. In short, revising text relates directly to the quality of the end product. Being comfortable with revising is, for the most part, a function of three factors: knowledge about writing rules, including grammar and coherence, repeatedly using these skills to acquire comfort with revising, and realizing the importance of revising. Possible explanations for the current findings regarding revising might be that a number of graduate students in this sample either do not feel comfortable with the revision process, or do not understand the importance of it in producing quality text.

### Success

When queried about how successful they felt they were at various writing tasks, the participants in the study rated themselves the lowest for creative writing and the highest for personal writing (e.g., e-mail, letters). It is interesting to note the possible conclusions that can be drawn from participants' ratings of themselves as successful in personal writing. Despite an apparent lack of writing proficiency beyond the high school level, it is possible that the participants in the study are, in fact, excellent writers of personal communications. Entertaining

this notion might provide one possible reason for the sample population's lackluster performance on the SAT II: Writing Test, Part B. It would seem reasonable to assume that most people have the greatest amount of experience with personal writing. However, the SAT II: Writing Test tested for more technical proficiency. While technical proficiency is needed to produce quality academic writing, it is a different set of skills than what is needed to produce personal written communications.

A number of researchers have studied expert and novice writers. There is a general consensus that novice writers are lacking knowledge of some of the nuances required to produce text that would qualify as quality academic writing. Instead, novice writers tend to write like they talk – a typical quality of personal writing. This approach to writing is faulty, and can result in a document that is confusing or incoherent. However, this would seem to present more of a problem in academic writing than in personal writing. An e-mail, or a letter, may have a “chatty” quality while not losing meaning. Likewise, when writing an e-mail or a personal letter, a writer is probably less concerned with the rules of grammar and English usage and other variables that equal proficiency. Feeling more relaxed about personal writing, may in fact translate to a feeling of being successful at this type of writing activity. However, more technical expertise is required to produce a document that is written in language accepted by the academic community (Gere, 1987). Torrance (1996) suggests that writing expertise, like other kinds of expertise, depends on the knowledge base of the writer. An expressed level of comfort with personal writing does not, in this study, appear to translate to writing proficiency as measured by the SAT II: Writing Test.

### Support

The third dimension measured by the G-WEQ was the participants' perceptions of support they have received regarding development of writing proficiency. Overall, the

dimension of Support was rated lower than Skills or Success. While it is fair to say that the graduate students in this study perceived themselves to be fairly proficient writers who do experience success in producing text, they do not seem to find their graduate professors to be particularly helpful in helping them achieve writing proficiency. Although overall professors were not rated highly by the participants for helping them improve writing skills, it should be noted that participants did credit their professors with giving them sufficient opportunities to build writing skills in the form of assignments, projects, and papers, and for providing constructive feedback on completed assignments. This might seem incongruent at first glance, but it is more likely a result of participants' perceptions of help as direct or indirect. Assignments and feedback on assignments might be considered a more impersonal or indirect means of helping a student improve writing proficiency. However, when asked about collaboration with professors on writing projects, participants gave this the lowest rating. It would seem logical to think of collaboration as a more personal or direct approach to helping a student. It follows that the study participants did not perceive their professors to be overall instrumental in helping them develop writing skills, possibly because of lack of personal or direct help. This finding supports Becker's (1986) assertion that graduate students, for the most part, do not see their professors engaged in writing; therefore, it remains a mystery to students how professors produce chapters and articles. If students are not collaborating with professors on writing ventures, they are neither gaining skill nor experience through support.

Participants gave the most credit to their undergraduate institutions for preparing them for the level of writing required of them in graduate school. This is particularly interesting, considering that the participants' scores on the SAT II: Writing Test, Part B were not significantly higher than college-bound high-school seniors. On the surface it would appear that

the graduate students in this study were no better writers after graduating with a bachelor's degree than before graduating, despite their perceptions of being prepared for graduate level writing by their undergraduate course of study.

#### Correlations for G-WEQ Dimensions and SAT II: Writing Test Scores

Correlations were computed for the three dimensions of the G-WEQ using composite scores and for these dimensions and the SAT II: Writing Test, Part B scores. Skills and Success were significantly correlated with each other, but not correlated with Support, specifically with regard to writing preparation and help with improving writing. This would appear to be consistent with expectations: people who believe that they are proficient writers (have skills) are likely to see themselves as successful at writing. The lack of correlation between Skills and Support and Success and Support simply reiterates the idea that even though the participants perceived themselves to be skilled and successful writers, they did not credit their professors for providing them with support for developing writing proficiency.

Correlations were also computed for the self-reports of the three dimensions (Skills, Success, and Support) and the participants' SAT II: Writing Test, Part B scores. Both Skills and Success were significantly correlated with the scaled SAT II: Writing Test score. This is directionally accurate, and indicates that the study participants' perceived that they had writing skills and felt that they were successful at writing tasks, and this was reflected in their proficiency scores. In other words, those participants with the highest Skills and Success composite scores on the G-WEQ also had the highest scores on the SAT II: Writing Test, Part B. It would follow that if a student possesses a higher level of writing proficiency, then they are likely to feel more skilled and more successful when faced with writing tasks.

## Correlations for G-WEQ Dimensions, SAT II: Writing Test Scores, and SAT II: Writing Test Subscales

The SAT II: Writing Test, Part B measures three aspects of writing proficiency: grammar, usage, diction and idiom; correctness and effectiveness of expression; and organization and development relative to clarity and coherence. Subscale scores for these three aspects of writing proficiency were computed for the study participants. Correlations between the individual G-WEQ items, SAT II: Writing Test scores, and SAT II: Writing Test subscale scores revealed several interesting findings. An overall picture of the relationship between writing experiences and writing proficiency emerged. Study participants who felt they were better prepared by their undergraduate coursework for graduate level writing were also the most proficient. To review, this sample did not score significantly higher on the SAT II: Writing Test, Part B than the average college-bound high school senior, indicating that upon graduating they were no more proficient writers than before earning a college degree. On average, this sample did not increase writing proficiency over the course of their undergraduate work, but those who were the most proficient were those who credited their undergraduate coursework with sufficient preparation for graduate level writing. In other words, the participants who felt they were better prepared for graduate level writing by their undergraduate coursework were more proficient writers; those participants who did not feel their undergraduate coursework was helpful in preparing them to write on the graduate level were the least proficient.

Perhaps even more interesting is the fact that, for the most part, participants' ratings of the support they get to improve at writing, primarily from professors, was unrelated to their writing proficiency as measured by the SAT II: Writing Test, Part B. In combination with the above discussed finding, this presents an interesting junction of information. The most proficient



writers in this study were willing to credit their undergraduate programs with writing experiences that increased proficiency, but there was no apparent relationship between the most proficient writers and their current programs or professors. This would seem to underscore the finding that the graduate students in this study were, on average, stagnated in their development of writing proficiencies.

The only indication given by these participants that their current professors were supportive of their building writing experience was found to be in the form of the professors giving them sufficient opportunities to build writing skills (e.g., assignments, projects, papers). Yet, constructive feedback on assignments was not correlated with proficiency. So while the graduate students in this study perceived that being given writing assignments was a form of support for gaining writing proficiency, it is likely that this is simply a matter of them being given opportunities to practice writing – they perceive that they do a lot of writing -- but the feedback they are receiving on their writing does not seem to be necessarily instructional with regard to writing proficiency. Instead, it is more likely that the feedback the students are receiving on their writing assignments is relative to content as opposed to writing quality or correctness. If so, this would back up the view that oftentimes content is emphasized over writing quality by graduate professors, and it is rare for professors to fail students who write badly (Becker, 1996). To further exemplify the credibility of this supposition, it should be noted that while the graduate students in this study did not score significantly higher on the SAT II: Writing Test, Part B than the typical college-bound, high school seniors whose scores constitute the norm, 88.5 percent of them indicated that the grade received on their most recent writing assignment was an “A,” and 10.4 percent indicated they received a “B.” So, while they are

writing on a level par with high school seniors, they are receiving “A’s” and “B’s” on graduate work.

Finally, it is odd, and maybe even troubling that it was discovered that a negative correlation existed between writing proficiency and collaboration with professors for the graduate students in this study. Admittedly, compared to some of the other correlations, this one is small, but it begs the question, “Why?” While it might be assumed that professors would chose the best writers to participate in collaboration, it might be that instead, the least proficient writers are *seeking* more help from professors, and subsequently being offered collaboration projects as an attempt on the part of the professors to help the students gain writing skills. Or perhaps professors are seeking out the least skilled writers for collaboration, again with the intent of helping the students gain writing skills. In summary, it seems reasonable to say that the role graduate professors and programs play in increasing graduate students’ writing proficiency is murky.

#### Predicting Writing Proficiency

A multiple regression was used to examine the correlations between the G-WEQ scale scores and the SAT II: Writing Test scaled score. It was discovered that the best predictor of writing proficiency for the graduate students in this study, was their self-reports of writing ability and success. This would seem to indicate that graduate students have, on some level, a fairly accurate impression of their writing skills.

#### Implications for Future Research

This study has spurred a number of ideas for future research studies in the area of writing proficiency among graduate students. An obvious idea would be to replicate the study, but include graduate students from a wide variety of disciplines instead of exclusively studying

students from Higher Education graduate courses. Also, obtaining a larger  $n$  of either exclusively Higher Education students, or graduate students from all disciplines could prove to be extremely interesting.

This study used the SAT II: Writing Test, Part B to assess graduate student writing proficiency. There is also a Part A to this instrument. Part A consists of an essay assignment. Test takers have twenty minutes to write an essay on an assigned topic. These essays would then need to be scored by two independent readers, who are experienced high school or college teachers. Test takers would receive a composite score for Parts A and B. This addition of an applied writing task might yield a different picture of the writing proficiency of graduate students.

A future study of this nature, regardless of choice of instrument(s), could be improved if the data collection environment was held consistent. I discovered that the data were harder to collect than originally predicted. This gave rise to a change in procedure that necessitated data being collected from graduate students on an individual basis and in a classroom setting. A future study could plan for this contingency and include a plan to only collect data from proctored groups. While it did not affect the overarching finding that the sample population did not score significantly higher on the SAT II: Writing Test, Part B than the norm group, the fact that the participants who did the test on an individual basis scored significantly higher than those who participated in a classroom setting gives pause. It would be important to find out if this was a chance finding particular to this study, or if the testing environment gives rise to performance differences.

Other variations might include a professor-focused study. Graduate school professors could be tested for writing proficiency. Additionally, it would be interesting to determine to

what degree professors can actually articulate rules regarding grammar, usage, diction, idiom; correctness and effectiveness of expression; and organization and development relative to clarity and coherence. By doing this it might be possible to glean to what degree graduate faculty are prepared to actually *teach* writing skills to graduate students. It is one thing to grade for content, but an altogether different undertaking to teach writing as a part of grading. A study along these lines could also include an attitudes survey that aims to discover graduate faculty attitudes about needing to teach graduate students to write.

A related idea could involve surveying professors about their opinions regarding the current quality of graduate student writing. Following the collection of these data, a follow-up questionnaire could be sent to the same professors asking about the grades they are typically giving on writing assignments. The purpose of this would be to follow up on the idea of inconsistency existing between graduate student writing proficiency and the grades received on writing assignments.

The findings from this study indicated that the graduate students studied were no more proficient at writing than the typical college-bound, high school senior. The fact that these study participants all had at least a bachelor's degree did not seem to result in them being better writers than students who had not yet matriculated. It could prove useful to follow this idea through graduate school to see to what degree if any a graduate education results in increased writing proficiency. A longitudinal study could be developed so that entering graduate students could be tested for writing proficiency. A follow-up study could then be done involving testing for writing proficiency at the end of the students' course of study. This would allow for an evaluation of how much or if writing proficiency changes during the course of graduate study.

In the current study graduate students were asked about their experiences with writing in general, with the focus of the G-WEQ being Skills, Success, and Support factors. While interesting and informative, this idea could be expanded to include questioning graduate students about what they feel they *need* in order to develop or improve writing proficiency. These types of data might provide graduate faculty with ideas for setting up courses, workshops, mentoring programs, or seminars designed to help graduate students increase writing skills.

Finally, following up on the finding that the best predictor of writing proficiency for the graduate students in this study was self-reports of writing ability and success presents some interesting ideas for research. For example, if this finding could be replicated and proved to be consistent across disciplines, then self-reported writing assessment might prove to be a valuable tool in decision making for graduate school admissions.

### Conclusions

This study began with the idea that graduate student writing was a topic worthy of assessment. The findings of this exploratory study seem to confirm that initial belief. In his preface to *Writing To Learn*, William Zinsser (1988) indicates that he wrote this book “to try to ease two fears that American education seems to inflict on all of us in some form. One is the fear of writing” -- the other being a fear of subjects that don’t come easily or naturally (p.vii)). While fear of writing may be pervasive, it does not have to be continuous. Dispassionate study of the process and product of writing can yield information to ease this fear for all writers, especially for graduate students, who are our future creators of reports, articles, chapters, books, and various other written documents that can educate, advance, and inspire both the community of scholars and the populace. To reiterate a previous point, graduate school is a writing-intensive experience, justifiably so. Increasing understanding of writing as a critical skill for success in

graduate school can reduce some of the fear that accompanies that intensity. As long as good writing remains a mystery that is accessible to only a chosen few, then fear of writing will persist. While academic standards and faculty expectations concerning writing proficiency should assuredly remain high, they need not be unattainable. By making the road to scholarship less stressful by easing the fear of writing, both educators and students will likely have a greater appreciation of the experience of higher education.

APPENDIX A

Date

Name

Address

Address

City, State, Zip

Dear Name:

Thank you for agreeing to provide me with data for my dissertation, "Writing Proficiency Among Graduate Students." Enclosed you will find a data collection packet. Each packet contains the following:

- a statement of honesty to be signed by you
- the General Information and Writing Experience Questionnaire (G-WEQ)
- a 60-item multiple-choice writing test (SAT II: Writing Test, Part B)
- an answer sheet for the test

You will also find an instruction sheet outlining the procedure to follow for completing the questionnaire and instrument. It should take approximately one hour to complete this process. If possible, please complete the materials within the next 14 days and return them to me in the enclosed postage-paid envelope.

\*Prior to participating in the study, please read and understand the following paragraph:

The data collection materials have been coded with a three-digit number for the purpose of being able to collate the data, not to identify you. Your data will be kept confidential and will only be used in aggregate with other data. Only the researcher will see the raw data, and they will not be shared with any other individuals. This study presents no risk of physical or psychological harm to you as a participant. As a volunteer in this study you may chose to end your participation at any point in the study with no penalty or repercussion.

*Again, thank you for agreeing to help me with my study. \*\*This study is being supervised by Dr. D. Barry Lumsden. Dr. Lumsden can be contacted at [lumsden@unt.edu](mailto:lumsden@unt.edu), or reached by phone at (940) 565-4074. Should you have questions or need further information, please feel free to contact Dr. Lumsden or myself. I can be reached at (502) 326-2595, or by email at [jjacks1211@worldnet.att.net](mailto:jjacks1211@worldnet.att.net).*

*Sincerely,*

*Jill A. Singleton-Jackson*

---

\* This cover letter is yours to keep. Please do not return it with the other materials.

\*\* This study has been reviewed and approved by the UNT Committee for the Protection of Human Subjects. They can be contacted at (940) 565-3940.

## APPENDIX B

### DATA COLLECTION PROCEDURE INSTRUCTIONS

(Please read completely before completing the data collection materials.)

1. Please read and understand the following paragraph:

*The data collection materials have been coded with a three-digit number for the purpose of being able to collate the data, not to identify you. Your data will be kept confidential and will only be used in aggregate with other data. Only the researcher will see the raw data, and they will not be shared with any other individuals. This study presents no risk of physical or psychological harm to you as a participant. As a volunteer in this study you may chose to end your participation at any point in the study with no penalty or repercussion.\**

2. Please read and sign the enclosed statement of honesty.\*\*

3. Complete the G-WEQ and then stop. Do not begin the test until you are prepared to time yourself.

4. The answer sheet for the writing test is the last page in the packet. You may pull the answer sheet off the back. The answer sheet can be filled out in pen or pencil. If you wish to change an answer, either erase completely or draw an "X" through the erroneous response and fill in your new choice.

5. After you have read the directions for the test, prepare to time the test. You have 40 minutes to complete the Writing Test. This is not a collaborative effort and should be treated as a testing situation. Please do not utilize any reference materials such as grammar books or dictionaries. Begin the test when you are ready.

6. After 40 minutes have elapsed, stop work on the test even if you have not answered all the questions. Please place the statement of honesty, the G-WEQ, the multiple-choice test, and the answer sheet in the enclosed postage-paid envelope and seal it. Return the materials to me.

Thank You!

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\* Should you choose to terminate your participation in the study, please return the materials in the postage paid envelope that has been provided.

\*\* The statement of honesty is being requested in order to assure my dissertation committee that all data collected were legitimate and provided under similar circumstances.



## APPENDIX C

### DATA COLLECTION PROCEDURE INSTRUCTIONS

(Please read completely before distributing data collection materials.)

1. Please read the following paragraph to the subjects:

*The data collection materials have been coded with a three-digit number for the purpose of being able to collate the data, not to identify you. There are no identifiers that would allow the researcher to link you with a data set. You will be completely anonymous, and will not be identified by the number shown on the data collection forms. This study presents no risk of physical or psychological harm to you as a participant. As a volunteer in this study you may chose to end your participation at any point in the study with no penalty or repercussion.*

2. Hand out one packet to each subject. Have each subject check to make sure that they have the following:

- 1) a copy of the cover letter sent to you
- 2) a General Information and Writing Experience Questionnaire (G-WEQ)
- 3) a 60-item multiple-choice Writing Test
- 4) an answer sheet

Items 2-4 should have a three-digit number marked on them. Please have each subject check to make sure that the same three-digit number appears on all three documents. If the numbers do not match, have the subject put a large X on each document in the upper right-hand corner.

3. Tell the subjects that the copy of the cover letter is theirs to keep.

4. Have the subjects complete the G-WEQ and then stop. **THEY ARE NOT TO START THE WRITING TEST!**

5. The answer sheet for the writing test is the last page in the packet. Inform the subjects that the answer sheet can be filled out in pen or pencil. If they wish to change an answer, they should either erase completely or draw an "X" through the erroneous response and fill in their new choice.

6. Once everyone has read the directions for the test, prepare to time the test. The subjects have 40 minutes to complete the Writing Test. Remind the subjects that this is not a collaborative effort and should be treated as a testing situation. Begin the test when you are ready.

7. After 40 minutes have elapsed, **HAVE A STUDENT** collect all the materials from the subjects regardless of whether or not they are finished with the Writing Test.

8. Have the student who collected the materials place them in the enclosed postage-paid envelope and seal it. Return the materials to me. Please be sure to return all the packets, including any extras. Thank You!

APPENDIX D

General Information and Writing Experience Questionnaire (G-WEQ)

Please indicate your responses to the following questions. Your responses will be confidential. Please answer as honestly as possible.

1. Compared to your peers in graduate school, would you say that your writing skills are...

- Much better than others
- Somewhat better than others
- About the same as others
- Somewhat worse than others
- Much worse than others

Please rate yourself on how effective you are with the following writing processes (circle the appropriate rating for each item).

	Not Effective					Very Effective	
	1	2	3	4	5	6	7
2. Thinking about the writing assignment							
3. Organizing your writing so that readers can easily follow your ideas.							
4. Revising your paper once you have written an initial draft.							
5. Developing an effective writing style that suits the purpose for which you are writing.							

Please rate how successful you believe you are with the various types of writing activities listed below (circle the appropriate rating, if not applicable, leave blank).

Writing activity:	Not Very Successful					Very Successful	
	1	2	3	4	5	6	7
6. Personal writing (e.g., e-mail, letters).							
7. Creative writing							
8. Analytical writing (e.g., reporting on research findings)							
9. Criticism (e.g., critiquing journal articles)							
10. Description or explanation							
11. Exam writing							

12. To what extent do you think your undergraduate coursework prepared you for the level of writing required of you in graduate school?

Not at all	1	2	3	4	5	6	7	Extremely Well
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13. What grade did you receive on your most recent writing assignment?

- A
- B
- C
- D
- F

For the following questions, please tell us how much help you receive from your graduate school professors on your writing skills.

14. To what extent do you collaborate on writing projects with your professors (e.g., research articles, chapters, presentations)?
- |       |   |   |   |   |   |   |   |            |
|-------|---|---|---|---|---|---|---|------------|
| Never | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Frequently |
|-------|---|---|---|---|---|---|---|------------|
15. Do your professors provide you with constructive feedback on your writing assignments?
- |       |   |   |   |   |   |   |   |        |
|-------|---|---|---|---|---|---|---|--------|
| Never | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Always |
|-------|---|---|---|---|---|---|---|--------|
16. Are you given sufficient opportunities to build your writing skills (e.g., assignments, projects, papers)?
- |       |   |   |   |   |   |   |   |        |
|-------|---|---|---|---|---|---|---|--------|
| Never | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Always |
|-------|---|---|---|---|---|---|---|--------|
17. Do you have the opportunity to gain feedback on your written work prior to final grades being assigned (e.g., re-write opportunities, having the professor provide comments on initial drafts)?
- |       |   |   |   |   |   |   |   |            |
|-------|---|---|---|---|---|---|---|------------|
| Never | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Frequently |
|-------|---|---|---|---|---|---|---|------------|
18. Overall, how much help do your professors provide to aid you in improving your writing skills?
- |             |   |   |   |   |   |   |   |               |
|-------------|---|---|---|---|---|---|---|---------------|
| Very Little | 1 | 2 | 3 | 4 | 5 | 6 | 7 | A lot of help |
|-------------|---|---|---|---|---|---|---|---------------|

Please answer the following questions about yourself and your institution.

19. Is English your first language?

- Yes
- No

20. What is your current age?

- Less than 25 years of age
- 25 to 28 years of age
- 29 to 35
- 36 to 50
- Over 50

21. Are you?  
 Male  
 Female

22. To the best of your memory, please tell us what your GRE scores were.

Verbal: \_\_\_\_\_ Quantitative: \_\_\_\_\_ Analytical: \_\_\_\_\_ Written: \_\_\_\_\_

23. What was your Undergraduate Major? \_\_\_\_\_

24. What Undergraduate Institution did you attend? \_\_\_\_\_

25. What is your current GPA? \_\_\_\_\_

26. What was your Undergraduate GPA? \_\_\_\_\_

27. How many hours of graduate work have you completed?

- Less than 12  
 12 to 24  
 25 to 40  
 41 to 60  
 More than 60  
 Have completed all course work for degree but have not yet graduated

28. Are you enrolled in a...?

- Master's Program in Higher Education  
 Doctoral Program in Higher Education  
 Master's Program in a field other than Higher Education  
 Doctoral Program in a field other than Higher Education

29. If you are in a program other than Higher Education, please write the field of study below.

\_\_\_\_\_

30. If you are in a doctoral program are you working toward a(n)

- Ed.D.  
 Ph.D.

31. Please provide the name of the institution in which you are currently enrolled.

\_\_\_\_\_

## APPENDIX E

### STATEMENT OF HONESTY\*

By signing this statement I am attesting that I adhered to the following guidelines:

- No more than 40 minutes were used to take the Writing Test
- I did not collaborate with anyone in providing these data
- No reference materials were used when taking the Writing Test

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Signature

---

Date

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\* This statement of honesty is being requested in order to assure my dissertation committee that all data collected were legitimate and provided under similar circumstances.

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